The A-Z of Fundraising Datamarts

Why, where & how they are deployed

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14th May 2008
The A-Z of Fundraising Datamarts

• What is a fundraising datamart?
  – And what it isn’t!

• Why is it needed?
  – Fundraising Requirements
  – What should it do – and what it shouldn’t!

• Creating a datamart
  – Data Transformation (ETL)
  – Technologies & user tools

• The Future
Quick intro – Jim & Nigel

• Nigel

• First Commercial “Datamart” for BG about 20 something years ago
• First nfp datamart for Shelter about 12 years ago

• Jim

• Worked with Nigel on PCIS from Harte Hanks for centralised BG system
• At Occam, worked to develop Reciprocate and also was the prime mover behind Sigma, Occam’s analysis tool
WHAT IS A DATAMART?
What is a datamart?

A datamart is defined as a highly focused set of information that addresses the specific needs of a single group of users.

Data marts are specific solutions that offer immediate relief to business divisions, functions and departments.

They can be built quickly and have been used to address the data storage needs of specialised analytical and management reporting systems.
Classic Datamart Definition

• A datamart has users with one or more of the following:
  – Common business problems
  – Common roles/levels
  – Common mission
  – Common metrics

........But perhaps not common with rest of organisation!
Fundraising Datamart Definition
The Fundraising Datamart

FUNDRAISING DATAMART

Fundraising System → Pre-Processing

ETL Tools/Processes

Feed on Regular & Consistent Basis

New Data Sources

Service Data

Lookups e.g. Campaign Cost

Web

Return Load to Fundraising Source System

E.g. Campaign, scores etc

Datamart

New Structure

End User tools

SPSS

Channel Delivery
Email, SMS, Web 2.0
What isn’t a datamart?

• Day to day operational system with large number of users
• Not an Adhoc set of data exported into SAS/SPSS/Excel
• Not a one-off approach!
What is the difference to common fundraising systems?

• A fundraising datamart differs in a number of ways:

  – Specific purpose and functionality – to aid fundraising
  – Structure & data types – will support calculating and holding change data, derived scores, time-based
  – Can hold other data sources
  – Can be resolved to a different entity level e.g. household rather than individual
  – Simplified relational or “snowflake” type structure
  – Allows greater flexibility for reporting & analysis
Speed to answer!
Who has one/is building one?

- Amnesty
- British Red Cross
- British Heart Foundation
- Clic Sargeant
- CRUK
- Diabetes UK
- Dogs Trust
- Help the Aged
- Jean for Genes

- Oxfam
- Sightsavers
- Shelter
- The Children’s Society
- RSPB
- WSPA
- WWF
WHY IS A FUNDRAISING DATAMART NEEDED?
Why is it needed?

User empowerment
- Allows fundraisers direct access to underlying data with ability to manipulate through end user tools – e.g. mapping, analysis, reporting
- Speeds & improves fundraising decisions

Current Systems Gap
- Source system has a different set of functionality and data structures to those needed by fundraisers
- No one system will support every requirement
- New data sources require integration
- New functionality required e.g. Mapping, analytics
- Single Supporter view creation
Examples of New data sources

• Other Area/Channel
  – Online
    • Web interaction data – click response info
    • Emailing history
    • Web form data
  – Telemarketing
    • F2F, call history
  – Trading, Collections, Membership, Events

• Other Data
  • External data e.g. geodemographic datasets
  • Service information
  • Survey – attitudinal, interest information

• Lookups e.g
  • Internal boundary overlays
  • Cost & finance e.g. campaign codes
Fundraising requirements

• Fundraising Performance
  – Key metric creation – KPIs, Channel
  – Income tracking & benchmarking

• Strategic Planning
  – Forward income planning/prediction
  – Understanding the Supporter Journey – trending, history, relationship to the organisation over time
  – Analysis & Supporter Segmentation

• Tactical Use
  – Campaign Selections
  – Reporting e.g. Channel Performance
Time & Trended Data sets

- Holding positional & aggregated data
- Overcoming issues of overwriting data
- Legacy Lifecycle history
- “time to” analysis

- E.g. Scope Datamart RFV, National Trust LTV suite, HTA LTV suite
What should a datamart do?

Analysis e.g. Profiling Segmentation

Income Planning

Metric Creation e.g. LTVs

Campaign Management & Analysis

Mapping

Reporting
CREATING A FUNDRAISING DATAMART
Datamart Solution Process

1 – 3 weeks  c. 4 weeks  c. 4 weeks + 2 week pilot and refine  Ongoing > > >

**Project Initiation**
- PID
  - Project detail
    - Aims
    - Deliverables
    - KSFs
    - Key tasks, activities
  - Structure
    - Workstreams
    - Roles & responsibilities
  - Size and scale
    - Resources
    - Timeline
    - Budgets
  - Governance & Approvals

**Data Definition**
- Review recent marketing activity and extract briefs
- Audit usage of CIS for campaign selections
- Understand other information requests
- Business Requirements Specification
- Infrastructure & system architecture
- Functional specification, inc. Faststats loads
- Get sign off

**Develop datamart & Faststats loads**
- SQL table definition – fields, types, links etc.
- Prototype datasets
- Decode values for categorical data – from reference files imported
- Program desired transformations
- Create data dictionary, inc. user notes
- Report configuration

**Testing**
- Prepare
  - Tailor materials
  - Real life exercises
- Deliver
  - Super-users first
  - Small groups
- Establish support

**User Training**
- Weekly refresh
- Feedback:
  - Missing info
  - New fields to add
  - More derived data
- User relationship building and comms

**Refine**
- Apply data clean in CIS
Other data sources

Source Fundraising System

FUNDRAISING DATAMART

ETL Tools/Processes

Pre-Processing

Datamart

End User tools

Source System

Return Load to Fundraising Source System

Feed on Regular & Consistent Basis

New Data Sources

Service Data

Lookups

Web

E.g. Campaign, scores etc
The Information Layer
Data Transformation (ETL)

• Feed Process
  – Automated loads
  – Pre-processing & transformation
  – Combining of look-ups & external data
  – Feedback to source system(s)
  – Exception reporting

• Transformation
  – Aggregation
  – Stat(ae) rule driven
Common fundraising Data practices at ETL point

- Historic data – previous system change points
  - Opportunity to remove unwanted coding, e.g. dump codes
  - Assumptions on “missing data”, data inference
- Recoding of old to new definitions
  - E.g. a supporter makes a single cash gift to a standing order request can be reclassified as a one-off regular giver.
- Automatic translation of transactional data into key marketing concepts e.g. current regular givers
- Deduplication rules – entity level can be changed
Rule Change examples

• Reallocating income for reporting
  • E.g. Annual lottery players income can be accounted for in a single transaction, rather than as a spread across month or quarter.

• The datamart could potentially apply a rule to spread this income, where the data has an accurate product sub-group.
Calculations and rollups

Without roll-up tables it may be difficult to calculate time between two events where there are intervening transactions.

Multiple roll-up views can be produced which will aid in the creation of KPI's and allow a more dynamic dataset than could otherwise be created.
Measures to be created for each unique individual supporter

- Supporter Demographics
  - Identified demographic code, age, sex of supporter
- Supporter/Member Type
  - Types defined by CARE
- Supporter Relationship
- Relationship with cause
- RFV
- Calculation built from donation transactional history over time
- Response Ratio
- No of responses: no of communications
- Total Gross income
- Sum of Cash +RG Income (exclude tax reclaim) + Membership + Lottery + Other
- Total Membership Income
- Sum of all membership income
- Total Cash Income
- Sum of all appeal income source
- Total Lottery Income
- Income from all lottery activity
- Total RG Income
- Sum of all regular giving donations
- Total Tax reclaim (Gift Aid)
- Sum of total tax reclaimed to date
- Total Net income
- Total gross income - (recruitment cost + warm costs)
- Total Warm Net income
- Total gross income (excl first donation) - warm costs
- Annual Gross Income
  - Sum of gross income by year
- Annual Net Income
  - Sum of net income by year
- Upgrade to Regular Giving Date
- Date of first regular giving payment
- Highest Donation Ever
- Largest identified donation
- Lowest Donation
- Smallest identified donation
- Highest 5 donations ever
- Record of five highest donations
- Median Donation
- 50th percentile
- Mean Donation
- Sum of donations divided by no of donations
- Date of last donation
- Most recent donation
- Date of first donation
- First recorded donation
- Amount of first donation
- Amount of first donation
- Amount of last donation
- Amount of last donation
- Amount of last donation
- Recruitment method
- Media used to recruit
- Recruitment topic
- Recruitment creative or proposition code
- Cost of recruitment
- Campaign cost divided by number of new responders
- Smoothed cost of recruitment
- Campaign cost as above smoothed to take mean recruitment cost per annum
- Total warm communication cost
- Sum of all warm communication costs
- Total number of warm communications
- Sum of all warm communications ever sent
- Total number of donation responses
- Count of all response donations ever sent
- Total no of non-donation responses
- Count of all non-donation responses ever received
- Total warm comms cost
- No of warm comms x pack constant + (no of newsletters x newsletter constant) + total fulfilment cost
- Lottery donation ratio
- Total number of lotteries played versus lottery donations
- Total fulfilment cost
- total number of responses x fulfilment constant
Linking diverse data

- Data engineering processes for key creation
  - URN – Supporter no, Login etc.
  - Name & address
  - Membership URN
  - Postcode
  - Cookie or image tag
  - Transaction
  - Email address/Phone no
Structuring the data
Datamart Structures – “Snowflakes”

Snowflake Structure
A more complex, dependent data mart structure is built on the
snowflake structure.
1. Good for sophisticated cube structure.
2. A composite of star joins.
3. Dimensions can be shared among different fact tables.
4. More than one fact table is the norm.
Datamart

Description: Draft Donor Datamart Structure showing tables and primary key relationships

Target DB: Access  Rev: 1  Creator: N Magson
Filename: Analysis Datamart Structure  Company: Talking Numbers Data based solutions Ltd.
Supporter Information in the Data Mart

- This is a great opportunity to have a supporter-centric (Single Supporter) view of the information
  - Rather than product-centric or organisation-centric
Example rules on Supporter Information

- **Supporter status**
  - Deceased, Gone Away, Anonymous, Live (in that order)

- **Supporter type**
  - Individual, Member, Company, Trust, Other

- **Supporter Recruitment date**
  - Recommend 2 Dates
    - Financial recruitment date when they first donated
    - Overall recruitment date
  - This will allow us to track e.g. strategies of non-financial recruitment & conversion to financial support

- **Data Protection** (e.g. ethnicity)
Supporter Hierarchy

What is the hierarchy within cash giving and volunteering groups?

All types of cash –
- Appeal
- Other solicited
- In Memoriam
- Unsolicited

Voluntary Group contact
- Campaign network
- Service user rep
- Volunteer
- VIP

Major Donor
Regular Giver
Weekly Lottery
Membership
Cash Donor
Prize Draw
Payroll Giver
Individual Fundraiser
Legacy Pledger
Volunteer - various types
End User Tools

FastStats Discoverer

MAGELLAN

intellitrocker

MapInfo

Microsoft Excel

sas

ALTERIAN

This is marketing
Marketing Tool Marketplace
Ease of Use vs Analysis Power

- **High Power**
  - Fast Counters
    - e.g. Faststats, Alterian, Viper
    - Now include campaign management
  - Bespoke
    - e.g. TN Profiler, TN CAT
  - SAS
  - SQL

- **Low Power**
  - Excel
  - Database

- **Simple Ease of Use**
  - SQL

- **Hard Ease of Use**
  - SPSS
Technologies Deployed

Information Layer (ETL)

Feeds from Fundraising System
Other Data Sources

Fundraising Datamart (SQL, SAS, Alterian)

- Excel
- Fast Counting
- SPSS/SAS
- Web Analytics
- Bespoke Tools
Techologies Deployed

• User Tools
  – Analysis – SAS, SPSS, Excel
  – Campaign Management - MAGELLAN, Alterian
  – Fast-counting – Faststats Discoverer, Viper, TN Profiler, Alterian
  – Mapping – Mapinfo, Insite, FastStats, Alterian, Microsoft MapPoint
  – Reporting/OLAP – Cognos Powerplay, Proclarity, Crystal
  – Web Analytics – Google, Intellitracker, Nedstats
So what about OLAPs?

- Fundraising systems add-ons? TIE
- Thought this was about empowerment of the business user?
- How do they know what to analyse?
- Best to use a method of getting it all in!
Who should develop?

• 3 Options:
  – Internal
  – External
  – Collaboration

• Depends on
  – internal skills
  – Infrastructure/application
  – Specification
  – Timescale & budget
Simplified Datamart Process

Data Refresh and Inputs → Fundraising System → Data Export → Analysis Data Mart + Aggregation → Tool/View → Users

Responsibility

<table>
<thead>
<tr>
<th>Task</th>
<th>Responsible Party</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data extract definition</td>
<td>IT/Database Mgr</td>
</tr>
<tr>
<td>Data load definition into datamart</td>
<td>IT/Database Mgr</td>
</tr>
<tr>
<td>Definition of measure (in terms of underlying data)</td>
<td>IT/Analyst</td>
</tr>
<tr>
<td>Test creation &amp; confirmation of data sources</td>
<td>IT/Analyst</td>
</tr>
<tr>
<td>Measure(s) creation</td>
<td>IT/Analyst</td>
</tr>
<tr>
<td>Sanity checking against known/previous</td>
<td>Analyst</td>
</tr>
<tr>
<td>Re-specification (if necessary)</td>
<td>Analyst/IT</td>
</tr>
<tr>
<td>Testing &amp; Application of measure</td>
<td>Analyst/IT/Fundraising</td>
</tr>
<tr>
<td>Dissemination &amp; reporting</td>
<td>Analyst/Fundraising</td>
</tr>
</tbody>
</table>
Cross-Functional Team

Any such project will be one of partnership both with internal departments and any outside organisation that might be chosen. You will need to establish a cross-functional team for the development of the Datamart and should consider keeping the team in place once it has been deployed. An internally developed product, with external guidance, will enable you to take ownership and to further develop its staff through the act of participation in its development and implementation.
Set-up Summary

- Split the functionalities of the base
- Get as many people as you can involved in the development
- Get a champion from on high
- Cross party buy-in
- Educate non techies
DATAMART – PROS & CONS
Datamart Utopia?

- Improved fundraising performance
  - Better & quicker access to information
- Happy users?
- Cost
  - More tools to buy/maintain but cheaper than successive one-off requests to IT?
  - Speed of implementation
- Ownership of solution
  - Flexibility
  - Ability to add new tables/data
Datamart Utopia?

• System
  – Data out of sync/out of date
  – Data transformation “Two versions of the truth”
• Different entity levels – resolution issues
  – Passing back data to source systems
• Functionality definitions
  – User disciplines
• Getting organisation buy-in – IT to Fundraisers
The future??

• Continued requirement
  – Web 2.0
• Architectures are fundamentally different
• Ultimately about allowing users to reveal knowledge
• Tool integration
• Continuing challenges within ETL process
Thank you for listening,

Any Questions please ring
01285 644220