

# Designing an e-Form to Collect Survey Data

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## 1. Introduction

The Office for National Statistics (ONS) currently uses Blaise as a collection tool for its social surveys, via telephone, face-to-face and self-completion. It has also used web collection for the internal ONS Staff Perception Survey. However, the introduction of Blaise IS with version 4.7 and BASIL with version 4.8, however, allows ONS the possibility of collecting business survey data over the internet. At present, ONS uses TDE (Telephone Data Entry) and imaging software to capture data from paper forms. Using Blaise Internet will provide ONS the opportunity to offer businesses another option for returning their data.

This paper provides details of the current method used by ONS to collect data for its business surveys and will show the results of our project to design an e-Form based on the existing ONS forms. The poster session at the conference will demonstrate the versions of this e-Form created using Blaise IS and BASIL. I will be available to highlight issues encountered whilst creating the e-Forms, and show images of the completed forms that were uploaded to the ONS intranet site.

## 2. Current business survey data collection methods used by ONS

ONS uses 2 methods for the collection of business survey data.

### 2.1 Method 1 – Paper forms

Survey samples are generated from the ONS Inter-Departmental Business Register (IDBR). Sample information includes, amongst other things, the name of the business, contact person, IDBR reference number and classificatory data. This information is then combined with template survey forms to produce paper versions which are then dispatched by post. Completed forms are then returned, and the data is imaged and scanned. The scanned data is held in electronic files which are then transferred overnight to the survey database system, which is used to calculate the survey results.

### 2.2 Method 2: Telephone Data Entry (TDE)

Although the process for creating the TDE forms follows that described for paper forms, there are several other considerations:

- the maximum number of data items suitable for collection via TDE is considered to be 9
- only numeric data and comments are suitable for collection via TDE
- a unique identifier generated by the collection database will be used to avoid mis-keying of reference numbers

- the data will be subject to limited inquiry specific validation at the TDE source
- survey forms, letters and other documentation must comply with the standard for TDE forms
- the inquiry dialogue must comply with the standard for TDE dialogues

ONS applies strict control over TDE dialogue and forms. They must be formally signed off by survey representatives, the Forms Processing Centre and Methodology Group prior to transfer to TDE. The whole process is overseen by the Data Collection Initiatives team.

The TDE process is as follows:

### **Stage 1 - Introduction/Goodbye/Transfer**

- Welcome
- Change to dialogue – highlight changes to previous versions
- Contributor ID – contributor keys in ID number as printed on survey form
- Incompatibility – contributor telephone not recognised by TDE system.
- Alternative options provided eg transfer to ONS operator or survey contact
- Contributor ID accepted
- Data success – response recorded successfully
- Sign-off message.

### **Stage 2 – Confirmation codes**

- Describe the action before the code e.g. to confirm press 1
- Data entry values and comments are followed by the hash or gate key
- Data entry values are played back for confirmation
- Confirm values e.g. to confirm press 1; to re-enter press 2

### **Stage 3 – Dates**

- Confirm whether contributor is responding for the current period or a previous period
- Confirm response is for the standard period (set by ONS) or calendar period
- If non-standard period, the contributor keys 2 digits for the first day, last day and month of reporting period. If unsuccessful at recording dates, the contributor has 2 further attempts before being asked to contact the ONS

#### **Stage 4 – General data**

- If Euro flag is set for the contributor the dialogue will replace pounds with euros.
- Financial questions are asked in "thousands of pounds"
- All data responses (except nils) should end with a hash

#### **Stage 5 – Comments**

- Any failure in validation will mean:
  - first asking the contributor to confirm the data
  - then asking for an explanation – either by leaving a message or by transfer to desk (depending on survey)
- Change in data message will give the contributor a choice of leaving a message or transferring to desk (in office hours)
- Contributor offered the option of leaving contact name and number



## 3. Developing an e-Form

### 3.1 Background

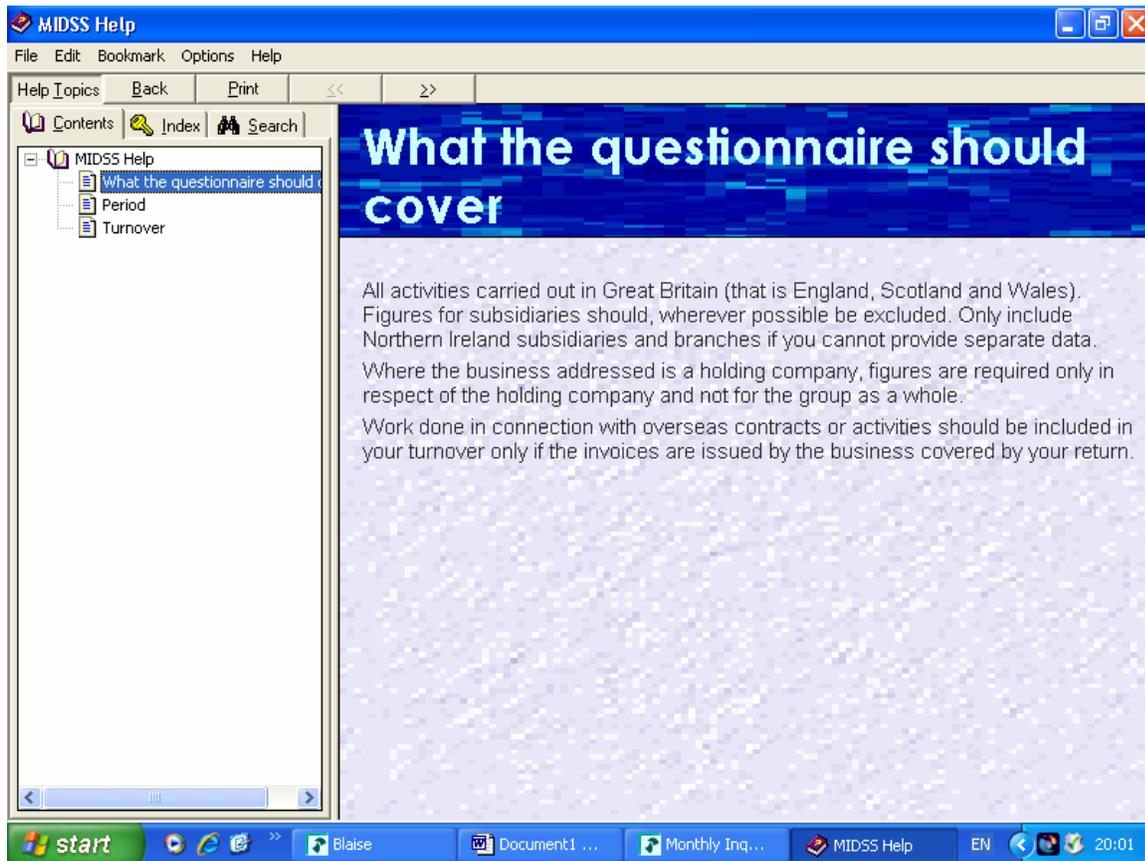
Internet collection offers potential efficiency savings over Telephone Data Entry and paper collection of data. The current process involves considerable resources from the reprographics unit and output handling to produce the paper forms and then dispatch them via the postal system

The Blaise Development Standards and Support team has been eager to extend the use of Blaise to ONS's Business Surveys, and has been actively engaged in this over the past three years. Using Blaise 4.8, BASIL now gives us the opportunity to demonstrate recent progress and how Blaise is a real contender for these surveys.

Whilst trying to replicate the paper form electronically we wanted to add features and functionality that would aid the contributor in completing the form, and ultimately result in the collection of better quality data. Using the extra flexibility that an e-Form allows, we have adapted the form in various ways:

- break down questions into clearly defined sections
- clear navigation between the defined sections of the e-Form
- extension of Q-by-Q Help [Setchfield, 2006] to provide an on-line help guide. This package allows for easy navigation around the help screens, and provides a more professional look. ONS has been using this help package for some time on our social surveys, and has met with a favourable response from interviewers. The Robohelp settings use the same standards as our social surveys (see Figure 2)
- on-line checking and validation. This will place more of the responsibility for data consistency on the contributor, and the use of error messages will aid this
- direct electronic links to the person in ONS responsible for the questionnaire. This should encourage greater interaction between the office and contributors

Figure 2 – Screenshot of help facility for the survey



### 3.2 Questionnaire structure and standards

#### 3.2.1 Signing In

An 8-digit reference number will be emailed separately to the survey contributor. This will be used to access the rest of the questionnaire (see Figure 3).

Figure 3 – Survey Sign In screen

Monthly Inquiry into Distribution and Service Sectors

national STATISTICS

Sign In

Please enter your 8 digit reference number

Any queries ?

Email: [david.kinnear@ons.gsi.gov.uk](mailto:david.kinnear@ons.gsi.gov.uk)

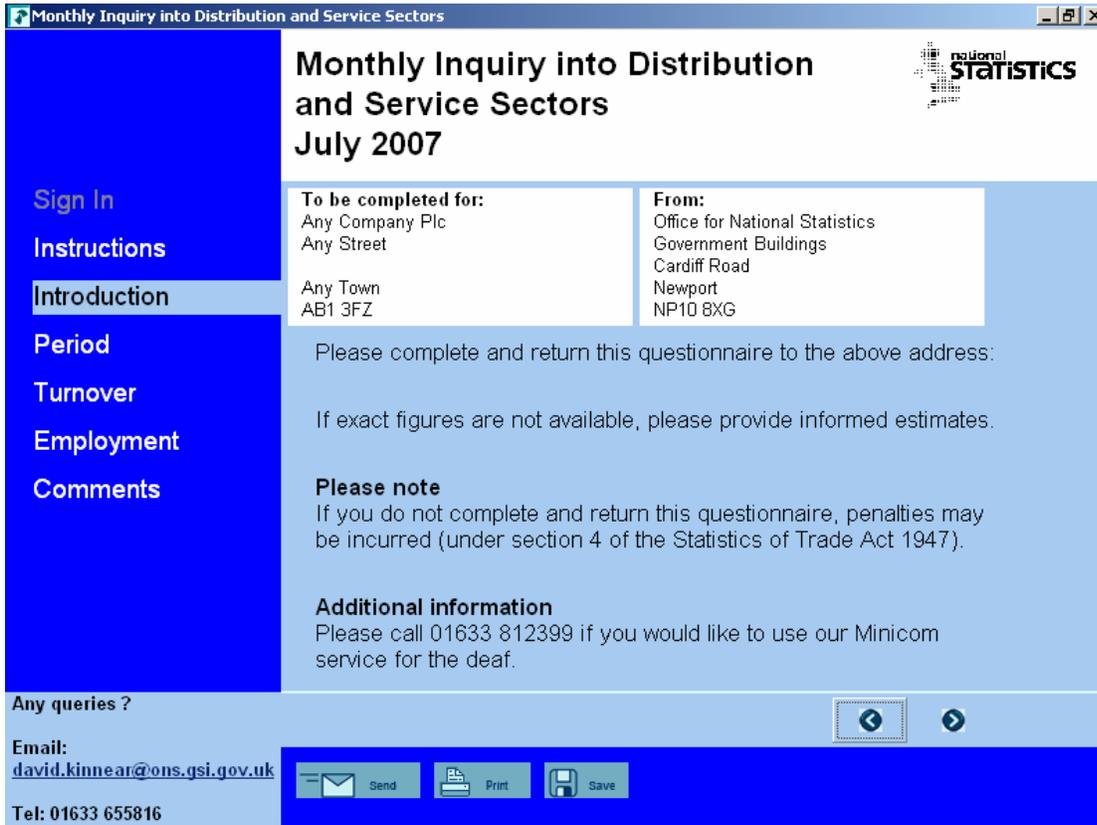
Tel: 01633 655816

Send Print Save

### 3.2.2 Creating individual e-Forms

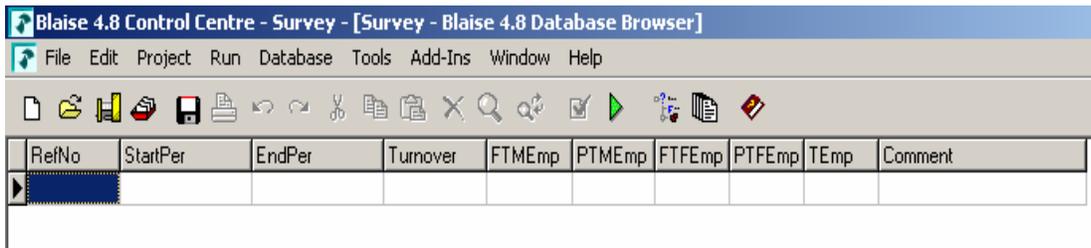
Every survey period, sample files are created from the Inter-Departmental Business Register (IDBR). Using Manipula, information such as the IDBR reference number, company name, address and contact name will be separated from this main file and stored in a separate ASCII file. This will be e-mailed with the form, to allow its contents to be displayed on the Introduction screen (see Figure 4). This will ensure that the data return is for the correct reporting unit.

Figure 4 – Survey Introduction screen



Although the company name and contact details will be displayed on the questionnaire, for added security these won't be included in the completed Blaise questionnaire database file (see Figure 5).

Figure 5 – Questionnaire database file



### 3.2.3 Screen standards and appearance

ONS has had considerable experience in developing standards for social survey questionnaires. However, this was our first attempt at creating a business survey form.

In designing the screen layout, we wanted to include the following:

- Distinct areas which would be consistent throughout the questionnaire. This will encourage familiarity with what to expect on each screen
- A distinct sign-in page for the contributor to enter their access reference number. Once this has been successfully input, the contributor can access the rest of the questionnaire. The sign-in page then becomes read only, and the access number cannot be re-entered
- Clear navigation and structure. Contributors will need free navigation around the questionnaire, to enable them to return to questions that have been skipped, or amend previously entered data. The questionnaire map displayed in the left pane will give the contributor an idea of progress through the form (with the current page always highlighted), and allow them to jump between sections
- Easy access to help pages by inserting a link alongside each question. The prominent display is to encourage use of the help facilities
- ONS contact email and phone number displayed at all times. The email address will link directly to the mail client
- 800 x 600 pixels screen resolution to provide clearer viewing (as in our social surveys)
- Minimise the use of scroll bars, reducing the risk of a contributor missing an instruction

Figure 6 – Screenshot of survey form

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Monthly Inquiry into Distribution and Service Sectors  
July 2007

Sign In  
Instructions  
Introduction  
Period  
Turnover  
Employment  
Male Employees  
Female Employees  
Total Employees  
Comments

Male employees

Full Time

Part Time

Female employees

Full Time

Part Time

Total all employees

Any queries ?

Email:  
[david.kinnear@ons.gsi.gov.uk](mailto:david.kinnear@ons.gsi.gov.uk)

Tel: 01633 655816

Send Print Save

A comments page is also included, to allow the contributor to record explanations for any unusual reported values, and other details such as change of contact name or address details.

Options allow the contributor to print their return, save at any point or send the questionnaire back to the office. When selecting the 'send' button, a warning will be displayed if any of the questions have not been completed.

#### 4. Next steps

The Blaise code to create the questionnaire has been completed. We now need to consider other issues, such as:

- Data security – we will involve our IT specialists to consider online security issues, transmitting confidential data via e-mail. However, the ONS has successfully conducted a confidential Staff Perception Survey, using Blaise IS, on the ONS intranet
- Performance issues. We will also be analysing the performance when emailing a quantity of forms at the same time, as several ONS surveys have a substantial sample size

- Integration into existing ONS systems. Files containing individual address and contact details will need to be generated from the existing IDBR system and incorporated into the Blaise questionnaire. Completed questionnaire data then needs to be inserted into existing results processing systems. Manipula seems the logical choice to do this
- Introducing this method of data collection as an alternative to existing methods, or as the sole method. We will need to react to comments and suggestions by contributors, and incorporate valid requests where necessary

## **5. References**

Setchfield, C., 2006, *Training and Learning Opportunities using Blaise*, IBUC proceedings 2006