

Harmonisation at the ONS: Comparability of survey and administrative data in conjunction with European influences

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Abstract

The ONS Harmonisation Team has been working on harmonising survey questions, concepts and definitions to ensure that the quality of official statistics meets user requirements and supports comparability both within the UK and internationally. The ONS' harmonisation vision is that all inputs, processing and outputs for the census and surveys and all data from administrative records will be harmonised, so that users can compare data from different sources with confidence and can merge and match data more easily. The Harmonisation work programme has largely been influenced by the ESS Peer Review.

The harmonisation of administrative data is a new and challenging area of work and forms a large part of this harmonisation work programme. The harmonisation team plan to formally agree the process of data matching across the Government Statistical Service (GSS) and produce harmonised inputs, processes and outputs for administrative data.

A further new area of work is the harmonisation of business statistics to comply with EUROSTATs Framework Regulation Integrating Business Statistics (FRIBS). The regulation requires ONS to move to a harmonised set of variables by 2019. Alongside this, and in collaboration, ONS are harmonising business survey questions where possible on the Electronic Data Collection programme over the next four years.

The ONS have a long working relationship with the UK Data Service and together plan to improve the Variable and Question Bank to include; cognitive information,

prominence, citations and version control using detailed metadata about questions, providing the user with more information than previously presented.

The paper sets out what the ONS has achieved to date with harmonisation, including the development of a harmonised question library, harmonised principles for surveys, administrative data and also what remains to be done. It also outlines the benefits of harmonising and details the issues and challenges faced when attempting to harmonise.

1. Introduction

The UK has a wide range of government surveys that provide sources of social and economic information. These surveys were designed at different times, to meet different needs, and have been commissioned by a range of departments. Consequently, the surveys were developed mostly in isolation from each other. This resulted in a lack of cohesion. Differences arose in concepts, definitions, design, fieldwork and processing practices, or “inputs”, and also in the way results are released, or “outputs”.

A cross-governmental programme of work was set up to harmonise statistical inputs and outputs to facilitate clearer and more robust comparison between data sources. This is known as harmonisation and the Office for National Statistics leads this programme of work. The aim is to make it easier for users to draw clearer and more robust comparisons between data sources.

Much work has already been done with the harmonisation of the Government social surveys, and whilst this work still continues, additional work is now taking place to look at harmonising business surveys and administrative data. The Harmonisation Team has identified several business and administrative data initiatives occurring across the GSS that harmonisation can facilitate and is working with colleagues to develop harmonised principles as part of the delivery of these programmes.

The Harmonisation Team at the ONS sits within the Survey Methodology and Statistical Computing Division, alongside the Classifications Team, and in the same line management as the Quality Centre.

2. The Harmonisation Vision

All inputs, processing and outputs for the census and surveys and all data from administrative records will be harmonised, where possible, so that users can compare data from different sources with confidence and can merge and match data more easily, taking account of international implications.

All users of official statistics should seek to use harmonised questions, concepts, definitions and outputs when designing and implementing surveys and administrative data. User needs are met by engaging effectively with the producers of official statistics and highlighting the benefits of harmonisation to promote trust in official statistics and to maximise the value for the public. There is also a role for harmonisation in ensuring that the quality of official statistics meets user requirements and supports comparability both within the UK and internationally by adopting harmonised principles. The UK principles reflect the principles of any international standards, but where necessary these are adapted to reflect the UK context. This ensures that UK results can be shown in forms consistent with international standards to further the cause of international comparability. Additionally, the UK contributes to the formulation of new and updated international standards while continuing to ensure developments are consistent within the UK context.

3. Benefits of Harmonisation

The benefits to producers of statistics include:

- Compliance with the UK Statistics and Registration Service Act 2007^[1] – Point 9 states that the Statistics Board is to ‘develop and maintain definitions, methodologies, classifications and standards for official statistics, and promote their use in relation to official statistics’.
- Compliance with the requirements of the UK Statistics Authority Code of Practice for Official Statistics^[2] - Principle 4, Practice 6 requires producers of official statistics to ‘Promote comparability within the UK and internationally’. Harmonisation also helps to meet the requirements of the EU, Eurostat and UN by facilitating international comparisons.

^[1] <http://www.legislation.gov.uk/ukpga/2007/18/contents>

^[2] <http://www.statisticsauthority.gov.uk/assessment/code-of-practice/code-of-practice-for-official-statistics.pdf>

- Better comparability for cross-survey analysis and integration by making statistics comparable across time and across different sources, thereby creating an environment in which multiple data sources can be integrated.
- Improved data quality by reducing potential misunderstanding or confusion caused by the use of different questions and/or outputs sourced from the same topic area.
- Increased cost savings and efficiencies by avoiding "reinventing the wheel" by utilising pre-existing harmonised principles, thereby potentially providing more outputs with the saved investment, and avoiding spending resource on harmonising after producing outputs.
- Improved knowledge management by reducing vulnerability to staff turnover because all staff are following the same principles and good practice so they can easily move around organisations and take their knowledge with them.

The benefits to users of statistics include:

- Increased understanding – if harmonised principles are used, then no matter what data users access, the questions and definitions they are using will be consistent and familiar.
- Improved ease of use and comparability – for data users who require multiple datasets, having multiple concepts with multiple meanings could not only be arduous and time consuming to handle, but increase the possibility of mistakes or make results incomparable. Harmonised principles allow comparability between multiple datasets.

4. The Harmonisation Strategy

The harmonisation strategy covers five key areas which will help to deliver the harmonisation vision; the role of harmonisation, the work priorities, the communication strategy, stakeholder engagement and research projects.

4.1 Role of Harmonisation

Formally the steer that has been given for the approach to harmonisation is to ‘encourage’ rather than ‘enforce’ it. This has led to a disparity between output areas which have engaged with and adopted harmonisation, and those that have failed to do so. The effectiveness of this

approach is under review and the proposal is to change to an approach of ‘harmonisation by default’ although it will be some time before this can be achieved.

The work of the Harmonisation Team is governed by the National Statistics Harmonisation Group (NSHG) which is in turn governed by the GSS Statistical Policies and Standards Committee (SPSC). The GSS SPSC is populated by several Heads of Profession for statistics in UK Government departments, Chief Statisticians for the devolved administrations in Northern Ireland, Scotland and Wales and senior statisticians.

NSHG Topic Groups are formed to take forward proposed harmonisation work, with each topic group being responsible for a number of Harmonised Principles. The membership of these groups include expert members from relevant government departments and devolved administrations, across the GSS. The groups are led by a Topic Lead, who is responsible for guiding the work through the recognised Harmonisation Process and managing the flow of the work.

4.2 Work Priorities

Our work priorities are as follows:

- Harmonising business data and administrative data (high)
- Communicating and engaging with stakeholders (high)
- Harmonising social data (medium)

4.3 Communication Strategy

There remains a lack of awareness in some areas across the GSS of the purpose and benefits of harmonisation. The strategy aims to target and engage with those areas that are not yet harmonised to explain the benefits of harmonisation, the issues caused by non-harmonisation, and how the Harmonisation Team (and topic leads) can help them to harmonise. This will be achieved through a targeted communication plan and with case studies. Visibility of the Harmonisation Team and NSHG members across the GSS will be increased to promote the harmonisation vision and the long-term benefits. This will be achieved by taking advantage of opportunities to meet with and present to stakeholders. The team will also hold regular workshops with new and existing stakeholders, review and improve written publicity material, and explore new ways of communicating with stakeholders.

4.4 Stakeholder Engagement

There are many stakeholders, some more engaged with harmonisation than others. A detailed stakeholder analysis is being undertaken to identify stakeholders of harmonisation, what their priority is in relation to the work plan and how well they have been engaged with so far. We will identify key programmes across the GSS and engage with relevant stakeholders to demonstrate that the ideal time to harmonise is when new systems are being built or existing ones modified. The membership of groups such as the NSHG and the topic groups will also be reviewed to ensure the right people are involved at the right time. A closer relationship will be developed with the devolved administrations to ensure Harmonisation across the UK occurs.

4.5 Research Project

Case studies will be developed to show examples of where output areas have successfully harmonised, highlighting the benefits and issues encountered. Further research will be undertaken to compare similar questions across different surveys to identify duplicate non-harmonised definitions, and those surveys which are not adopting harmonisation can be targeted directly.

5. European Statistical System (ESS) Peer Review 2013-2015

The recommendation from the ESS Peer Review has had a large influence of the harmonisation programme going forwards. The purpose of the ESS Peer Review process was to assess compliance with the European Code of Practice. A team of Peer Reviewers visited the UK in January 2015 - their feedback was generally very positive and their Peer Review report for the UK was published by Eurostat in March 2015. The report³ made 16 recommendations, of which one related to harmonisation and was as follows:

The United Kingdom Statistics Authority and the National Statistician as Head of the Government Statistical Service should strengthen their efforts to harmonise United Kingdom statistics in order to ensure coherence and comparability in the production of official statistics within the United Kingdom, over time and among producers of statistics. (European statistics Code of Practice, Principles 10, 14 and 15, coordination.)

³ <http://ec.europa.eu/eurostat/documents/64157/4372828/2015-UK-improvement-actions/c3086619-0cb3-48cf-8600-dda78590412c>

A Harmonisation action plan was developed to address this recommendation with progress updates being reported back to Eurostat at regular intervals.

6. Harmonisation workplan

The Harmonisation workplan covers four areas which have been largely influenced by the harmonisation strategy and the ESS Harmonisation action plan:

6.1 Harmonising business statistics

There are a number of initiatives taking place where we can develop and implement business harmonisation principles. One of these initiatives is the Electronic Data Collection project which is transferring business surveys to electronic format with the aim to complete by March 2019. This is an excellent opportunity to harmonise questions through the process and the harmonisation team is looking at how this can be done.

Another initiative is the implementation of the Framework Regulation Integrating Business Statistics (FRIBS). The Harmonisation team have established a FRIBS Harmonised Variables working group within the ONS to identify and implement changes to the definition of variables to meet proposed EU regulations.

6.2 Harmonising administrative data

The Harmonisation team are talking to a range of statistical users to understand the most effective way to harmonise administrative data. We are at an early stage with this and need to get buy in from relevant business areas by engaging with them about how we can help them to harmonise their data. This will be achieved by using the influence of key players to promote the benefits of harmonisation and to demonstrate that the ideal time to harmonise is when new systems are being built or existing ones modified. The Harmonisation team is also looking to establish an Administrative Data Harmonisation Working Group to help drive the work forwards.

6.3 Social Harmonisation

The Harmonisation Team coordinates topic groups to share information, discuss issues, and develop social harmonised principles. These topic groups include a wide variety of stakeholders and are led by topic experts across UK Government departments within the GSS. Substantial progress has been made on harmonising social topics, notably:

Benefits and Tax Credits; Consumer Durables; Country of Birth, Migration and Citizenship; Crime and Anti-Social Behaviour; Demographic Information; Economic Activity; Education; Ethnicity, Identity, Language and Religion – including Sexual Identity; Health, Disability and Carers; Housing and Tenure; Income; Pensions; Social Capital; and Personal Well-Being.

Harmonisation of concepts and questions will continue to be progressed and promoted across the GSS. In addition the Harmonisation team are identifying and implementing improvements to the effectiveness of the topic groups and overall framework of implementing harmonisation within the UK.

The 2021 Census is also an excellent opportunity to update and develop social harmonisation principles. The Harmonisation team will continue to work with the 2021 Census team to encourage harmonisation across the Censuses in the UK.

6.4 UK Data Service Variable and Question Bank

The UK Data Service Variable and Question Bank has been developed collaboratively with the UK Data Service at the University of Essex, to promote the visibility and re-use of GSS harmonised questions via a new search tool. The Harmonisation Team will continue to liaise with the UK Data Service regarding the planned improvements to metadata enhancement. Most of the information currently held within the Variable and Question Bank is for social surveys. As the focus moves to harmonising business data, more business surveys will be added to the Bank.

7. Issues and Considerations

Although the strategy and workplan will bring many benefits, there are also considerations that need to be understood in order to move the harmonisation agenda forward. These include:

- The ‘encouragement’ of uptake of harmonised principles across the GSS and from the UK Statistics Authority - harmonisation is currently not enforced but rather encouraged.
- Conflicting work priorities within ONS, and across UK Government Departments, the GSS and Devolved Administrations making it difficult to find resource to implement harmonisation.
- Resource (people/time/finance) constraints and resistance to change to implement harmonisation – harmonisation tends to be viewed as a burden rather than a facilitator and it is difficult to gain buy-in.
- Difficulties in achieving harmonisation across the UK, across Europe, and across other bodies (e.g. other National Statistical Institutes) due to differing statutory requirements.
- Lack of understanding of the bigger picture - harmonisation is not at the top of peoples’ agendas as they tend to work in silos.
- Difficulties (e.g. legal gateways) in obtaining data needed to carry out empirical research to demonstrate how quality improves as a result of harmonisation.
- Inadequate evidence of where harmonisation has worked and what areas have harmonised successfully, which would give confidence and reason for others to harmonise.

Considerations for tackling these issues will be added to the work plan for harmonisation.