

# BASEL II Compliance – can you prove it?

## A Barclays Bank plc Case Study

Many financial institutions claim to have achieved a single view of customers across multiple systems. Single view requirements generate complex business rules which forever change creating challenges to the business in sustaining an accurate view. The ability to maintain an up to date view is an essential component that institutions will need to achieve if they are to meet the pillar requirements for Basel/FSA compliance.

Barclays Corporate Banking provides financial services to millions of customers whose details are stored across a number of operational IT systems, and has used several management information data matching tools to date. The bank in partnership with Infoshare Limited recently created a data map of customer relationships across these systems to a detailed level, which can be kept current and is sustainable. This data map is being used to provide powerful management information that:

- delivers a single map of each customers relationship with Barclays Corporate Banking which can be easily updated and maintained
- can easily be changed to meet emerging internal and external risk reporting needs
- plays an important role in transparently proving Barclays compliance
- is fast becoming a fundamental source of up to date business analysis intelligence to support other IT and business initiatives
- requires little expertise to run as it is highly automated
- replaces other maps developed over the years with a relatively simple and manageable alternative.

Barclays approach reversed how IT related projects are traditionally implemented. It decided to work with Infoshare to analyse and bring together management information data records extracted from source systems. The resulting data map is maintained by the business owner in-house by non experts and now sits along side existing IT to provide up to date single view intelligence as required.

By focusing on individual legal entities, the system provides the ability to aggregate customers based on flexible criteria and relationships with the Bank thereby providing the ability to aggregate exposure to specific related group of customers.

The solution has provided a number of additional benefits including increased inter departmental co-operation as the data analysis improves and gives the potential to decrease operating costs.

The Barclays Single View Project was completed in 28 weeks and within budget.

### **The Problem**

How to generate an accurate map of customers across a large number of systems without necessarily implementing costly change at the operational level to more easily test designs ahead of emerging Basel Accord 2 requirements.

### **The Sector**

Banking and Insurance

### **The Project**

Linking millions of records across a large number of existing systems worldwide to provide useable management information at a single customer view level without disrupting core operating systems and customer service.

### **The Requirements**

- the ability to manage and easily replicate the integration of a number of management information data sources on a regular basis
- the ability to record and embed business rules within the process which govern the way in which data is integrated with exceptions being flagged. Allowing visibility of such rules and for changes and refinements to be easily made
- the ease with which it is possible to audit the process and to identify upon which basis individual records have been integrated
- the quality and ease of use of the process for handling/flagging exceptions
- the ability for the solution to be run/administered in house by individuals with little expertise of the data matching software on an ongoing basis
- the ease with which further data systems can be added into an existing solution
- the ability of the solution not to effect existing technical architecture

### **The Results**

- timely accurate, single view of customers available when required
- solution is automated and requires little expertise to run
- process sits alongside existing IT
- detailed audit reports generated automatically to facilitate customer analysis at single record or aggregated record level
- business rules can be changed to reflect emerging Basel requirements
- ability to identify and eliminate from the Management Information duplicate records across all data sets
- exception reports are generated where further investigation might be required

### **Observations**

- the solution lay in analysing and orchestrating data records rather than changing IT infrastructure at the outset
- at a legal entity level issues exist with the entities name potentially being recorded in different formats on different systems and name matching accounting for this became an important element of the process
- understanding data complexity requires a close working relationship with the supplier
- mapping entity and business relationships between records and across multiple data sets is essential to maximise flexibility of data use as needs change
- importance of generating detailed audit trails to track actions taken
- automation reduces human error risks and speeds up processing
- ability to reduce costs of maintaining several management information models

# Barclays Bank plc – Corporate Banking

## Creating and maintaining a single view of customers across a large number of systems

Barclays Bank had several objectives when it contracted Infoshare Limited to deploy its unique artificial intelligence technology to create a single data map of a customer's complete relationship with Barclays

### Background

The forthcoming Basel Accord 2 is looking at many aspects of the Banks and Insurers regulation which in part looks at the level of capital reserves that need to be held to maintain public confidence in banking systems in times of financial difficulty.

Capital regulation alone does not work though if information supplied to regulators is incomplete or has no independent measure of truth or accuracy. Without reliable intelligence, regulation cannot deliver a dependable link between financial markets and the real world of goods and services.

Financial institutions can struggle to map the complete relationship they have with each of their customers. Information supplied to regulators can be incomplete, and capital regulation is less efficient than it should be.

Barclays Corporate Banking wanted to replace several tools it currently used with a more flexible solution that would help marshal its enormous amount of data more effectively.

### The Data Issue

Information degrades in accuracy during the normal course of business. Regular monitoring and updating of a customer's complete relationship with the bank is therefore essential – especially if the relationship involves a wide range of bank services and systems.

Defining the total customer relationship using data from two or three systems is not problematic. Adding data from a large number of sources greatly increases the complexity of tracking and auditing changes to keep the customer relationship map current. Thousands of new records would generate millions of new cross references and increase the complexity of record to record relationships by an order of magnitude.

Barclays Corporate Banking has many different operational systems holding customer data worldwide. The bank decided the solution lay in analysing and ordering data records rather than changing IT infrastructure to meet its own challenging timescales. The resulting customer relationship map would be a fundamental corporate intelligence resource to support existing and future IT infrastructure developers.

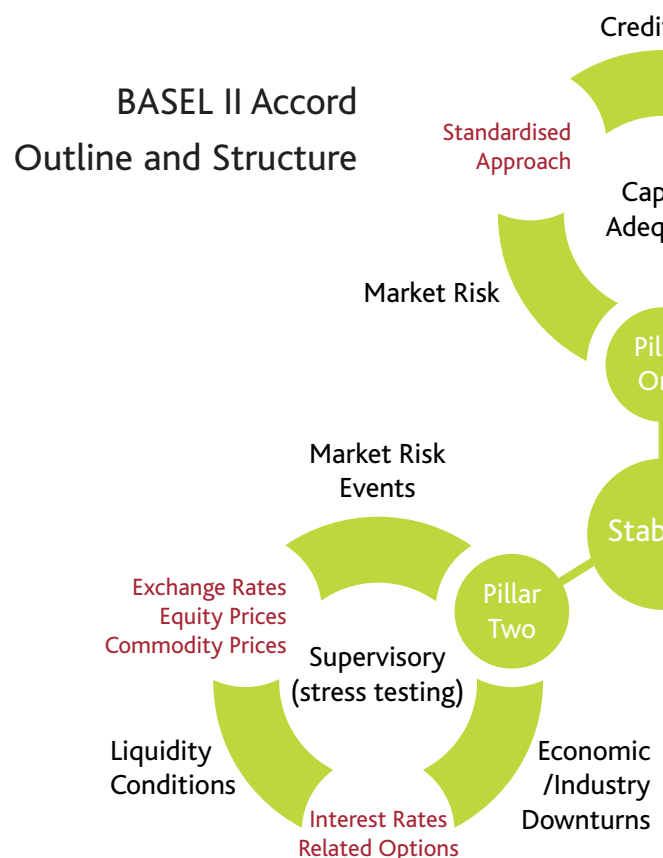
### The Pilot

Analysing and orchestrating data records to create and update a customer relationship map rather than initially taking the traditional data mart approach required a different methodology.

Barclays decided to run a pilot test using its most complex data in order to select a partner with the most appropriate expertise. This enabled staff both to focus in on potential data issues to be resolved going forward, to examine the data analysis and ordering techniques used, and to assess whether the results were likely to deliver a single view customer map, within the required timeframe.

The Bank also wanted the pilot to inform whether the solution would:

- be turnkey and simple to operate
- capable of accurately linking millions of records sourced from multiple systems without generating unacceptable mismatches
- help the Bank test designs ahead of the emerging Basel requirements more easily.



Conducting the pilot also allowed the bank to build up confidence that its preferred partner would be able to deliver the solution on time and within budget. Infoshare Limited was selected as the Bank's preferred supplier.

### Delivering a Map of a Customer's Relationship with Barclays

The map was delivered over 28 weeks and within budget. The turnkey solution requires little expertise to sustain and is not resource intensive. Overall, the approach was to:

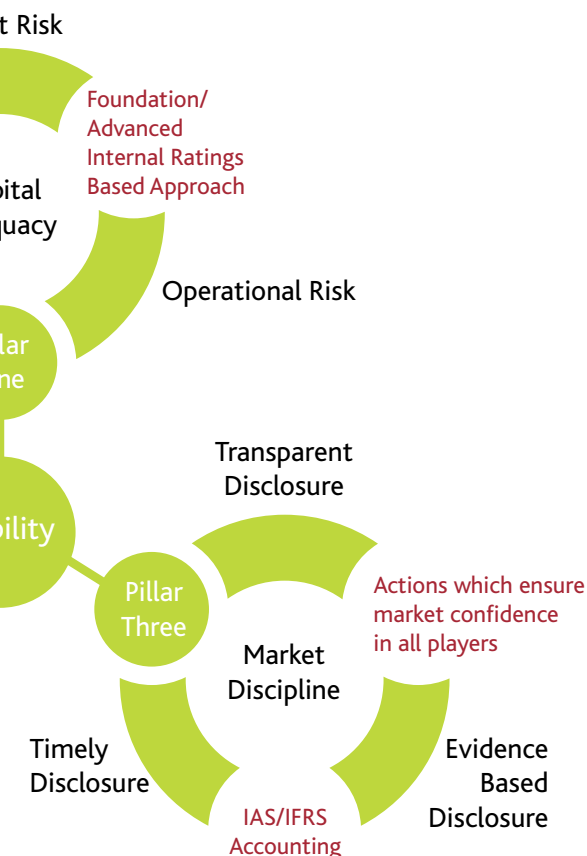
- extract data from source systems via the Data Warehouse
- analyse and orchestrate the data to create the map of entity and business relationships
- build in matching criteria rules provided by Barclays
- facilitate the easy integration of additional source systems within the data map when required
- deliver the final data map as a "fundamental corporate intelligence resource" that could be easily refreshed to maintain its accuracy.

The solution is now administered in-house by individuals with little previous expertise in the area of data matching. The very high level of automation prevents human error and enables millions of complex data changes to be processed automatically. It also means that the expertise traditionally required to understand the complex procedures involved is not lost when staff move on. The in-house team can use full audit tracking at the most granular level of detail to justify business rules used, the reasons why records are related, and why these data matching decisions are made. Most processing rules can easily be changed to meet emerging obligations and to conduct off line "what if" scenario modelling.

New data sources can be added by Infoshare as required. The main output is a flat .csv file of record entity and business relationships across multiple source data systems. It can sit alongside and complement existing IT applications wishing to access it. It may also be used to inform the development, functionality, implementation and testing of new IT systems.

### Lessons Learned

- 1) The solution created a fundamental corporate intelligence tool with potential to:
  - improve performance and cut costs by reducing data scrap and rework
  - become an important tool for improving corporate data integrity
  - increase departmental co-operation because it complements existing processes and promotes a corporate standard at the same time
  - improve the performance of CRM/data warehouse and other analysis tools by supplying validated, accurate information.
- 2) Name processing was the most intricate part of data map creation. It involved the highest levels of processing complexity due to the multi faceted nature of the data structures, and business rules needing to be taken into account.
- 3) Infoshare's unique artificial intelligence technology necessitates a very close working partnership to deliver the map. For example earlier sharing of "noise" data definitions – unwanted data clogging up the map – could help to accelerate implementation.
- 4) It is very important to manage expectations well during such a project. Production of the data map can take time depending on:
  - characteristics of the original source data
  - defining the needs of the business
  - increasingly complex requirements as new data issues arise.



## About Infoshare's Technology

Infoshare software is an artificial intelligence based expert system, which mimics decisions made by humans in order to link data records from different sources. The more business rules collected in a sector i.e. banking, or about an issue i.e. fraud, the more the system learns about relationships between records and the more automated the process becomes. By learning, the software automatically makes data transformation processes reflect local business rules and relationships, whether logical or not, and ensures data is "fit for purpose". Once most business rule based data relationships have been trapped there is little need for expert involvement and processing of and synchronisation of local data changes to central data sets is automatic.

## Conclusion

Quotation from Stuart Mann Head of Corporate Banking Risk Systems and e-Enablement, Barclays Bank

*"The data map plays an important role in enabling Barclays to analyse and understand the impact that changes to the FSA/Basel regulations will have. The goal was to replace a number of existing maps already in place which had developed over the years, to have the flexibility to add different data sets on time and to a high standard, and to ensure the map can be easily adapted to service any query. This has been successfully achieved in partnership with Infoshare Limited within the tight deadlines set for the project."*



# BASEL II Accord Outline and Structure

