![Database Answers logo]

Partner Presentation for
Investment Banking

Barry Williams

Step 1 - Start by creating a Statement of Business Objectives
We start by agreeing a Statement of Business Objectives to establish the scope of the Enterprise Data Model.
Once we have agreed the Statement of Business Objectives we can create a draft Top-Level Model with associated Subject Areas, each of which is shown in its own Model.

This is an example of a Statement of Business Objectives for an Investment Bank :-
"Our Business objectives are to offer a range of Services to Clients, which can be either organizations or **High-Net-Worth Individuals**.
These Services will involve completing Deals for our Clients in which our Staff will participate with the purpose of achieving acceptable returns on investment.
Brokers may participate in these Deals, which will all be completed by Settlements.
Deals may involve multiple Currencies and incur subsequent Transactions, such as adjustments.

The Enterprise Data Model will establish the data available for a Data Warehouse to meet Business Intelligence requirements."
We can adopt an approach geared to a Product Lifecycle (Buy and Sell) or to a Customer (Engage, Service, Disengage) or KPI-related,
or some combination of these.

Step 2 - Review the Enterprise Data Model
After we have agreed the Statement of Business Objectives with the business we can review our Enterprise Data Model.
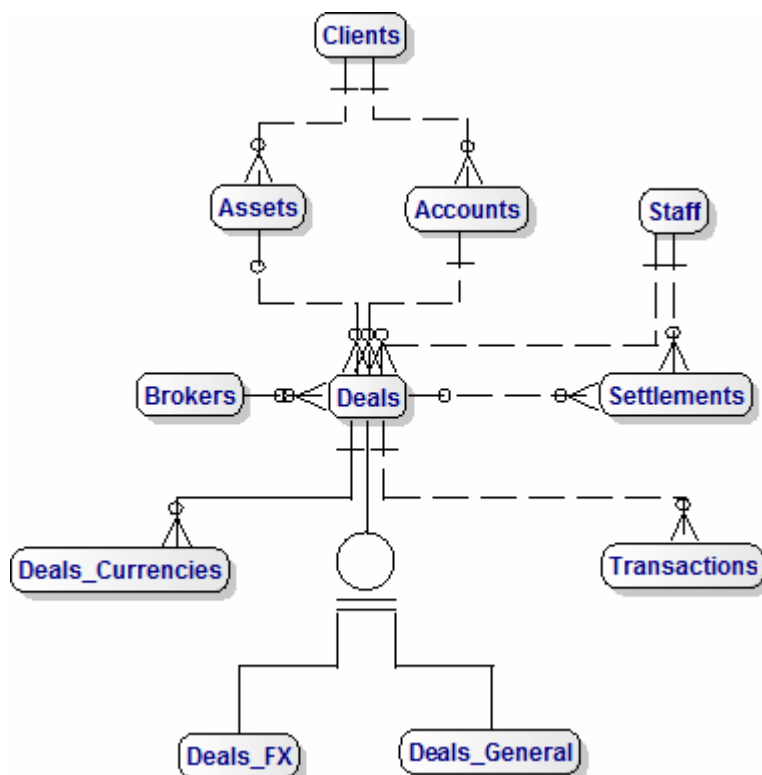This will establish the data available for Data Marts to meet Business Intelligence requirements.

We can adopt an approach geared to a Product Lifecycle (Buy and Sell) or to a Customer (Engage, Service, Disengage) or KPI-related,
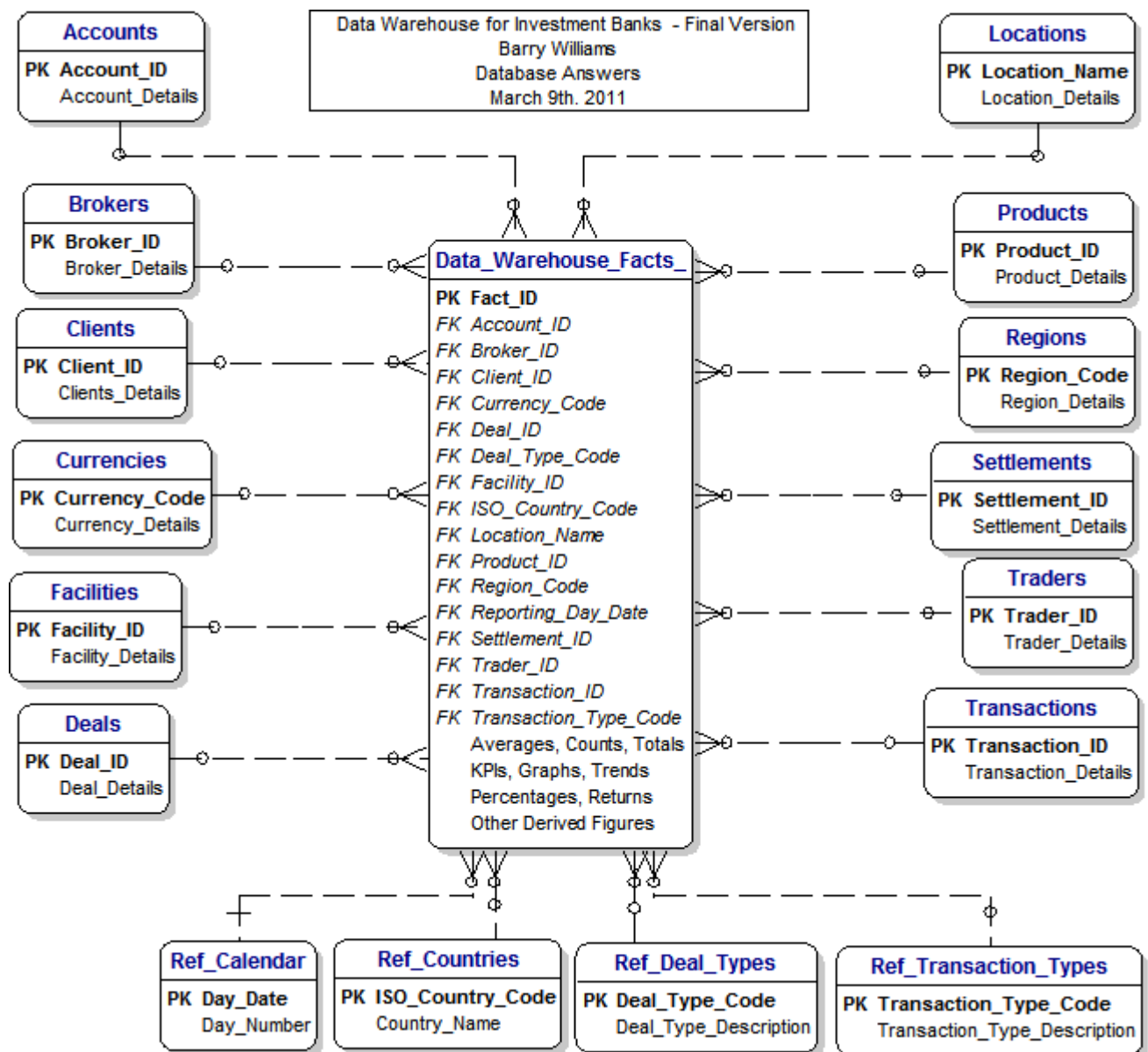or some combination of these.

Step 3 - Adapt Subject Area Models

We have also created Data Models for these **Subject Areas** :-
- Accounts
- Brokers
- Customers/Clients
- Deals
- Deals FX
- Deals (General)
- Key Performance Indicator (KPI)
- Settlements
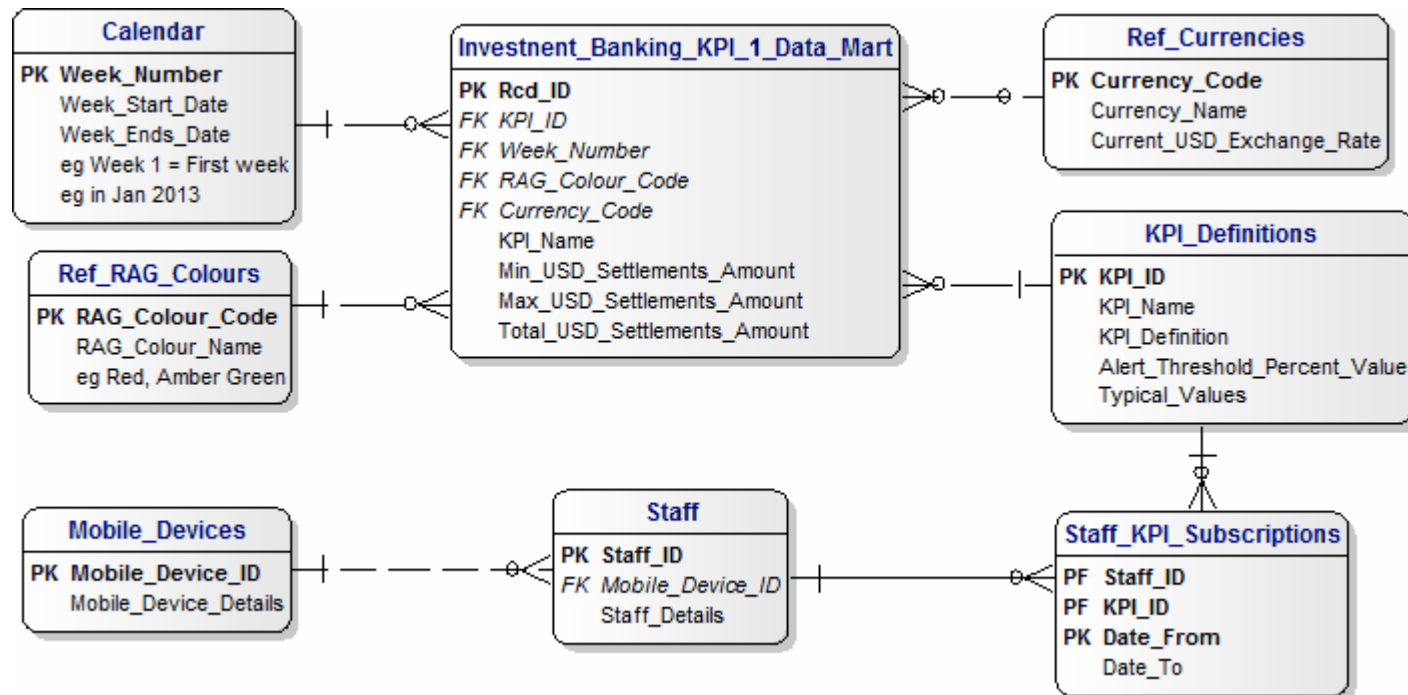- Staff
- Transactions
- Other Subject Areas

Step 4 - Review Generic Investment Banking Data Mart
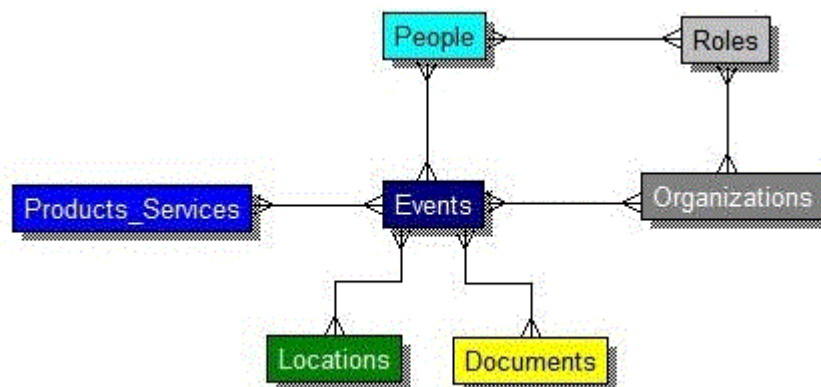

Data Warehouse for Investment Banks - Final Version
Barry Williams
Database Answers
March 9th. 2011

Accounts
PK Account_ID
Account_Details

Locations
PK Location_Name
Location_Details

Brokers
PK Broker_ID
Broker_Details

Products
PK Product_ID
Product_Details

Clients
PK Client_ID
Clients_Details

Regions
PK Region_Code
Region_Details

Currencies
PK Currency_Code
Currency_Details

Settlements
PK Settlement_ID
Settlement_Details

Facilities
PK Facility_ID
Facility_Details

Traders
PK Trader_ID
Trader_Details

Deals
PK Deal_ID
Deal_Details

Transactions
PK Transaction_ID
Transaction_Details

Data_Warehouse_Facts_
PK Fact_ID
FK Account_ID
FK Broker_ID
FK Client_ID
FK Currency_Code
FK Deal_ID
FK Deal_Type_Code
FK Facility_ID
FK ISO_Country_Code
FK Location_Name
FK Product_ID
FK Region_Code
FK Reporting_Day_Date
FK Settlement_ID
FK Trader_ID
FK Transaction_ID
FK Transaction_Type_Code
Averages, Counts, Totals
KPIs, Graphs, Trends
Percentages, Returns
Other Derived Figures

Ref_Calendar
PK Day_Date
Day_Number

Ref_Countries
PK ISO_Country_Code
Country_Name

Ref_Deal_Types
PK Deal_Type_Code
Deal_Type_Description

Ref_Transaction_Types
PK Transaction_Type_Code
Transaction_Type_Description

Step 5 - Review Draft BI KPI Model
KPI 1 is the Total Settlements Amounts by Currencies.

Calendar	
PK	Week_Number
	Week_Start_Date
	Week_Ends_Date
	eg Week 1 = First week
	eg in Jan 2013

Investnent_Banking_KPI_1_Data_Mart	
PK	Rcd_ID
FK	KPI_ID
FK	Week_Number
FK	RAG_Colour_Code
FK	Currency_Code
	KPI_Name
	Min_USD_Settlements_Amount
	Max_USD_Settlements_Amount
	Total_USD_Settlements_Amount

Ref_Currencies	
PK	Currency_Code
	Currency_Name
	Current_USD_Exchange_Rate

Ref_RAG_Colours	
PK	RAG_Colour_Code
	RAG_Colour_Name
	eg Red, Amber Green

KPI_Definitions	
PK	KPI_ID
	KPI_Name
	KPI_Definition
	Alert_Threshold_Percent_Value
	Typical_Values

Mobile_Devices	
PK	Mobile_Device_ID
	Mobile_Device_Details

Staff	
PK	Staff_ID
FK	Mobile_Device_ID
	Staff_Details

Staff_KPI_Subscriptions	
PF	Staff_ID
PF	KPI_ID
PK	Date_From
	Date_To

Step 6 - Validation of the Canonical Data Model (CDM)
This shows the CDM

Step 7 - Review of a Source Document
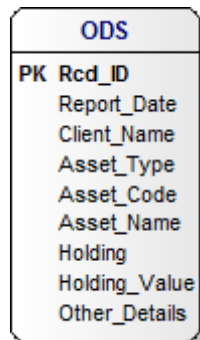This is an example of an Client Asset Holding Weekly Report.

Monthly Asset Allocation Report - November 2010

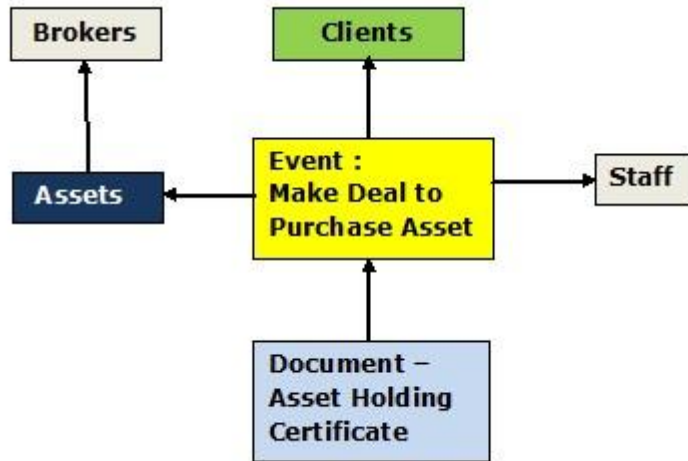| ISIN	Counterpart Name	Assets Type	Security Name	Security Code	Quantity	Currency	Accrued interest
LU0269355474	CARLSON FUND - DNB NOR NAVIGATOR	Equities	ACERGY	LU0075646355	151,243.000	NOK	0.00
LU0269355474	CARLSON FUND - DNB NOR NAVIGATOR	Equities	AGR GROUP	NO0010277171	406,267.000	NOK	0.00
LU0269355474	CARLSON FUND - DNB NOR NAVIGATOR	Equities	AKER SAS CL.A	NO0010234552	18,081.000	NOK	0.00
LU0269355474	CARLSON FUND - DNB NOR NAVIGATOR	Equities	AKER SOLUTIONS	NO0010215684	136,197.000	NOK	0.00
LU0269355474	CARLSON FUND - DNB NOR NAVIGATOR	Equities	AP MOELLER MAERSK S.B	DK0010244508	25.000	DKK	0.00
LU0269355474	CARLSON FUND - DNB NOR NAVIGATOR	Equities	BAKER HUGHES ORD.	US0572241075	29,346.000	USD	0.00
LU0269355474	CARLSON FUND - DNB NOR NAVIGATOR	Equities	BERGEN GROUP	NO0010379779	251,296.000	NOK	0.00
LU0269355474	CARLSON FUND - DNB NOR NAVIGATOR	Equities	CAMILLO EITZEN	NO0010227036	106,916.000	NOK	0.00
LU0269355474	CARLSON FUND - DNB NOR NAVIGATOR	Equities	DOCKWISE	BMG2786A1062	34,714.000	NOK	0.00
LU0269355474	CARLSON FUND - DNB NOR NAVIGATOR	Equities	EITZEN CHEMICAL	NO0010327620	3,541,630.000	NOK	0.00
LU0269355474	CARLSON FUND - DNB NOR NAVIGATOR	Equities	ELECTROMAG GEOS	NO0010358484	744,849.000	NOK	0.00
LU0269355474	CARLSON FUND - DNB NOR NAVIGATOR	Equities	FAIRSTAR HEAVY TRANSPORT	NL0000026292	242,926.000	NOK	0.00
LU0269355474	CARLSON FUND - DNB NOR NAVIGATOR	Equities	FRED.OLSEN ENERGY	NO0003089005	42,173.000	NOK	0.00
LU0269355474	CARLSON FUND - DNB NOR NAVIGATOR	Equities	GOLDEN OCEAN GROUP	BMG4032A1045	1,110,956.000	NOK	0.00
LU0269355474	CARLSON FUND - DNB NOR NAVIGATOR	Equities	HALLIBURTON	US4062161017	27,044.000	USD	0.00
LU0269355474	CARLSON FUND - DNB NOR NAVIGATOR	Equities	JINHUI SHIPPING TRANSPORTATION	BMG5137R1088	191,975.000	NOK	0.00
LU0269355474	CARLSON FUND - DNB NOR NAVIGATOR	Equities	NOBLE	CH0033347318	19,646.000	USD	0.00
LU0269355474	CARLSON FUND - DNB NOR NAVIGATOR	Equities	NORWEGIAN CAR CARRIERS	NO0003146904	1,111,890.000	NOK	0.00
LU0269355474	CARLSON FUND - DNB NOR NAVIGATOR	Equities	ODFJELL S.A	NO0003399909	219,761.000	NOK	0.00
LU0269355474	CARLSON FUND - DNB NOR NAVIGATOR	Equities	ODFJELL S.B	NO0003399917	27,206.000	NOK	0.00
LU0269355474	CARLSON FUND - DNB NOR NAVIGATOR	Equities	PETROLEUM GEO-SERVICES	NO0010199151	199,845.000	NOK	0.00
LU0269355474	CARLSON FUND - DNB NOR NAVIGATOR	Equities	POLARCUS	KYG7153K1085	326,217.000	NOK	0.00
LU0269355474	CARLSON FUND - DNB NOR NAVIGATOR	Equities	PRIDE INTERNATIONAL	US74153Q1022	11,060.000	USD	0.00
LU0269355474	CARLSON FUND - DNB NOR NAVIGATOR	Equities	PROSAFE	CY0100470919	51,009.000	NOK	0.00
LU0269355474	CARLSON FUND - DNB NOR NAVIGATOR	Equities	ROWAN COS	US7793821007	16,227.000	USD	0.00
LU0269355474	CARLSON FUND - DNB NOR NAVIGATOR	Equities	SAGA TANKERS	NO0010572589	179,841.000	NOK	0.00
LU0269355474	CARLSON FUND - DNB NOR NAVIGATOR	Equities	SCHLUMBERGER	AN8068571096	13,400.000	USD	0.00
LU0269355474	CARLSON FUND - DNB NOR NAVIGATOR	Equities	SEABIRD EXPLOITATION	CY0101162119	652,292.000	NOK	0.00
LU0269355474	CARLSON FUND - DNB NOR NAVIGATOR	Equities	SEADRILL	BMG7945E1057	143,932.000	NOK	0.00
LU0269355474	CARLSON FUND - DNB NOR NAVIGATOR	Equities	SEAWELL	BMG795601019	52,059.000	NOK	0.00
LU0269355474	CARLSON FUND - DNB NOR NAVIGATOR	Equities	SEVAN MARINE	NO0010187032	153,639.000	NOK	0.00
LU0269355474	CARLSON FUND - DNB NOR NAVIGATOR	Equities	SIEM OFFSHORE	KYG813131011	195,993.000	NOK	0.00
LU0269355474	CARLSON FUND - DNB NOR NAVIGATOR	Equities	SONGA OFFSHORE	CY0100962113	265,555.000	NOK	0.00
LU0269355474	CARLSON FUND - DNB NOR NAVIGATOR	Equities	STAR REEFERS	KYG8557Q1055	2,913.000	NOK	0.00
LU0269355474	CARLSON FUND - DNB NOR NAVIGATOR	Equities	STOLT-NIELSEN	BMG850901025	229,033.000	NOK	0.00
LU0269355474	CARLSON FUND - DNB NOR NAVIGATOR	Equities	SUBSEA 7 CL.USD	KYG8549P1081	95,787.000	NOK	0.00
LU0269355474	CARLSON FUND - DNB NOR NAVIGATOR	Equities	TGS-NOPEC GEOPHYSICAL COMP.	NO0003078800	73,868.000	NOK	0.00
LU0269355474	CARLSON FUND - DNB NOR NAVIGATOR	Equities	THE CONTAINERSHIP COMPANY	NO0010566367	57,898.000	NOK	0.00

Step 8 - Definition of Data in a Source Document
This is an example of an Operational Data Store.

```
            ODS
PK  Rcd_ID
    Report_Date
    Client_Name
    Asset_Type
    Asset_Code
    Asset_Name
    Holding
    Holding_Value
    Other_Details
```

Step 9 - Map to Canonical Data Model
This is an example of mapping to the Canonical Data Model.

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