The Statistical Training Framework

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Content

What is the CSO’s Statistical Training Framework?

How does it work in practice?

Impact of COVID-19
What is the CSO’s Statistical Training Framework?
Summary of the Statistical Training Framework

The Central Statistics Office (CSO) has developed a Statistical Training Framework with input from the UNHLG Developing Organisational Capability, the University of Southampton and the University of Manchester.

Framework designed in line with GSBPM model

For each role within a Statistical Organisation
The CSO’s Statistical Training Framework

1. Design Statistical training model in-house in line with GSBPM

2. Internal working group setup, identify **13 Statistical High Level Headings**

3. Descriptors for each statistical skill heading with requirements set out as introductory, foundation, primary, intermediate and advanced

4. Skills Register and Role Specification mapping – skills gaps identified, learning paths can formulated from these.

5. Training Interventions Identified – aligned to the 70:20:10 Model
### Statistical Skills linked to the GSBPM

#### STATISTICAL TRAINING FRAMEWORK

<table>
<thead>
<tr>
<th>Specify Needs</th>
<th>Design</th>
<th>Build</th>
<th>Collect</th>
<th>Process</th>
<th>Analyze</th>
<th>Disseminate</th>
<th>Evaluate</th>
</tr>
</thead>
</table>

#### TOPICS

1. Register Management
2. Sample and Estimation
3. Survey and Questionnaire Design
4. Imputation and non-response
5. Statistical Data Editing
6. Evaluating user statistical needs
7. Index Numbers
8. Regression
9. Time Series Analysis and Seasonal Adjustment
10. Statistical Disclosure control
11. Visualisation and Presentation of Data
12. Data Matching, Integration and Administrative Data
13. National Accounts
How does it work in practice?
The Statistical Training Framework in Practice

**Statistical Role Specification Form**
- The Head of Division (HOD), in conjunction with the current role holder, develops the statistical skill requirements for the role.

**Skills Register**
- Updated with new 13 Statistical Skills & 6 levels and is completed by the role holder.

**Skills Gap Analysis**
The Statistical Role Specification Form (requirement) is compared with the Skills Register (available skills) and skills gaps are identified.

**Statistical Skills Matrix**
- HOD receives a statistical skills matrix summarising the gap analysis for the division. They review the matrix and identify training priorities for the next 12 months.

**Statistical Training Requirements – Learning Paths**
- Statistical Training requirements are included in the role holders Performance Management Development System (PMDS) form.
# Gap Analysis – Statistical Skills Competency Matrix

<table>
<thead>
<tr>
<th>STAFF NAME AND ROLE CODE</th>
<th>SKILL LEVEL</th>
<th>SKILL</th>
<th>STATISTICAL SKILLS COMPETENCY MATRIX</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mary 2234</td>
<td>Current</td>
<td>Primary</td>
<td>Foundation</td>
</tr>
<tr>
<td>Browne 1234</td>
<td>Required</td>
<td>Foundation</td>
<td>Foundation</td>
</tr>
<tr>
<td>John 2234</td>
<td>Required</td>
<td>Introductory</td>
<td>Introductory</td>
</tr>
<tr>
<td>White</td>
<td>Required</td>
<td>Introductory</td>
<td>None</td>
</tr>
<tr>
<td>Jim 2234</td>
<td>Required</td>
<td>Primary</td>
<td>Intermediate</td>
</tr>
<tr>
<td>Hayes</td>
<td>Required</td>
<td>Intermediate</td>
<td>Foundation</td>
</tr>
</tbody>
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<tr>
<th>TRAINING</th>
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<tbody>
<tr>
<td>Training</td>
<td>Above or at the required skill level</td>
<td>Required to move one skill level</td>
<td>Required to move two skill levels</td>
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<td>2234 Mary</td>
<td>Current</td>
<td>Primary</td>
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<td>Above or at the required skill level</td>
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<td>Required to move two skill levels</td>
<td>Required to move three skill levels</td>
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<tr>
<td>2234 Hayes</td>
<td>Required</td>
<td>Primary</td>
<td>Intermediate</td>
</tr>
<tr>
<td>Training</td>
<td>Below or at the required skill level</td>
<td>Required to move three skill levels</td>
<td>Required to move up 4 skill levels or more</td>
</tr>
</tbody>
</table>

Created on: 04/12/2019  Reviewed on: 12/12/2019  Next Review: 04/12/2019
Skills Gap Analysis for the CSO

Results of the GAP Analysis by statistical skill

- Register Management: 15 (Low/moderate), 49 (Extensive)
- Sampling & Estimation: 6 (Low/moderate), 36 (Extensive)
- Survey & Questionnaire Design: 7 (Low/moderate), 51 (Extensive)
- Imputation & Non-response: 13 (Low/moderate), 54 (Extensive)
- Statistical Data Editing: 18 (Low/moderate), 54 (Extensive)
- Evaluating User Statistical Needs: 23 (Low/moderate), 55 (Extensive)
- Index Numbers: 7 (Low/moderate), 31 (Extensive)
- Regression: 7 (Low/moderate), 25 (Extensive)
- Time Series & Seasonal Adjustment: 13 (Low/moderate), 41 (Extensive)
- Statistical Disclosure Control: 21 (Low/moderate), 68 (Extensive)
- Visualisation & Presentation of Data: 7 (Low/moderate), 49 (Extensive)
- Matching/Integration/Admin Data: 10 (Low/moderate), 70 (Extensive)
- National Accounts: 8 (Low/moderate), 40 (Extensive)
- SAS: 56 (Low/moderate), 56 (Extensive)
Training Priorities for 2020

2020 Priorities set by HODs by statistical skill

- Register Management: 11
- Sampling & Estimation: 10
- Survey & Questionnaire Design: 16
- Imputation & Non-response: 29
- Statistical Data Editing: 19
- Evaluating User Statistical Needs: 17
- Index Numbers: 8
- Regression: 3
- Time Series & Seasonal Adjustment: 5
- Statistical Disclosure Control: 10
- Visualisation & Presentation of Data: 15
- Data Matching/Integration/Admin Data: 12
- National Accounts: 5
- SAS: 12
Statistical Training Interventions: Learning Paths

• Catalogue of statistical training interventions
  • For example: European Statistical Training Programme, European Masters in Official Statistics

• In-house training programmes
  • For example: Fundamentals of Statistics, Financial Derivatives

• Harnessing in-house expertise
  • Skills register to identify expertise

• Communities of Practice
  • Build more COPs across the office with a focus on the 13 statistical skills in the Statistical Training Framework
Statistical Training Framework - new staff members

- Vacancy Identified
- Statistical Role Specification Completed
- Business case put forward
- Skills gap minimised
- Skills of available staff matched to the vacant roles
- Skills Register is completed by new staff before they are assigned
- Learning path developed
- Built into SMART Start Year One programme
- New staff member is upskilled
Impact of COVID-19
Impact of COVID-19

What Happened?

- Data collection in the field ceased
- Surveys were put on hold
- Methodologies, data sources and technologies changed
- Face-to-Face learning ceased
- Priority => maintaining key outputs under extraordinary conditions
- Resources were redeployed to deal with the crisis

How did the Statistical Training Framework respond?

- Reassessment of training priorities for 2020
- Skills Register was used to identify expertise
- Move to virtual delivery of training courses
- Development of relationships with other NSI’s which allowed the sharing of expertise across international boundaries
- Look to the future with a focus on new and emerging data sources and technologies
Any questions?