Designer Stream

What are the challenges?

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Scenarios

- Investors have identified a new business capability to be created
- Investors have identified the need to modify an existing capability
- Subject Matter and/or Methodology has been at a conference and found an exciting new capability
- IT has found an opportunity to simplify and/or alternatively source some components in your statistical production environment
- Innovation and/or data science staff have identified some interesting new opportunities
- A new set of data sources has been identified – what can we do with them?
- New partners have come in with exciting new needs for statistical insights
Now what do you do? (1)

- What business functions are being affected?
- Is it a new one? An existing one?

As a Designer

- Will there be people changes?
- New or different methods?
- New or different processes?
- New applications or technologies?
- What standards do I need to follow or take advantage of? (e.g. SDMX, DDI, ...)

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### Strategy Management
- Maintain & consult. of strat. relations
- Strategic Planning
- Policy definition
- PMM and budget def.

### Statistical Production Management
- New statistics development
- Statistical Design
- Information Resources Management
- Statistical Processing
- Statistical Dissemination

### Corporate Support Management
- Quality Mgt.
- Legal framework Mgt.
- Security Mgt.
- IT Management.
- Administrative Information Mgt.
- Human Resource Mgt.
- Procurement Mgt.
- Financial Mgt.

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### Business Capability

**PEOPLE**
- Skills
- Roles
- Competence

**METHODS**
- Algorithms
- Procedures

**PROCESSES**
- Tasks
- Collaboration
- Business rules

**Application/Technology**
- Information systems
- Information repositories
- Communication networks

**Standards**
- Service interface
- Information models

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### ESS Vision 2020 implementation and Business Capability model

- New statistics development
- Legislative work (jurisdiction)
- Statistical product innovation
- Methods and tools (for new statistics)
- Identify user needs
- Data lifecycle
- Statistical data production
- Statistical data collection
- Statistical analysis
- Statistical dissemination
- Quality management
- Statistical models and methods design
- Process design
- Software system design
- Service interface
Now what do you do? (2)

- I’ve identified that I need a new business capability
  - New roles, processes
  - New components
- Is there something in the CSPA catalogue that I can use?
- If I create something new, can I co-create it with others?
- Is this something that others in the broader statistical community can use?
  - Other government departments in my country
  - Private sector and/or citizens
  - Other statistical agencies
  - Global community, Academic community
  - Cloud community
I need a statistical component

- What is the service definition?
  - What conceptually does it do?
  - What logically does it do?
  - What information flows in, out?
- What is the service implementation?
  - What do it’s interfaces need to look like?
  - How is it integrated (orchestrated) into my production processes?
- Resources:
  - ESSnet BCM
  - GAMSO
  - GSBPM
  - GSIM
  - CSPA LIM
  - Methodology Architecture
  - CSPA Catalogue
  - Other catalogues
  - Agency references
  - Other disciplines, domains
Levels of the Conversation

- The business (subject matter, methodology) conversation occurs usually at the conceptual level.
- Business and Architecture discuss at the logical level to ensure that what is imagined conceptually is clearly map-able to the digital domain.
- Architecture and service implementation / assembly will have to agree at the physical level how the digital pieces go together to meet the business intent.
Component identification

Quality Management / Metadata Management

<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>
<tbody>
<tr>
<td>1.1 Identify needs</td>
<td>2.1 Design outputs</td>
<td>3.1 Build exchange architecture</td>
<td>4.1 Create frame &amp; source target</td>
<td>5.1 Integrate data</td>
<td>6.1 Prepare draft outputs</td>
<td>7.1 Validate output systems</td>
<td>8.1 Generate evaluation reports</td>
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<tr>
<td>1.2 Conduct source analysis</td>
<td>2.2 Design exchanges</td>
<td>3.2 Build or enhance business processes</td>
<td>4.2 Set up collection</td>
<td>5.2 Classify &amp; code</td>
<td>6.2 Validate outputs</td>
<td>7.2 Produce dissemination programs</td>
<td>8.2 Conduct evaluation</td>
</tr>
<tr>
<td>1.3 Establish output repositories</td>
<td>2.3 Design collections</td>
<td>3.3 Build or enhance administrative components</td>
<td>4.3 Collect</td>
<td>5.3 Verify &amp; validate</td>
<td>6.3 Validate outputs</td>
<td>7.3 Manage dissemination protocols</td>
<td>8.3 Agree on action plans</td>
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<tr>
<td>1.4 Identify concepts</td>
<td>2.4 Design exchange processes</td>
<td>3.4 Design exchange processes or contexts</td>
<td>4.4 Prepare exchange</td>
<td>5.4 Design &amp; develop</td>
<td>6.4 Validate exchange</td>
<td>7.4 Manage exchange support</td>
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<tr>
<td>1.5 Ensure business case</td>
<td>2.5 Design exchange processes &amp; activities</td>
<td>3.5 Test business processes</td>
<td>4.5 Create business process guidelines</td>
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<td>6.5 Create business process guidelines</td>
<td>7.5 Manage business process support</td>
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</tbody>
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Business Process

Input - Data - Parameters

GSBPM Sub-process

Output - Transformed data - Process metrics
Alternate Path

- I’ve found some cool CRAN modules…or SciKit…
- How do I incorporate them in my environment?
  - Or MLK…
  - Or SAS…
  - Or Watson…
  - Or MS / AWS platform services…
- How do I integrate it?
- Does CSPA play here?
Conceptual Component Architecture

Data消费与价值提取
- 数据挖掘 (Data Mining)
- 数据探查 (Data Prospecting)
- 数据可视化 (Data Visualization)
- 社区 (Communities of Practice)
- 高性能计算 (High Performance Processing)
- 数据分析 (Data Analysis)
- 机器学习 (Machine Learning)
- 数据共享与协作 (Data and Software Collaboration)

数据管理与资源调配
- 数据探索 (Data Exploration)
- 搜索与发现 (Search / Discovery)
- 管理 (Governance)
- 审计与报告 (Auditing / Reporting)
- 数据转换 (Data Transforming)
- 数据交付与订阅 (Data Delivery / Subscriptions)
- 数据安全 (Data Security)
- 隐私管理 (Privacy Management)
- 数据索引与目录 (Indexing / Cataloguing)
- 数据集成 (Data Integration)
- 数据链接 (Data Linkage)
- 数据供应商管理 (Data Supplier Management)
- 元数据管理 (Metadata Management)
- 数据丰富 (Data Enrichment)
- 数据治理 (Data Management)
- 身份与授权 (Identity & Authorization)

数据湖 (异构数据格式与类型)

集成数据物流
- 数据流 (Data Streaming)
- 数据获取 (Data Acquisition)
- 数据清洗 (Data Cleansing)
- 数据移动 (Data Movement)

数据源类型
- 商业数据 (Business Data)
- 地图数据 (Geo/Imagery)
- 科学数据 (Scientific Data)
- 多媒体数据 (Multimedia Data)
- 。

混合云/企业数据中心基础设施