A glimpse into the businesses' use of internal and external data sources in decision-making processes

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Abstract

The results presented in this paper are from the Norwegian interviews that have been conducted with decision makers and business respondents in different companies. The topic of the interviews was the use and potentials of NSI statistics. The same topic has previously been discussed with different kinds of experts on business statistics. The results from these expert interviews serve as a point of reference in this paper. Similar interviews to those reported from here have also been conducted, but not yet analyzed in the Netherlands, Sweden and in Slovenia. We suggest some conclusions that could be checked more thoroughly in these analyses to come.

Keywords: decision-making, business statistics, business respondent incitements.

1. Topic of inquiry: Hunting for a constructive relationship between businesses and business surveyors

Businesses have a double role in relation to business statistics. First, business statistics is of course based on data gathered from the enterprises and establishments. Next businesses are also one of the users of the statistics produced. In the third Blue-Ets workpackage named “Business perspectives related to NSIs' statistics” the guiding idea is that the more useful our statistics are for the businesses the more motivated business respondents will be to provide good quality data when they are sampled in our surveys; and in turn this will lead to better and more useful statistics for businesses (http://www.blue-ets.istat.it/index.php?id=39). We are, in other words envisaging a self-reinforcing positive, loop process.

Previous research indicates that it does not work this way yet. Generally, business respondents rate the statistics produced from the data they provide to be of very low relevance to their company (Hedlin, Lindqvist et al. 2008, Giesen, Morren et al. 2009). There can be several reasons for this. It may be difficult for business respondents to see that data they provide can be refined into products that add something that is not already there and which may be useful for their company. Focus groups with business respondents have also indicated that they often feel that they report inaccurate estimates and are surprised that the surveyors seldom take contact to have their data corrected (Haraldsen 2004, Haraldsen and Jones 2007). Moreover the main products created from business surveys are inputs to the national account and to different kinds of economic indexes. The prioritized target groups for these products
are probably not businesses, but politicians and opinion leaders who shape the economic policy and investors, stockbrokers and other players on the stock market arena. Finally, even if businesses use statistics based on their own data deliveries, the may not realize this or may not communicate it to those who act as respondents in their firm.

The purpose of workpackage 3 in the Blue Ets project is to address these questions. We do this from two angles. We take a top-down perspective and ask the statistical agencies and experts from business interest groups to evaluate how well fit the current statistical products are for businesses. And we take a bottom-up perspective by interviewing decision makers and respondents in businesses. The first of these inquires are already completed (Bavdaž, Giesen et al. 2011). In the present paper we present some preliminary results from the Norwegian part of the interviews made in businesses.

2. Analytical Model: Evidence based Decision Making

In table 1 we have listed the questions previously posed to experts on the use of NSI statistics and summarized the answers given. These results serve as a reference point in our analysis.

<table>
<thead>
<tr>
<th>Questions</th>
<th>Answers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do businesses use NSI statistics?</td>
<td>Yes, and there seems to be a growing demand. The majority of direct request seem to come from professional services, transport, trade and catering industry. Who are the most active website users and readers of other kinds of publications and media coverage, however, is not known.</td>
</tr>
<tr>
<td>If so, what data?</td>
<td>Data that is relevant to marketing analyses and strategies. What is considered most relevant are thus data about prices, inflation and purchasing power. Next, more general demographic data that can be used to identify present and future interesting markets are also used. Finally business performance indicators can serve as productivity benchmarks. This kind of indicators is however generally not produced by NSIs.</td>
</tr>
<tr>
<td>What are the major obstacles preventing use of NSI statistics?</td>
<td>Lack of timeliness and relevant breakdowns are the main obstacles. Relevant NSI statistics may also be hard to find and the figures may be hard to interpretate. Businesses seek analyses and other processed information, not just data.</td>
</tr>
<tr>
<td>Who are the users of NSI statistics</td>
<td>There seem to exist an information gap between larger businesses, often with an international orientation, that are well trained in seeking information and making sense of figures, and smaller firms with less analytical resources.</td>
</tr>
<tr>
<td>How close is the relationship between data user and providers in businesses?</td>
<td>The larger, more professional and more active the businesses are when it comes to utilizing NSI statistics, the weaker their contact are with the data providers within their company seems to be.</td>
</tr>
</tbody>
</table>

The interviews conducted with decision makers and data providers in the businesses had a slightly more open approach than the interviews with experts. Our initial focus was not on NSI statistics, but more generally on evidence based strategic and tactical decisions concerning what to produce, for which markets and how to get products and services sold.
Moreover, our approach is based on a rationality model that assumes that decision makers use facts if facts that fulfil their quality requirements are readily available (Pfeffer and Sutton 2006).

If this is the way decision makers think, their options are…

- Intuition if relevant facts are not at hand.
- Internal data from the businesses own production, sales and marketing processes
- External non NSI data
- NSI statistics

According to this model, the choice between information sources depends on a combination of availability and a quality evaluation. As in the analysis of expert reflections, we will use Eurostat’s quality indicators to describe which quality considerations are most important to decision makers. These are…

1. Relevance, which is the degree to which the data meets user needs both in coverage, content and detail.
2. Accuracy, which is the closeness between an estimated result and the (unknown) true value. Accuracy is a central part of the surveyors’ professional approach to survey quality, which will be detailed later in this chapter.
3. Timeliness, which is the degree to which data produced are up to date.
4. Punctuality, which refers to the time lag between the actual delivery date of the data and the target date when the data should have been delivered.
5. Accessibility is the ease with which users are able to access the results, also reflecting the format(s) in which the data are available and the availability of supporting information.
6. Clarity refers to the quality and sufficiency of the data documentation, illustrations and additional advice provided.
7. Comparability, which is the degree to which data can be compared over time, spatial domains and sub-population.
8. Coherence, which is the degree to which data derived from different sources or methods, but which refer to the same phenomena, are similar.

(Eurostat 2009)

One of the advantages of this list of quality aspects is that it is not restricted to purely professional evaluation criteria but also includes more practical considerations. If we use this terminology on the results from the expert interviews summarized in table 1, the most important quality criteria when businesses chose their information sources are timeliness, comparability (in particular between sub-populations) and accessibility. This is one of the notions that we questioned in our interviews with business decision makers.

3. Data Collection Method: Semi Structured Interviews

A sample of eight Norwegian businesses has been visited. In each business we tried to make interview appointments both with decision makers that potentially use official statistics and respondents that have reported to our business surveys. The procedure usually followed was first to try to contact, get an appointment and conduct an interview with a senior data user. At
the end of this interview we would then ask for contact details so that we could interview relevant business respondent within the company. In most cases we were also able to conduct the respondent interview during the same visit. The sample consisted of eight businesses; one small size, two medium size and five large companies. Two of the largest businesses were part of a bigger company with international offices. This distribution by business size reflects what kind of businesses that was easy or more difficult to get appointments with. Larger companies seem to have a more professional staff and attitude towards inquires for this kind of interviews, while the smallest companies are scarce of resources and time to talk to us. Industries covered were the ICT industry, the forestry industry, the telecom industry, the banking and finance industry, the passenger transportation industry, the fertilizer production industry, the construction industry and the environmental technology industry.

In one case we were not able to get into contact with the person that was named as business survey respondent, probably because he was replaced by another person who misunderstood our request. In all other cases, however, the user of business statistics did not seem to have any problem in pointing at someone who acted as respondent to our surveys. In two cases the user of statistics and business respondent turned out to be the same person. Interestingly enough, this was the case for the smallest business we interviewed, but also for one of the largest businesses that was a part of a bigger corporation. Hence our limited experiences during recruitment did not support the notion that decision makers who analyze data do not know who is reporting the same kind of data in business surveys.

We used a semi-structured interview guide to conduct the interviews. This means that the topics we talked about and the key questions we wanted to have answers to were fixed, while the question order and actual formulations were quite flexible. Sometimes the interviewed person will start to talk about a topic which the moderator has planned to pose later in the interview. In these cases the moderator should show flexibility and still be able to cover the topics and key questions listed in the interview guide.

Normally, the interviews were led by a moderator who was assisted by a secretary. The secretary took notes during the interviews. In addition all interviews were audio recorded. After the interviews were completed a summary based on the notes taken by the secretary and the audio tapes were produced. Not all interviews were made by visits to the companies. Three interviews were conducted as telephone interviews. These interviews were also led by a moderator, followed the same protocol, got audio taped and were listened in to by a secretary.

The interview guide is enclosed in Appendix 1.

4. Results: A glimpse into the businesses' use of data sources in decision-making processes

Throughout the interviews with business decision makers, we asked questions on what types of data the business used from internal and external sources, and how important different types of data were in their decision making processes.

The role of data in decision making processes
When the decision makers were asked about how important internal or external data were compared to experience, personal contacts and intuition, we received mixed answers. Some
stressed the importance of empirical data in their business, while others pointed out that such data need to be properly analyzed in order to make decisions, in which at least experience will always have a place. One business commented that they had a business culture of basing decisions on intuition rather than empirical data.

Generally, we think it is right to say that those interviewed acknowledged the value of hard facts, but at the same time stressed that figures need to be analyzed in order to be valuable and that some of the decisions businesses have to take are of a kind that cannot be decided by empirical data alone. When the interviewees were asked to assess the proposition that “only completely accurate data allow taking good fact-based decisions”, most business representatives disagreed. When asked to motivate their opinion, two businesses mentioned that data seldom are completely accurate. Two other businesses stressed the importance of the analyzing phase of decision-making, and one business commented: “[your decision] can be completely wrong [even if it is based on completely accurate data]” Interestingly, he continued: “The best decisions are based on that which is not a fact”. Another business representative also stated that “valuable information is uncertain.” What we think these representatives mean is that predictions for the future need to be based more on experience and intuition than on available “hard facts”.

We believe that the differences in how business representatives weighted the usefulness of empirical data reflect two kinds of differences between the companies interviewed. The first is differences in the resources they had to analyze and consequently make sense of figures and statistics. The other is how stable and predictable the market they operate in is considered to be. In industries were the future is uncertain and vulnerably to economic fluctuations and political changes, the decision makers probably tend to rely more on experience and intuition than on statistical predictions.

Internal data
What internal data the business collect are driven by management needs, regulatory requirements and accounting standards (Willimack and Nichols 2010). Accounting, production and sales data were pointed at as the most important internal data by the decision makers we interviewed. They also emphasized that these data needed to be accurate and generally claimed that they were of high quality. Some of them admitted that errors sometimes were detected, but ensured that errors were corrected as quickly as possible. Some businesses also had customer satisfaction surveys as part of their internal data, and one mentioned process data from product development as internal data. One business also mentioned qualitative data from focus group interviews with representatives from their customer base, as well as employee satisfaction surveys. The decision makers did not seem to have the same confidence in the accuracy of these kinds of data. One business ranked their customer satisfaction survey data lower than accounting data in terms of accuracy, but claimed that they took this into account in their interpretation of results. Another business representative mistrusted survey data in general: “If you can count it [directly], it is either right or wrong. All you ask in for instance surveys is hocus pocus”. What we might see in these comments is a kind of scepticism towards survey data that goes beyond concerns for sample errors.

External data
Although the use sources of external data and the perceived usefulness of such sources varied between the businesses, all business users agreed that external data were important. They used
external data for forecasting market trends, for benchmarking, for validation of internal data and for demographic analysis of potential markets. Data was collected from different “favourite sites” on Internet, but also using news software like Bloomberg or Reuters, or from daily newspapers or magazines relevant for the industry. Internet sites were visited on a regular basis, some annually, but some of them even several times a day. Examples of popular sites were the Norwegian Central Bank; banks in general, trade organizations and homepages for competitors in their own industry. Some of the businesses told us they also buy external data or subscribe on search-functions where you define keywords and get links with news and updates back daily on email.

The confidence in external data was generally not founded on an evaluation of the data, but seemed more to depend on the confidence in the institution that produced them. In this sense, statistical agencies are considered to be impartial and trustworthy. The general view was that commercially produced statistics is more or less biased and therefore cannot be trusted and used in the same way as the official statistics from NSIs or similar official institutions. The sentiment was that “We can trust data collected by governmental institutions such as Statistics Norway; they are objective, accurate and reliable”.

Other qualities that were valued in external statistics were formulated like this:
“It is more important to get relevant detailed data, than perfect correct data”.
“More recent information is of course more interesting, but perhaps less credible if there is a shorter time series behind”
“Sales statistics are examples of data with high reliability; it is transactions that have taken place”.

If we try to apply Eurostat’s quality dimensions on the business representatives’ evaluation of different quality aspects, they might be order in the following way:

1. Relevance
2. Accuracy
3. Timeliness and comparability

In contrast to this general positive attitude to Statistics Norway, very few business representatives reported that they used NSI data. Those who did mainly used the consumer price index (CPI) for negotiating contracts or salaries, or followed the employment figures from the Labour Force Survey. NSI data were either considered to be too general, or classified in a way which did not match with their internal data and therefore were of little use for the businesses. Hence, the problems with NSI statistics seem to stick deeper than the lack of timeliness that was pointed at by business experts. Implicit in the comments these business decision makers made about NSI statistics the message seems to be that, in order to be useful, external data should mirror internal data. We know that the most common response burden complaint made by business respondents is that our survey questions ask for information that do not match with the units or variable that reside in the business’ administrative records (Haraldsen 2010). When this is what the business respondents experience, there is perhaps no wonder that the business users of statistics have a similar attitude to the statistics produced from the figures collected by business surveys.
5. Discussion: The potentials of NSI statistics

Both in the interviews made with business statistics experts and in the interviews made with
decision makers in businesses two kinds of needs for external data were identified. One was a
need for benchmark data that make it possible for the company to compare their productivity,
their wages and prices and their customer composition with other companies within the same
industry sector. The other was a need for data that allow the business to learn more about the
society they are operating in and in particular about the behaviour patterns and trends of its
inhabitants. We call this need for external data for market related demographic data. Both
these kinds of external data correspond to internal data that may be collected in the company
in question. In table 2 we have pointed at some of these correspondences.

Table 2: Correspondences between internal and external data relevant to business decision makers.

<table>
<thead>
<tr>
<th>Market related demographic data</th>
<th>Benchmark data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal</td>
<td></td>
</tr>
<tr>
<td>Customer demographics</td>
<td>Accounting data</td>
</tr>
<tr>
<td>Customer satisfaction data</td>
<td>Production data</td>
</tr>
<tr>
<td></td>
<td>HR data</td>
</tr>
<tr>
<td>External</td>
<td></td>
</tr>
<tr>
<td>Social demographics</td>
<td>Wage data</td>
</tr>
<tr>
<td>Data about living conditions</td>
<td>Price indexes</td>
</tr>
<tr>
<td>Time use data</td>
<td>Labour force data</td>
</tr>
<tr>
<td>Data about purchasing power</td>
<td>Data about absences and vacancies</td>
</tr>
</tbody>
</table>

The main strength of NSI statistics as an external source of information is probably that it is
considered to be a solid, impartial statistical source compared to many of the other producers
of statistics. Its main weakness is that the statistical products do not mirror the businesses’
internal data. The way business users of statistics see it, they possess part of a puzzle that both
consist of internal and external data. Even if the puzzle pieces provided by NSIs are
considered to be of high quality, it does not help as long as they feel that they do not fit with
the internal pieces. This may, however, be a greater problem for the benchmark data than for
market related demographic data. This has to do with the fact that business surveys commonly
ask for data that are tailored to the categories used in the national accounts and which
consequently do not match the categorization used in the businesses. It might be possible to
change business data survey questions so that the results both can be categorized according to
the needs of the national account and the needs of businesses, but that is a quite complicated
issue. When it comes to market related demographic data, however, we feel that the mismatch
is more a question about how data are analyzed and presented than how they are collected.
Therefore it might be easier to tailor this kind of products to business needs. In addition we
think that the link between (better tailored) NSI statistics and the corresponding internal
statistics probably should be better marketed both in press releases and in business survey
invitation letters.

We started this paper by pointing at the two roles businesses play in relation to business
surveys; both as data providers and as users of the statistics. At the end of this paper we think
it is just as appropriate to point out that statistical agencies also have two roles in business
surveys; they are data collectors and they refine data into statistics. It might be just as
important to question the coordination between these two groups within the NSI as the
relationship between user of statistics and business survey respondents in the establishments.
To what extent do data collectors collaborate with statisticians in order to produce statistics that are tailored to business purposes and that can be used in business survey invitation letters?

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References


Appendix 1 Interview guide

Legend:
- DP = data provider
- DU = data user
- [...] = potentially problematic terminology; depending on the meaning the interviewee assigns to the terms, choose an appropriate term
- (text text text) = explanations and instructions for interviewer
- Regular text for key questions.
- Text in bold for powerful/key words or phrases that need attention.
- Gray background for optional questions.

IV. Background

Purpose:
- To collect relevant background information of respondent
- To assess if informant will be able to provide information as Data provider (used to decide whether to start with Part I or Part II).

a) Job description.
b) Department/Division/Office (if applicable).
c) Role in the business.
d) Years of service.
e) Educational level.
f) Gender.
g) Any experience with completing NSI questionnaires?

I. Use of statistics/data in businesses (link to "fact-based decision making")

1. The concept of [internal data] and [external data] (interviewee's perspective)
   Purpose:
   - to get familiar with terminology used in business with the help of CARDs and EXAMPLES
   - to identify relations between similar concepts (data and information)
   - to identify the concept of internal and external data from interviewee’s perspective

a) I would like you to take a look at these two cards. On these cards, you find two terms. Do you use any of them in your business?

Data  Information

b) Do you use other terms that are roughly synonymous or related to these terms? Can you give me some examples for each of these terms?

c) How would you place them in relation to one another? Is there something different or equivalent between these terms? So, how would you define each of them? (The last question is posed only if interviewees are comfortable with the terms to avoid their embarrassment)

d) What do you mean by term [internal data]? Can you give me some examples? Relation to the two cards?
e) What do you mean by term [external data]? Can you give me some examples? Relation to the two cards?

2. **Use of [internal data]**

*Purpose:*
- to get a better insight into the use of data in the business, in particular for key business aspects (goods/services and processes)
- to identify any frameworks relevant for use of internal data

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- to get a better insight into the use of data in the business, in particular for key business aspects (goods/services and processes)
- to identify any frameworks relevant for use of internal data

a) For what purposes do you use [internal data]? (First focus on personal use, then probe wider. Treat the following three questions as mandatory probes if these purposes do not come up spontaneously)

b) Do you use [internal data] for decision making in your business? How? Examples?

c) Do you use [internal data] that measure product quality? (quality of goods produced or services offered) How? Examples?

d) Do you use [internal data] that monitor effectiveness of your working processes? How? Examples?

e) Do you have any standards or rules that dictate the use of [internal data]? (e.g. ISO 9000 – quality management)

f) What considerations guide your decisions on which [internal data] to produce and keep? Do you have any standards or rules that dictate the production of [internal data]? (e.g. legal obligations, obligations from mother companies, monitoring of costs, revenues and profits)

g) Does the business further process, analyse [internal data]? Which departments are doing that? Where do results appear? Who uses these results (departments/offices, positions, levels)?

h) Are [data] processed differently for different activities? Do you ever use the term “business intelligence” in your company? (If yes, check what it means, where it is used, by whom...)

i) How important are the [internal data] compared with intuition and experience?

3. **Quality of [internal data] (interviewee's perspective)**

*Purpose:*
- to identify the concept of data quality from interviewee’s perspective
- to identify quality dimensions (attributes/characteristics/properties) of internal data and relations between them

a) Do you trust some [internal data] more than others? Why? Examples?

b) If [internal data] were described as having high quality, what [properties] would you expect them to have? (Let them define quality dimensions first.)

c) What do you think of the [quality] of your [internal data]? Which of previously mentioned [properties] do these [data] have? Can you order them by importance? Examples?
4. Sources of [external data]

Purpose:
- to identify sources of external data and compare them

We are now turning attention to [external data].

a) Are [external data] used in your business or not? If yes, what sources do you use? What channels do you use to get them?

b) Can you tell me more about each of these sources? How and how often you access these sources and what you get from them? (Get more insights into the sources: what they are (institutions, publications, websites etc.); try to understand whether they include the NSIs data here or not, and whether they are aware of that; whether they access these sources directly or through an intermediary and how this affects awareness & perception of the source)

c) In which aspects are these sources similar/different? (cost, accuracy, timeliness etc.) Do you prefer specific sources? Why? What properties of these sources are most/least important?

d) Do other firms (in your industry) use the same sources?

5. Use of [external data]

Purpose:
- get an in-depth insight into the role of (specific) external data, and in particular official statistics, for business and its decision making
- to discuss importance of external data
- to identify links between external and internal data

a) For what purposes do you use [external data]? (when, how often; for internal and/or external reports; for comparison with competitors; for specific business decisions, e.g. investments in new technologies, international expansions, new products introduction)

b) How are [external data] kept/organised within the business? (in a central system/application or separately, e.g. in Excel files on individual computers or within specific business departments like marketing) When [external data] are needed, do users access the external source, look into the business system or ask someone for these [data]?

c) How important are the [external data] compared with intuition and experience?

d) How important are [external data] compared to [internal data]?

e) Do you process [external data] with other external qualitative information, e.g. media communication, events etc.

f) What would it mean for the business if [external data] ceased to exist?

6. Quality of [external data] (interviewee’s perspective)

Purpose:
- to identify quality dimensions (attributes/characteristics/properties) for external data and relations between them

a) Do you trust some [external data] more than others? Why? Examples?
b) If [external data] were described as having high quality, what [properties] would you expect? (Let them define quality dimensions first).

c) What do you think of the [quality] of [external data] that you use? Which of previously mentioned [properties] do these [data] have? Can you order them by importance? Examples?

7. Further needs/desires for [external data]

Purpose:
- identify any missing contents, formats or services
- identify preparedness to get more external data

a) Do you have needs not met by the [external data] you currently use?

b) Have you ever been in a situation where they wished they had more [data] (as a basis for a decision)? What situation and what [data]?

c) How do you want to have [data] "packaged"? (data files for own analysis; summaries of conclusions; charts and graphs; methodological information, e.g. definitions, data collection)

d) What do you currently do to get [external data]? (qualitative estimation of human & financial resources, concrete figures are probably confidential) Are you prepared to invest more to get more [external data]?

8. Proficiency in use of [external data]

Purpose:
- to check knowledge on availability and methodological aspects of external data sources
- to identify beliefs on external data and related methodological aspects
- to get perception of official statistics source with respect to other external data sources

a) Do you know any other sources of [external data] relevant for your business? (if some sources haven’t been mentioned, probe here)

b) What is the role of [NSI statistics] among other [external data]? How do you rate the [quality] of [NSI statistics]? Any strengths and weaknesses of these [data]? Examples? (Be sure interviewee shows understanding what NSI statistics are; ask for examples of NSI statistics; otherwise rephrase, e.g. through examples of indicators)

c) Are you interested in statistical methodology (e.g. about classifications, codes etc.) behind the figures? Do you know anything about it? Or, are you only interested in getting figures?

d) Do you agree with the statement that “only completely accurate data allow taking good fact-based decisions”? Why (not)? Is there an acceptable level of inaccuracy of [data]?

III. Links between data use and data provision

a) DP/ Do you know what happens to the data after you have submitted them/handed them out? How are they used? (For which results/indicators? How do they become results/indicators?)

b) DP/ Does anyone in your company use these results? Who? In your industry (other companies, your association)? Examples. In the wider society?
c) DU/If I go back to the [external data] that are used by your company... Does your company provide data for them? Examples. Do you know who provides data for the [external data] that the company uses?

II. Motivational aspects

In this section our attention turns to surveys.

1. Participation decision (organisational perspective)
   
   **Purpose:**
   - to get insight into organisational decision on survey participation
   - to assess organisational norms on survey participation & interviewee’s extrinsic motivation
   - to assess beliefs about survey participation

   a) From whom the company gets requests for survey participation? (NSI mentioned or not?)

   b) How do these requests (and questionnaires) reach the company? (mail, email)

   c) How the company decides whether they will participate in a survey or not? (by chance, as time permits; fixed rules; just do the minimum required)

   d) What are the reasons for (non-)participation? Why does (not) the company participate? (mandatory vs. voluntary; any specifics for NSI surveys; ask for some examples of NSI survey they participate in to be sure they really have NSI surveys in mind)

   e) Are there policies/rules/expectations governing participation in surveys? (try to understand what are explicit policies and what implicit norms; start with explicit and proceed to implicit; any specifics for NSI surveys)

   f) Would you say that the behaviour of your company regarding survey participation is similar or different with respect to other companies? In which way similar/different? (identify beliefs)

   g) Has the current economic climate had an impact on your decision regarding participation in research?

2. Response process (organisational perspective)
   
   **Purpose:**
   - to get insight into organisational aspects of survey response process
   - to assess organisational norms on survey responding & interviewee’s extrinsic motivation

   a) If you decide to fulfil the request, what happens next? Who receives the questionnaire? Who gets involved in the process of responding to questions? (departments/offices, positions, levels) Any specifics for NSI surveys?

   b) How does the co-operation of several people look like? (One coordinator that collects others’ data or not; the form going around in the business or not; meetings; email communication, etc, etc.)

From here on, I would like to focus exclusively on NSI surveys.
c) Do you have any internal support or procedures that ease your reporting to NSI, for instance, working documents explaining how you get a certain item for the questionnaire or spreadsheets that help you compute requested items from your company's data?

d) DP/ How do you prioritise among competing tasks? How do you determine how much time you can spend on the form?

e) DP/ What determines when you actually send back the data? (probe on internal factors (time, data, workload, etc.) and external factors (e.g. reminders))

f) DP/ What do you think of reminders sent by NSI? What about fines used by (some) NSIs?

g) DP/ Has it happened that you received feedback from NSI after participating? What did it mean? How was it received? Was it useful? What type of feedback would you like to have etc?

h) DP/ Do you keep records in your company for various surveys that you responded to?

i) Do you sometimes use data gathered for NSI reporting also for other purposes in the business (e.g. internal reporting, business decisions)?

3. **NSI surveys (organisational perspective)**

   **Purpose:**
   - to assess organisational perceptions of NSI surveys (by combining answers from more interviewees at the same business)
   - to assess interviewee’s perception of organisational norms (questions f) – i) try to tap interviewee’s perceptions, not necessarily truth)

a) DP/ What is your superior’s view on NSI surveys (and your participation in NSI surveys)?

b) DP/ How and when does the superior express that view? Examples. (Are NSI surveys mentioned only at specific occasions, e.g. when work has to be done; how do they refer to NSI surveys, any specific terms?)

c) DP/ Does the superior give any rewards/incentives/critiques for reporting task? Any attention (at all) to the task?

d) DP/ Does the superior or anyone else within the company check the figures before they are reported to NSI?

e) What is the view of your superior’s superiors (and higher management levels) of NSI surveys and reporting tasks?

f) What is the view of your (closest/departmental) colleagues on the NSI surveys? And on the reporting task?

g) What about the view of these people (superior, higher management, colleagues) on the NSI? (Tap the general attitude and image)

h) What about the view of these people (superior, higher management, colleagues) on statistics in general?

i) How does your business react to NSI survey requests compared to other government reporting duties?
4. **NSI surveys (interviewee’s perspective)**

*Purpose:*
- to assess interviewee’s perceived behavioural control (i.e. perceived ease or difficulty of performing a behaviour; abilities and obstacles)
- to assess interviewee’s perception of data quality in NSI surveys
- to assess interviewee’s attitudes & intrinsic motivation

*a)* What are your experiences with NSI surveys? (length of participation; positive and negative sides)

*b)* What do you personally think of NSIs surveys? (get interviewee’s spontaneous impressions)

*c)* DP/ What does it mean for you to participate in NSI surveys? Do you like this work or not? Why?

*d)* Do you think this work is valuable or not? Why, how? (to whom – business, society?) Do you think this work offers challenges or not? Why? What do you think is the contribution of (your) reporting?

*e)* DP/ How do NSI surveys differ from other surveys that you are asked to participate in?

*f)* DP/ Are the NSI questionnaires you receive simple or difficult to understand? Simple or difficult to respond to? What makes a questionnaire easy or difficult?

*g)* How do you feel about the way the NSI communicates with you?

*h)* DP/ How much effort do you have to invest in questionnaire completion? (stay alert for willingness to perform, initiative, commitment, perseverance, persistence they use to fulfil their tasks)

*i)* DP/ Do changes in questionnaire content (e.g. modification of questions) or administration (e.g. introduction of web surveys) impact the effort invested in questionnaire completion? (positive, negative sides)

*j)* DP/ To what extent are the questions applicable to your company (both clarity of questions and availability/structure of data requested)?

*k)* DP/ What do you think of the [quality] of data provided to NSI? Why? When do approximate data suffice compared to exact figures (rather than extensive searches for data)? (verify meaning of quality or refer to Part I definitions)

*l)* DP/ Would you say that the [quality] of your reporting to NSI is similar or different with respect to other companies? In which way similar/different? (identify beliefs)

5. **Possible improvements**

*Purpose:*
- to get interviewee’s perspectives and ideas on possible improvements of the data collection
- to get interviewee’s opinion on NSI feedback

*a)* In an ideal world, what would need to change in order to facilitate good reporting? (check also how timing of the surveys works for them)

*b)* DP/ How can the NSIs data collection process be improved? How can we make it easier for you to report? Any reflection on positive and negative sides?
c) What do you think of the idea that NSI gives some data in return for company’s participation in surveys?

6. Conclusion

a) Do you ever participate in any survey privately (other than NSIs, e.g. different web surveys)?

b) Is there anything we have not discussed yet that you think would be relevant for us to know if we want to understand how we can motivate businesses to respond timely and accurately?