

# **Statistics as a motivational feedback in business surveys: evaluation of a specific setup**

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## ***1 Introduction***

There are both theoretical and practical reasons to assume that highly motivated data providers in surveys will help national statistical offices (NSIs) to obtain more data of better quality (Bavdaz and Giesen 2009). Therefore, there is also an interest in evaluating those motivational tools that an NSI applies in its business surveys - whether a tool fulfils its intended purpose or there is a potential for improving it.

This study examines “Key Ratios” (introduced in Section 2) as a motivational tool for a business survey carried out by Statistics Sweden. More specifically, the goal of this study was to evaluate how “Key Ratios” are received and used by businesses.

## ***2 Data and methodology***

### ***2.1 Background***

Structural Business Survey (SBS) is an annual survey producing economic statistics of considerable importance for the society. Sampling design for SBS is a stratified sample, with business size and industry as stratification variables. Within strata, sampling is proportional to size, giving higher inclusion probabilities to businesses that contribute more to important economic variables. Response rate in SBS is relatively high, for instance in 2011 about 82 percent rate unweighted and about 92 percent rate weighted on stratification variables.

Businesses that provide data by the close of the regular data collection period are sent “Key Ratios”, a set of index numbers comparing the business’s performance with that of a reference group on a range of variables. The numbers are tailored to each business: the reference group consists of the business’s industry (NACE-4) and size class (in number of employees) sub-domain of the population. The first quartile, the median, and the third quartile for about 20 economic variables in the reference group, as well as the business’s own data on the same variables (data that the business provided in the latest round of the survey), are presented. “Key Ratios” is also a regular product of the NSI, which can be purchased for about 80 EUR.

Intention with providing “Key Ratios” free of charge to data providers is to show appreciation for their work and to demonstrate one aspect of usefulness of the data that SBS collects. This intention conforms with the reciprocity principle that by Groves et al. (1992) was suggested to be applicable in the household survey context.

Presumably for confidentiality reasons, the “Key Ratios” are not sent to the business in a letter; instead, the business receives by letter login data for the data collection web site of Statistics Sweden, where the “Key Ratios” file can be downloaded.

### ***2.2 Design***

Due to the known fact that questionnaires yield significantly lower response rates - which also in this case could lead to biased results due to those responding likely being different from those not responding - the interview was chosen, with the additional benefit that in business surveys we do have contact person’s details for all the businesses.

A template for a semi-structured interview was developed, consisting of 14 items (Appendix). In a semi-structured interview, the interviewer needs not follow the template. Rather, variations both in wording, order and even whether the question will be posed or not are left to the interviewer - here, a cognitive laboratory interviewer with large experience with business survey evaluation.

As an interview requires considerably more resources per sampled unit than a questionnaire, a sample size of 34 units was chosen, deemed to cover both a possible need of quantitative, statistical analysis of the data as well as the qualitative perspective needed to understand well the perception and use of “Key Ratios”, for which there were no prior questions developed. The interviewer was instructed to do the utmost possible to achieve contact with every sampled unit. The interviews were conducted by telephone.

### ***2.3 Procedure***

The units were sampled using simple random sampling (stratified into large and small businesses with half each) among the businesses that have been sent “Key Ratios” by November 27th, 2011. This implies that all these businesses submitted their data to the SBS.

The interviews took place between January 11th and 27th, 2012. They lasted between 3 and 18 minutes, with an average of 9 minutes. The interviews have been recorded and transcribed.

## ***3. Results***

In total, 29 interviews among the 34 sampled units were conducted, of which one was a refusal/break-off after the first couple of questions. No contact with data providers in three of the businesses could be established during the course of the field work, language issues were preventing one interview, and one business was sold since submitting data for the SBS, resulting in a response rate of 82.4% as per AAPOR RR1-4.

### ***3.1 Quantitative summary***

#### **Respondents**

- Of the 28 obtained responses (there was one item nonresponse), 22 responses (79%) indicated that the evaluation study participant (who also was the intended recipient of the letter providing access to “Key Ratios”) was a part of the business; the other six were external accounting firms that the businesses hire for the business’s accounting (and thereby also reporting for official statistics purposes). In some cases, external participants can be understood to be intrinsically less motivated for “Key Ratios”: as one of these participants put it, “I am not paid for the time I’d be investing in looking into these data”.
- Of the 22 internal responses, 10 responses (45%) could be included into the group of potential users of data (CEO, deputy CEO, CFO, owner, and similar).

#### **Access to “Key ratios”**

- Of 29 obtained responses, 22 responses (76%) indicated that the recipient recalled seeing or reading the letter.
  - While we did not see other signs of failure of true reporting, in one case a respondent indicated receiving “Key Ratios” by email (in the course of this case study, we did not investigate whether this really was the case or not).

- Of those 22 responses that indicated recalling the letter, 15 (68%) reported recalling the possibility given in the letter to log onto the Statistics Sweden's on-line data collection system and obtain the "Key Ratios" there.
- Of the 22 responses that indicated recalling the letter, four (18%) reported sending the letter with login data or the printed-out "Key Ratios" to someone else in the business or speaking substantially about "Key Ratios" with someone else in the business.
- Of the 15 responses that indicated understanding the possibility to download "Key ratios", three responses (20%) indicated that they downloaded "Key ratios"; this corresponds to about 10% (3/29) of the 29 businesses that provided data on this item.
  - One set of "Key ratios" was downloaded and printed out by a controller in the business, and forwarded to the CFO. The participant highly values "Key Ratios".
  - The other was downloaded by a CEO, and not forwarded to anyone else in the business as the CEO considered the comparison to be with a too wide group of businesses (their business is in a specific category of the logistics trade).
  - The third was downloaded by an external accountant, and also not forwarded (without explicit explanation). However, the external accountant said that the data will be useful for the board of the business, thus intending to send the "Key ratios" to them.

#### Other observations

- Fairly often, in 12 cases (41%) of the 29 obtained responses, the participants spontaneously mentioned the especially large workload at the end of the year as an implicit reason for not acting on the "Key Ratios" letter by the time of the interview.
- In 8 (36%) of the 22 cases that indicated recalling the letter, the participants spontaneously expressed a positive attitude to "Key ratios" as a useful form of motivation/feedback.

### **3.2 Qualitative summary**

#### General comments

As mentioned in the quantitative part, the period of the year when the "Key Ratios" comes to businesses is not particularly well timed.

Further, quite often - even if we have not quantified that - the reaction of the participants upon receiving and reading the letter seems to have been "Whew, great, there is nothing that I need to fill in and send back to Statistics Sweden", that is, a relief as the primary reaction.

If so, only after such a reaction subsided can an insight regarding potential usefulness of the "Key Ratios" occur (but need not). The stress of the busy period and the additional step of logging into Statistics Sweden's web site seem not to be conducive for completing the action.

#### Specific points

- Regarding "Key ratios" as a motivating factor
  - Works if the business is dependent on a market containing competitors; otherwise, this may not be a particularly good motivator: "Not interesting specifically in KR as business strongly dependent on a single municipality; but good with some feedback".
  - The comparison group needs to match the one that the business is interested in; several participants commented about a not so relevant (too wide) comparison group.

- Another aspect influencing motivational strength is that “Key ratios” are intended to work through enhancing business’s data use, but they are sent to the survey’s contact person (who not always is the data user). The contact person needs to understand a potential usefulness of “Key ratios” for the business and also to know – in case these two roles are distinct – who the potential user of “Key ratios” is in order to forward it to that user. This ‘closure’ within the business seems difficult to obtain.
- Regarding usability and attributes of “Key ratios”
  - Be more friendly in the communication, stressing the usefulness of “Key ratios” and be clear about that they are given as a thanks for providing the data.
  - The letter should be more attractively designed (“not to be a usual boring official letter”) and have a more relevant, to-the-point, title (which now is “Återrapportering” (literally, re-reporting), which might at first be construed as a request for more data).
  - If “Key Ratios” cannot be directly sent to the business, provide in the letter an example of how the “Key ratios” look like, present what information these can give.
  - Provide the possibility for the “Key ratios” to be downloaded as a spreadsheet file.

#### ***4. Conclusions***

Following aspects of design and execution of providing the ”Key Ratios” might be re-evaluated by Statistics Sweden:

- The log-in step - if confidentiality is a concern - could be replaced by a registered letter containing the “Key ratios”.
  - enable process measure of whether “Key ratios” are downloaded;
  - experiment with both forms (web and registered letter) to understand whether the increase in the number of downloads counterbalances the increased cost that the registered letter implies.
- Timing of the ”Key Ratios” letter (coincides with the annual accounting reporting).
- Improve visibility and attractiveness of “Key ratios” and make the communication purpose clear; improve usability of the “Key ratios”.
- Attempt tailoring better the group that the business is compared with in the “Key ratios”.

#### ***References***

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### ***Appendix: Interview guide***

1. What part of the company do you belong to?
2. Which function do you have?
3. What is the formal name of your position?
4. Can you recall that you received a letter in December (12/5-9) that was about giving you "Key Ratios" on your participation in the Structural Business Survey?
5. Did you read the letter?
  - a. (If no): Why did you not read the letter?
6. What was your perception of this letter?
7. The letter contained a user ID and a password [for accessing "Key Ratios"]. Do you remember whether you used them and logged in?
  - a. (If no): Why did you not do that?
  - b. (If no): Did you intend to log in later or did you not intend to do that? [The interview jumps to q.14.]
8. What was your perception of "Key Ratios"?
9. Do you still have them?
10. Have you spoken about "Key Ratios" with someone or sent them to another person, or have they remained with you?
  - a. (If sent to another person): What role or position does that person have?
  - b. (If spoken with another person): What was that conversation about?
  - c. Was there anything else that occurred regarding "Key Ratios"?
11. Are "Key Ratios" of some use for you?
  - a. (If yes): In which way?
  - b. (If no): Why not?
12. Are "Key Ratios" of use for someone else in the company?
  - a. (If no): Why not?
  - b. (If yes): To whom?
  - c. (If yes): In which way?
13. Can Statistics Sweden improve something with relation to "Key Ratios"?
  - a. (If yes): In which way?
  - b. (If yes): Why would that improvement be better for you or for the company?
  - c. (If not): Why not?
14. The goal of this "Key Ratios" is to give the company something in return [for participating in SBS]. Is there any other kind of information that the company would appreciate to get?