



# FLEXCUBE Information Center

## Product Overview

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**FLEXCUBE**  
**Information**  
**CENTER**  
*One Stop Information Repository*



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## 1 Introduction

With globalization sweeping through the financial services industry at an unprecedented rate, intense competition, reduced margins and increased customer expectations are key challenges facing financial institutions today. As the industry continues to grow, the traditional boundaries between various application types such as Operational (Transactional), Tactical and Strategic (Decision Support) are blurring.

In this environment, critical success factors that give financial institutions a competitive edge in making decisions are:

- Providing a single, common view of organizational information to all users
- Providing users access to all relevant information within the organization
- Enabling end-users themselves to carry out various kinds of analyzes flexibly, without having to write code
- Providing such access in a timely and meaningful manner

The recognized technical concept for meeting this challenge is known as Data Warehousing. A Data warehouse is a separate application environment with a dedicated database drawing on diverse data sources and designed to support query and analysis.

## 2 FLEXCUBE Information Center – the One Stop Information Repository

i-flex is in the business of providing IT products and solutions to the banking and finance industry globally. i-flex is one of the earliest companies to get into the area of Data Warehousing Technology. i-flex was not only focusing on the development of data warehouse solutions, but also in successfully implementing data warehouses all over the world. i-flex has achieved a 100% success rate in all its data warehouse projects. Based on the rich knowledge gained through all the data warehouse projects, i-flex embarked on developing a Data warehouse product. This in itself is a unique approach in this field. We do not sell components, but the whole solution. We do not deliver technology and leave it to the customer or other consultancy organizations to put functionality in it, but deliver a complete, working data warehouse.

The FLEXCUBE Information Center (FIC) is a data warehouse product developed by i-flex for meeting the information needs of the various Business Segments like Banking, financial institutions and Services companies globally. FIC is the latest edition to the i-flex suite of products and is a dynamic power tool of information management and analytics.

The FIC is a 'one stop information repository' that provides the management of the Organization with the required inputs for strategic, tactical and operational decision making. FIC is an **end to end solution** encompassing a variety of tools and technologies. It is web-enabled for easy access and has an n-tiered architecture to provide the required security, scalability and high availability.

### 2.1 Features

The following are the features of the FLEXCUBE Information Center, which are distinct from any other data warehouse tools in the market.

### **2.1.1 Portal**

The FIC has an information portal, which is a **single window** to the information in the enterprise required for the analysis and decision making. The Portal has several unique features like key performance indicators, dashboards, tickers and easy access to the analytical domains and the metadata manager of the FIC. The Portal can be personalized to suit the requirements of the Portal User. The Portal also has the feature of adding links to the external information like other web sites or personal mailbox.

### **2.1.2 Definable Metadata**

The Users can easily define the metadata using the FIC front end. The users can define the source metadata, source – data model mapping and OLAP metadata. The users can manage the metadata using the metadata versioning feature of the FIC.

### **2.1.3 Pre-Configuration**

The FIC is pre configured with Business Solution Packs. The Business Solution pack has been explained in greater detail in the next section.

### **2.1.4 Pre-Defined Data Models**

The FIC has pre defined data models to cater to the different business segments like banking, financial services, insurance and retail industry etc. The data models have been developed to suit any standard system of the specific business and the analysis requirements. These data models can be customized based on the requirements of the customer.

### **2.1.5 Harmony**

The FIC has a standardized implementation methodology called FLEXCUBE Harmony. Implementing data warehouses is considerably different from implementing any transaction processing system. It is invariably complex and requires a process tuned to its needs. Data warehouse projects pose a unique set of analysis, design, technology and management challenges. Successful data warehouse implementations require a methodology that identifies and addresses the differences in implementation of a data warehouse to efficiently guide project managers and project teams. More than applying a specific set of technologies, successful data warehouse implementations are the result of an effective and repeatable development **process**.

i-flex's FLEXCUBE Harmony brings these to the forefront, and encapsulates the experience of successfully implementing innumerable data warehouses across the world. FLEXCUBE Harmony is a specialized methodology that leverages several strong features of the FLEXCUBE Information Center and the experience of implementing data warehouses, thereby ensuring an **optimized, smooth and shorter** implementation schedule.

## **2.2 ACRONYMS**

BSP	Business Solution Pack
AD	Analytical Domain
PAM	Pre-configured Analytical Model
KPI	Key Performance Indicator
OLAP	Online Analytical Processing
OLTP	Online Transaction Processing
MDDB	Multi-dimensional Database

## 3 Business Solution Packs

### 3.1 Definition

A Business Solution Pack (BSP) is a consolidated, pre packaged analytical solution offered by the FIC for any business segment. The BSP have been developed for particular analysis segments like Customer Relationship Management, Customer Profitability, Product Profitability, Credit Risk, Insurance, Enterprise Financial Reporting, Stock Exchanges etc. The BSP will be pre configured in the FIC and will be available as a ready made solution, which could also be further customized based on the specific analysis requirements of the customer, thus resulting in a faster and more economical solution. Please refer Sections 3.2 to 3.6 for a detailed description of each of the above BSPs.

The BSPs shall consist of the following:

- Pre-Configured Business Solution Pack (BSP) which includes the Analytical Domains
- Business Reports
- Key Performance Indicators (KPI)
- Dashboards
- Tickers
- Business Data Model

#### 3.1.1 Analytical Domains

An analytical domain is a multi dimensional OLAP solution, which is a combination of measures and dimensions. The analytical domains will cater to specific analysis requirements of the business. The analytical domain is defined based on the requirements and the data is aggregated and stored in a multi dimensional database. The different analysis could be made through a presentation layer, which will give the access to the multi dimensional database.

Example of an Analytical Domain is **Customer Acquisition Analysis**.

#### 3.1.2 Measures

A Measure is the quantitative data that is presented to the user. It reflects information in a business understandable form. It also implies aggregated information as opposed to information at a detailed level.

Examples of Measures are **Sum of Balances, Number of Cards, Volume of Sales**.

#### 3.1.3 Dimensions

A dimension represents how you want to see the information, which come in the measures. For example, the measure “number of accounts” may be seen across the different branches of a bank. Hence the Branch is a dimension. A branch may have a single or multiple hierarchies.

Examples of dimensions are **Branch, Time, Product, and Currency**.

#### 3.1.4 Hierarchies

A Hierarchy represents a grouping and relations among various levels at which measure can be viewed. The value of any measure can be viewed at different levels depending upon the hierarchy

breakdown of the dimension category of the measure. In a hierarchy, each level is connected to levels below and above it. A higher level is called 'Parent' of the levels falling below and connected to this level. Levels, which contribute to Parent levels, are called 'Child' levels. A level can be Parent as well as a child. Usually values at the bottom most level, also called 'Leaf' level, are collected and aggregated to get the results at subsequent higher levels.

□ Single Hierarchy

A dimension may have a single hierarchy only.

Examples for single hierarchies are **Branch, Currency and Product**.

□ Multiple Hierarchies

A dimension may also comprise of multiple hierarchies.

For example, Customer Profile Dimension can comprise of the Hierarchies like **Customer's Current Age, Customer's Gender and Customer's Annual Income**

### 3.1.5 Business Reports

A Business report is a Relational OLAP solution to suit specific business requirements. The Business Report will be generated using the Relational Database and not by fetching the data from a multi dimensional database. The Business report could be accessed through any reporting tool.

Examples of Business Report are:

- Top 100 customers in the bank based on Customer Profitability
- Customers with average balance of more than a pre-specified amount.
- Branch wise turn over details of the customers

### 3.1.6 Key Performance Indicators

A Key performance Indicator shall represent values of any Measures, whether they exist in any existing cubes or not, against any dimension. The users should have the option of viewing this either as a grid or a graph. The user also has the option to choose the graphical mode of viewing this – whether bar chart or pie chart or line chart, etc.

Examples of KPIs are **New Customers this month across Product, Trading Volumes across Market Segment**.

### 3.1.7 Dashboards

The dashboard is similar to the Key performance Indicator but the measure could only be seen against the **Time** dimension. Here also the user has the option of viewing the dashboard as a grid or a graph.

Examples of Dashboard are **Number of Employees, Transaction Volumes and Total Profits** all seen across Time dimension.

### 3.1.8 Tickers

The Tickers would represent value of any measure, at the current time. The facility of having not just value of measures but also any textual data, such as news flashes, which the organization might want to disseminate - For instance, **"Total Deposits cross 10 Million today!"**.

**A more detailed description of some of the important BSPs are given in the sections below (Sections 3.2 to 3.6)::**



### 3.2 Customer Relationship Management

Customer Relationship Management is one of the more recent buzzwords to enter business jargon, and predictably, various interpretations of the same are available, depending on whom one consults.

However, certain salient points of this concept are common to most, if not all, interpretations, and these relate to:

- ❑ **Customer acquisition**
- ❑ **Cross-selling and up-selling**
- ❑ **Customer retention**
- ❑ **Conducting all these activities profitably**

Converting a prospect to a customer is not only time consuming and effort intensive, but also more expensive than cross-selling another product to an existing customer. Further, it has also been found that the longer a customer stays with a bank, the more likely he is to avail of other products. This translates directly into higher profitability over the long run. In fact, the most practical and business interpretation of Customer Relationship Management is that a bank should be able to sell all its products to its customers as they progress along their life, also sometimes referred to as Life Cycle Marketing. In other words, a customer should be able to avail of a savings account and a credit card at the start of their career, followed by equipment and automobile loans, and then graduating to buying insurance products and mortgages – all with the same bank.

However, with intense competition for the same set of customers, as well as greater customer inclination to “shop around” for the “best deal”, effective Customer Relationship Strategies are required to acquire customers, cross-sell and up-sell products, and to retain these customers over the long term – profitably.

In this dynamic scenario, there is also increasing pressure on managers to anticipate their customer’s requirements, and be ready to fulfil these at the earliest. For example, credit card customers with an unblemished repayment track record but not owning any vehicle, can be cross-sold automobile loans at a concessional interest rate. Such a campaign will identify a new set of prospects and attempt to convert these at lower acquisition costs compared to a mass mailing exercise.

Yet, cultivating a relationship while building market has to be profitable. While conceiving innovative services and delivery channels is important, these are often expensive. A smarter alternative is, to strive for greater customer focus, zero in on relationship marketing and develop effective customer retention plans. This not only helps in identifying existing profitable customers, but also helps in devising new retention strategies to protect them from ‘poaching predators’.

However, the effective harnessing of technology remains a prerequisite to managing customer relationships effectively. These effective techniques involve the use of sophisticated models to predict customer propensity to buy and stay loyal to an institution. At the core of this technology resides the customer database, which helps integrate statistical modeling, campaign management, contact history, as well as response tracking components of various marketing campaigns (please refer to diagram overleaf). The management of this customer database in turn is known as “**Database Marketing**”. This system also enables managers to source data from the customer database and other transaction processing systems to identify and analyze transaction and customer level trends.

Data Warehouse for Customer Relationship Management must include the following key features to support the marketing lifecycle:

- ❑ Customer focus
- ❑ Record all relevant facts of the relationship over time
- ❑ Directly score the database and customer database many times over
- ❑ Predict future behavior of a customer based on past behavior

### **3.2.1 Goals**

Given that Customer Relationship Management encompasses one of the key attributes of any business i.e. Customers, it is vitally important that CRM features into the overall strategic vision of all businesses. In fact, CRM assumes more importance in the financial industry today because of the many competitors to whom a customer can defect almost at will.

Hence, a successful CRM strategy is built on the active involvement of all operating units of a bank (corporate, treasury, retail and marketing divisions), at all levels (branch, regional, and departmental levels).

To implement an effective CRM strategy however, a thorough analysis of the customer base is required because no two customers are alike. A corporate customer is vastly different from a retail customer. And even within the retail customer base, there are dissimilarities, however minute, amongst the customers. Banks' are, therefore, discovering that developing and sustaining a successful CRM strategy is a never-ending process.

FLEXCUBE Information Center (FIC), a unique data warehousing product offered by i-flex, recognizes a banks' need for an increasingly better understanding of the customer base and facilitates a deeper analyzes of the customer base by answering a wide scope of questions including, but not limited to:

- ❑ Customer acquisition - acquiring new customers of a selective profile
- ❑ Customer cross sell - selling other products to existing customers
- ❑ Customer up sell - enabling an existing customer to increase the usage of his existing product, as also moving the customer up the value chain of products, from a lower profitable product to a higher profitable product.
- ❑ Customer attrition - discovering trends which predict customer attrition accurately
- ❑ Customer retention - maintaining a satisfied, loyal, and profitable customer base
- ❑ Ensuring all the above activities result in a profitable customer relationship

These six challenges will, however feature as different priorities for the bank depending on:

- ❑ The bank's position within the banking industry
- ❑ The customer segment that the bank would like to target, and
- ❑ The specific suite of products that the bank is focussing to sell to its various customers

### **3.2.2 Analytical Domains**

#### **3.2.2.1 New Customers Analysis**

Banks incur substantial expenditure in acquiring new customers. However, bringing in new customers is not an end in itself. An **Analysis of New Customers** answers questions such as what is the profile of new customers, what products are they using, through which acquisition channel were they brought into the bank's fold etc. A bank's CRM Strategy is driven by this analysis and answers to such questions. In the ultimate analysis, it tells the bank qualitatively more about this segment and of how it should invest in this segment in terms of products and services, to be promoted as well as a communication strategy to be adopted.

### Strategic Questions

This Analytical Domain addresses the following major issues:

- What is the profile of the new Customers acquired by the Bank? Which is / are the product(s) by which new Customers usually establish a relationship with the Bank?
- Through which source channel is the Bank acquiring the most Customers? Is there a relationship pattern between the source channel and the new customers' profile?
- How many Customers has the Bank not been able to retain during the first month? Is the pre-closure balance of such Customers significant?

#### 3.2.2.2 Product Holding Analysis

This analytical domain analyzes the **Product Holdings** of the customer base by various dimensions, such as customer demographics, geography as well as the number of products held by the customer. All the products have been grouped into "Product Families" and the holdings of the entire portfolio is viewed across combinations of these product families. This allows analysis of the movement of product holding patterns across time and enables predicting future holding patterns based on current and past demographic patterns.

### Strategic Questions

- Which combination of Product Families is most favored by the Bank's Customers? What is the profile and source channel of such Customers?
- Which combination of Product Families is least popular with Customers?
- Is the popularity of Product Families in terms of numbers also reflected in the balances? Or is there a contradiction?

#### 3.2.2.3 Customer Cross-sell Analysis

It is widely known that the more products and services that a customer uses, the more difficult it is for competition to wean him away. Banks therefore endeavor to cross-sell increasing number of products to their existing customers. It also has been well documented that it is easier and cheaper to cross-sell a product to an existing customer than to sell the same product to a prospect. This analytical domain seeks to match the customer profile and usage patterns across different product families and a combination of such families, and identify product families with possible cross-sell potential.

### Strategic Questions

- What is the present product family holding of the Bank's Customers? What is the profile of such Customers?
- What is the combination of product families favored by the Customers? What are the odds that a Customer holding a specific product family also holds another specific combination of product families? Is the trend in Customers matched by their Account holdings across product families?
- How is the trend dispersed over the profile of the Customers?

#### 3.2.2.4 Product Acquisition History Analysis

This analytical domain traces the **Acquisition History** of all the customers by grouping the various products into product families and identifying the sequence of acquisition of these product families by customers. A key feature of this analytical dimension is that the time dimension has

been replaced by the Age on Book dimension, which enables comparative analysis of product portfolios acquired over different vintages, at a certain age on book.

### Strategic Questions

- Which is the favored product family by which Customers usually establish a relationship with the Bank?
- What are the combinations favored by Customers in terms of their product family acquisitions?
- On the average, how long does it take for a Customer to acquire each of the products of his portfolio? What is the sequence of such acquisitions?

#### 3.2.2.5 Product Level Holding Analysis

This analytical domain permits analyzes of the **Customer Profile** by all their demographic dimensions to identify new customer segments, as well as hidden trends, which may be profitably exploited by introducing new products and services. It also provides trends across product holding on Customer behavior in terms of Accounts held.

### Strategic Questions

- What is the product holding of the existing Customers of the Bank? What is the profile of such Customers?
- Has there been a significant change in such Customers over time? What about changes in balances?
- Is there an observable pattern in terms of the source channel of Customers vis-à-vis their profile and product holdings?

#### 3.2.2.6 Customer / Account Level Attrition Analysis

It is widely believed that a bank spends more money on acquiring new customers as compared to retaining existing customers. However, while **Customer Attrition** cannot be entirely avoided, analysis of customer behavior prior to closure can assist in reducing further attrition. This analytical domain identifies the pre-closure balances, and the number of closed Accounts and Customers.

Identifying and understanding customer behavior prior to terminating their relationship is important because most customers decide to defect to competition over a period of time – recognizing their behavior at the point of decision rather than at the point of attrition is critical. Customer attrition is preceded by certain changes in behavior, such as gradually reducing balances, non-renewal of limits and deposits, credit cards surrendered. Recognizing these signs can forewarn against future attrition. Though this AD does not specifically answer such questions, it sets the foundation for such analysis. This AD is to be analyzed in conjunction with other relevant ADs and the Reports provided.

### Strategic Questions

- What is the profile of Customers who closed during the period under analysis? Which Product Accounts did these Customers hold?
- Do the attrited Customers come from specific channels?
- What is the reason for such Customers attriting?

### 3.2.3 Business Reports

#### 3.2.3.1 Details of Customers whose Product Holding has come down.

This Report details the Customers, whose Product Holding (Number of Products / Accounts held) has come down, as compared to that of the previous period. This gives an indication of the Customers, who are reducing their relationships with the Bank. Of course, this Report needs to be analyzed in conjunction with the Attrition Reason.

Customer No	Products held in previous period	Number of Accounts in previous period	Products held in Current period	Number of Accounts in previous period

#### 3.2.3.2 Details of Customers whose Product Holding has come down to a single Product.

This Report lists the Customers whose Product holding has come down to a single Product during the current period.

Customer No.	Products held in previous Period	Product held in current period	Customer Vintage	Attrition Reason of Product

### 3.2.4 Key Performance Indicators

A Key Performance Indicator represents values of any Measures, whether they exist in any existing cubes or not, against any dimension. The users have the option of viewing this either as a grid or a graph. User's also have the option of choosing the graphical mode of viewing this – bar chart, pie chart, line chart, etc.

Key Performance Indicators, for the Customer Relationship Management module, are:

#### 3.2.4.1 Number of New Deposit Customers Acquired By Balance Ranges

This KPI will identify the balance ranges in which most of a bank's deposit customers are being booked. This information is important to determine whether the bank is booking its targeted customers (low ticket versus high-ticket business).

#### 3.2.4.2 Number of New Asset Customers Acquired By Balance Ranges

This KPI will identify the balance ranges in which most of a bank's asset customers are being booked.

### 3.2.5 Dashboards

A Dashboard is similar to a KPI with the difference that the measure can only be viewed against the **Time** dimension. Here too, the user has the option of viewing the dashboard as a grid or a graph. The User chooses a Time window for which to view the Dashboard. The time window

could be static, such as January – June 2000 or a dynamic one, such as past rolling six months. Dashboards for this module are:

<b>Sl. #</b>	<b>DB Code</b>	<b>Dashboard Description</b>
1.		Number of Attrited Customers over Time
2.		

### 3.2.6 Tickers

A **Ticker** represents value of any measure, at the current time. Tickers can also represent the Value of a Measure against certain lead of a hierarchy. For instance the Measure Number of New Accounts Opened, at the Visa Card Leaf of the Product Hierarchy. The Ticker can represent not just the value of a measure, but also any textual data, such as news flashes, which the organization might want to disseminate - For instance, "Total Deposits cross 10 Million today!". Tickers identified for this module are:

<b>Sl. #</b>	<b>Ticker Code</b>	<b>Ticker Description</b>
1.		Number of New Customers
2.		

### **3.3 Customer Profitability Reporting**

#### **3.3.1 Goals**

Any textbook on Marketing advises marketers to follow a Customer-marketing model, wherein the marketers are urged to adopt the simple principle of being able to always “follow the money”. This advice is as valid for bank managers as it is for managers in other industries. Following this principle is quite simple, actually. It begins with identifying your more profitable and loyal Customers and segregating them from those who are marginal, or worse, those who are losing you money.

Segmentation of the Customer base can happen along various parameters. Most of them have relevance to specific types of analysis, only. However, Customer profitability is very different from any other parameter of segmentation. For a start, Customer profitability enables a bank to make a more business focussed segmentation of its Customer base. The key to profitable growth is the ability to refine the banks’ marketing strategy by concentrating and exploiting the more profitable business opportunities. This means that the viability of a business opportunity is directly linked to the analyzes of the Customer base that the Bank has carried out.

As we find that there is a growing realization amongst managers of the need to look at their Customers differently, the definition of 'Customer profitability' itself has undergone a change. Banks do realize that the value of true Customer profitability transcends time. We are no longer interested in only knowing which Customers are profitable at any point in time, we also would like to factor in the time element into such calculations.

As we have pointed out earlier, Customer profitability calculation is not an end in itself. By definition, Customer profitability is a very dynamic concept. Customers’ relationships with the bank comprise different elements, all of which have an impact on Customer profitability. A bank manager is expected to be focused on any changes to profitability. Once he has made a segmentation of the Customers based on their profitability, his Customer-interaction strategies revolve around where in the profitability continuum, the Customers fit in.

#### **3.3.2 Analytical Domains**

##### **3.3.2.1 Customer Profitability – Financial Analysis**

Profitability depends on the difference between the Revenue earned by way of interest, fees & charges and commissions and the Costs incurred as in interest paid and direct & indirect costs associated with the Product.

This Financial Analysis Analytical Domain will consist of the different Profitability Measures:

- ❑ Net Revenue from Funds (NRFF) will provide the amount of revenue generated by way of spread between the Interest rates.
- ❑ The Total Income by way of Fees & Charges and Commissions, which is another major component of Revenue, will also be available in this Analytical Domain.
- ❑ The Customer Net Revenue, which is essentially the difference between the Income (NRFF and Fee Based Income) and the Expenses incurred, is a measure by which one can arrive at the Net profitability of a Customer.

Profitability is computed at the Account level for each Customer. The computation of profits will be specific to an Account. The profitability at the Account level shall be rolled up to the Customer level to obtain the profits earned through a Customer across all his Product holdings.

It should be noted that a Customer could have Primary as well as Secondary holdings. The profitability of an Account is computed only at the Primary holding level. Thus, the figures appearing in the AD will consist of the profits of a Customer for his Primary holdings only, so that there is no duplication / double counting with a Secondary Customer of the Account.

**Example:** An account A1 generates a profit of \$100 this month. Account A1 is held by two Customers C1 and C2. When computing Total Profits at the Customer level, the Profit will show \$100 for both C1 and C2 and hence total profits will show \$200, whereas the actual profit of the Bank is \$100. When taking financial decisions, it would be advisable to look at profits only at the Primary holding level of a Customer.

#### **Strategic Questions Answered**

- ❑ What is the profitability of Customers across their Product holdings?
- ❑ What is the demographic profile of the most profitable Customers? What is the profile of the loss making / medium profitable Customers? What is the Product Holding of such Customers?
- ❑ What is the Revenue earned across different Customer Profiles with different Product Holdings?

#### **3.3.2.2 Customer Profitability – Marketing Analysis**

This AD will identify the Number of Customers falling within certain Profitability Buckets. Here the Profit will be at the total level of all holdings of the Customer, inclusive of Secondary holdings. This analysis is done in order to identify Customer profiles that have contributed to profits and should be catered to by way of selling more products or retaining them by rewards and benefits of various kinds. The Number of Primary Customers will also be made available, as a measure, in this AD in order to distinguish between Primary and Secondary Customers.

Primary Customers (defined as Customers who have at least one Primary holding with the Bank) will be ranked according to Profitability Scores.

This AD helps in identifying Customers by profitability bands, their profile and their Product holding in order to identify trends / behavior of profitable Customers. It would help in identifying means of retaining Profitable Customers and the Product Holding to make medium / loss making Customers more profitable.

#### **Strategic Questions Answered**

- ❑ In which profitability band do Closed Customers fall? If there are Customers in the higher profitability band, how many Customers have been voluntarily or involuntarily attrited?
- ❑ How many Customers have moved to a higher Score from that of the previous period? Is there a particular Product holding pattern /profile for these Customers?
- ❑ Which Customer profile falls among the higher scores over a period of time? Can my marketing efforts be targeted to retain / attract such Customers?

#### **3.3.2.3 Customer Profitability - Trend Analysis**

This Analytical Domain will analyze the profitability of Customers across Time. The importance of this AD lies in the two Dimensions, Age on Book and Vintage. It will indicate the period (e.g. No. of Months) after which a Customer usually becomes profitable / starts generating revenue. It will help to understand how profitability changes for different product holdings over time for different Customer profiles. But, the biggest advantage of having these two Dimensions lies in the fact that Customers with different Vintages can be analyzed at the same Age on Book.

#### **Strategic Questions Answered**



- ❑ After what period of opening their Relationship with the Bank do Customers usually become Profitable / start generating Revenue? How does it differ across different Product holdings?
- ❑ How have Profits been changing across Time? What has been the trend in Customer Profitability across Time?
- ❑ What are the characteristics of Customers of different Vintages at the same Age on Book?

### 3.3.3 Business Reports

#### 3.3.3.1 100 Most Profitable Customer

This will list down the top 100 Profitable Customers this month, acquisition channel, their profile (to be specified by the Users), and product holding.

Customer Number	Profile Details	Branch No.	Acquisition Channel	No. of Accounts held	Distinct Products held

#### 3.3.3.2 Continuously Profitable Customers (last six months / one year)

This report will provide details of Customers who have been continuously profitable for the last six months / one year. These Customers could be retained by way of rewards / benefits so that they continue their relationship with the bank. (Probably information like the birth date of the Customer / Spouse would help to send greetings to the Customer.)

Customer Number	Profile Details	Branch No. / Account Manager	Acquisition Channel	Distinct Products held	Credit Score	Customer Profitability Score

#### 3.3.3.3 Consistently Profitable (above \$N) last six months / one year

This report will list down Customers who have always remained above a certain level of profit for the last six months / one year. The level of profitability is to be fixed by the Bank.

Customer Number	Profile Details	Branch No. / Account Manager	Acquisition Channel	Credit Score	Customer Score	Distinct Products Held

#### 3.3.3.4 Medium Profitable Customers who can be pushed into higher profitability buckets

Details of medium Profitable Customers, identified with a profitability between a certain range (to be finalized by the Users), who need to be retained and possibly pushed into higher Profitability buckets (probably Scores of 9 or 10), will be listed down in this Report. The Product holding of such Customers needs to be studied specifically in order to identify what other Products can be sold in order to make them more profitable.

Customer Number	Profile Details	Branch No. / Account Manager	Acquisition Channel	Distinct Products Held	No. of Accounts Held

**3.3.3.5 100 Customers who incurred Maximum Losses**

Details of 100 Customers who have incurred the maximum losses. Their Profile (to be finalized by the Users) and Product holding pattern needs to be analyzed, to determine the possibility of cutting down on losses, and for finalizing future marketing strategies for this segment of Customers.

Customer Number	Profile Details	Branch No. / Account Manager	Acquisition Channel	Distinct Products Held	No. of Accounts held

**3.3.3.6 100 Customers who are nearing the "Loss Making" Scores**

Customer Number	Profile Details	Branch No. / Account Manager	Acquisition Channel	Distinct Products Held	No. of Accounts Held

**3.3.3.7 Profitable Customers who Closed this period**

The Bank would like to know the details of those profitable Customers who closed their relationship with the Bank this period. The Bank needs to analyze the reason for the attrition of these Customers. The Bank can use this information to "learn from mistakes" and avoid losing profitable Customers in future.

Customer Number	Profile Details	Branch No. / Account Manager	Acquisition Channel	Distinct Products Held	No. of Accounts Held

**3.3.3.8 Profitability by Customer Scores**

This report will list down the amount and percentage of Customer Net Revenue contributed by each Score.

Customer Scores	Total Revenue		Fee Based Income		NRFF		Customer Net Revenue	
	Amount	% to Total	Amount	% to Total	Amount	% to Total	Amount	% to Total
Score 10								
Score 9								

### **3.4 Product Profitability**

#### **3.4.1 Goals**

Increased competition has forced Banks to increase their geographical presence and offer a wide range of products/services in a bid to increase their customer base and retain customers by attempting to be a one stop shop that meets all customer requirements.

Banks grapple with limited means to promote and sustain multiple products. Division heads need to know how each product category in the division is faring. They need to take decisions on the products to retain and support, and which to drop from their product portfolios. Further Division Heads need to know how much their product categories contribute to the bank's profits.

The first step to achieving the above is understanding profitability at a product level and across geographical units.

A General Ledger based Management Reporting does not meet the analytical needs of bankers managing such a broad portfolio of products across a wide geographical area. A Performance monitoring system has to be sophisticated enough to be able to report across geographical regions, products, product groups and banking divisions like the Retail or Corporate Banking Division.

This BSP is aimed at meeting the analytical requirements of product managers and division heads. It helps them understand unit level profitability and the profitability of the products at the unit level.

#### **3.4.2 Product Profitability - Analytical Domains**

##### **3.4.2.1 Product Profitability Analysis**

This analytical domain seeks to analyze profitability across products, time, and geographical regions. An important parameter is the Income reporting Line. This hierarchy can be configured to suit the Users' needs.

The primary source of data for this Analytical Domain would be the flat file feed of unit level GLs at a frequency desired by the user. Other sources of data would be the inter legal vehicle adjustments that require to be made and the reversals for the previous time period.

This BSP allocates overheads to the unit (legal vehicle) and finally to the product level. The user can configure the basis of allocation of each head of indirect expense.

The GL level data is mapped, if required, to an income reporting line tailored as per user requirements.

#### **3.4.3 Business Reports**

##### **3.4.3.1 Product Performance Report**

This report will detail per product, the total numbers sold, the total number of customers who are subscribing to that product, the total revenues garnered, and the total costs incurred.

Product Type	Total Number of Customers	Sales (Numbers)	Total Sales Volume: (000's)	Total Costs Incurred (000's)

### 3.4.3.2 Top Products By Profitability

This report will detail the leading product types by their profitability levels.

Product Type	Total Sales Volumes (000's)	Total Direct Costs Incurred (000's)	Total Profitability (000's)

### **3.5 Credit Risk**

Absorbing and managing of credit risk is one of the primary functions of a commercial bank in our modern economies. In fact along with providing liquidity, it is the primary reason why a bank remains an attractive institution amongst other alternatives even today. Management of credit risk has two dimensions to it. One, is the focus on quantification of risk and ensuring that it remains within limits agreed upon and two, to compute if the returns the bank is earning compensates the risk that is being assumed. Seen together it espouses a view that there is no poor risk; only risk that is not adequately compensated. The numerical estimation of risk remains an imprecise science and one that is not readily accepted by regulators around the world. There exists competing methodologies but in the absence of demonstrated accuracy, judgement forms the core of credit risk analysis around the world, and judgement that is both, based on certain core principles of prudence and one which is supported by finely graded data.

Prudent credit risk management processes, which covers different activities, emphasizes the role of prevention at various stages rather than simply more accurate measurement or postmortem analysis. Most of the recent credit default events seem to confirm that they are overwhelmingly created by breakdown of the credit life cycle processes rather than changing market conditions alone- market conditions merely expose the weaknesses in the process and portfolio. While process flows need to be decided upon by every bank, a comprehensive data warehouse allows you to enhance the ability of the bank personnel to better manage the process and the supervisory authority to monitor the adherence by personnel to these processes. Primarily there are four distinct stages in the life of a credit that needs monitoring. These are the:

- Credit granting process
- Credit administration process
- Credit measurement process
- Portfolio credit risk monitoring process

It is only when each of these stages in the credit lifecycle are properly enhanced and controlled that a bank can be reasonably sure of the two pillars of credit risk management. One, it knows the credit risk profile of its assets matches the profile as defined by the credit policies and two, it knows if the returns it is earning are adequate compensation for the risks in the book.

#### **3.5.1 Goals**

The essential principle in most risk management models is to ensure that all the eggs are not in any one single basket. The economic rationale for this is that there should be no single source of systemic risk that the portfolio is overly exposed to. As diversification is the key to intuitively manage risk, it becomes essential to define diversification across as many dimensions as might make economic sense. If industry is used as the sole basis of determining diversification, the bank could suddenly find that it has exposed itself to concentration in a particular geographical or economic area. Any bank, in its desire to find which is a valid independent variable, needs to do statistical analysis on degree of diversification across each of these dimensions across time. This analysis allows a bank to both rationally limit exposures in the future to any sector and provides for a valid framework to determine break even spreads to be earned using commonly used economic value based pricing models.

The Business Solution Pack (BSP) for credit risk management in the FLEXCUBE Information Center (FIC) recognizes the banks' need for analysis and an increasingly better understanding of the customer base. FIC facilitates analyzes of the customer base to support the bank management in promoting active customer identification, and wholesale loan pricing strategies. In a nutshell, the BSP for credit risk in FIC meets the information requirements of the Bank in

dealing with its credit exposures.

### **3.5.2 Analytical Domains**

#### **3.5.2.1 Concentration Analysis - Corporate**

One of the primary means of analyzing credit risk is to measure the degree of diversification across various dimensions. This analytical domain aims at providing a comprehensive list of ways of computing concentrations and provide the basis of fixing and monitoring transgressions of limits set by bank management.

##### **Strategic Questions:**

- Can we analyze credit risk exposure concentrations on multiple dimensions like customer industry, turnover, equity, etc.?
- Are there differences in concentration when viewed from the perspective of number of customers & credit exposure outstanding? Are average sizes of exposure giving different indicators?
- Are there distinct trends in the sectors/industries we are exposed to?

#### **3.5.2.2 Risk Migration and Pricing Analysis**

One of the primary identifiers of risk quality in any financial institution is the internal credit score assigned to each loan facility. Traditionally institutions treated rating as a static score, but of late there has been a move to look at the dynamic multi period behavior of rating scores to better understand multi period loans. While it is tempting to use overall rating migrations as the only deciding variable, it needs to be combined with other economically rational dimensions like customer profile and age of the facility to analyze and ferret out the deciding variable in rating behavior. Multi period averages also allow for a quantitative method to determine the reliability of the rating process on the average and by management levels. This acts as an effective evaluation of the rating process. The output of this Analytical Domain can be easily integrated with more advanced credit pricing models based on rating migration for loan valuation.

##### **Strategic Questions:**

- What is the dynamic characteristics of our credit portfolio risk characteristics?
- What parameters can we use in some multi period framework of credit spread pricing?
- Which combination of factors provides a consistent description of rating migration?

#### **3.5.2.3 Default Analysis**

The default analysis allows for an alternative method to rating migration analysis for the analysis and pricing credit risk. It provides the basic statistics required to implement default mode credit pricing models based on the average default probability and the dispersion of the number around the averages. The AD also provides for a static look at the performance of loan accounts by number and by exposure in each of the categories. The analysis can then be done at the responsibility center level for both performance evaluation and for effective comparison of loan assets performance.

##### **Strategic Questions:**

- What percentage of our loans default during any period?
- Are there differences in this percentage when viewed with a combination of other factors?
- What statistic can we use to estimate economic capital?

#### **3.5.2.4 Default - Age on Book Analysis**

Age on book analysis attempts to capture trends in behavior based on the age the facility has

been on the books of the bank. The analysis provides the basis for expected default behavior in any given period based on the age of the loans. The dimension can also capture cohort behavior based on the facilities that originated at a period in time and hence share the same age on the books.

**Strategic Questions:**

- Is there a term structure of default in our corporate books?
- Is the term structure of credit a combination of ratings and other systematic factors like geography, facility, company size etc.?
- Can we combine the default behavior of corporate clients with their vintage for finer analysis of behavior?

**3.5.2.5 Delinquency Analysis**

The delinquency analysis is concentrated on measuring the concentration of delinquent accounts by percentage of outstanding on which the account has been delinquent. The delinquency in the case of corporate accounts has been further classified as delinquency on account of interest and ones on account of Principal. This allows for swift work out process initiation and allocation of scarce management resources in areas it is most required. The delinquency analysis domain also allows for identification of economic sectors where there are incipient credit problems for help in fresh credit creation decision.

**Strategic Questions:**

- Which part of the portfolio has the maximum delinquent accounts & customers?
- Is this concentrated in any specific area or industry type or any such other factor?
- How can we channel management attention to areas of our credit portfolio that requires the maximum attention? And what kind of resources will be required for the purpose?

**3.5.2.6 Retail Delinquency ( Is- Was) Analysis**

Delinquency analysis in the retail credit area requires an additional dimension which analysis the flow of credit accounts between different delinquency buckets. In analyzing retail credit performance it is important to track the behavior of clients with respect to their movements between time buckets. The movement would depend on the classification and priority of payments across various revenue heads followed by each lender.

**3.5.3 Business Reports**

The Credit Risk Business Solution Pack will further provide reports generated from the transaction processing system for use in management decision making systems. The reports are designed to perform two functions; one is to report exception to the credit process, and two, these would use data generated by the Analytical Domain combined with data from external sources to provide further exception reporting. The reports included in this Business Solution Pack are:

- Comparison of the new risk rating financials with averages from own book and/or from outside sources if accurate mapping has been done with external ratings. This would be generated responsibility center-wise and with points of transgressions.
- Report on last risk review done and pending reviews of credit rating process based on time limits specified for the activity.
- Customer Level Collateral Report
- Account level list of Delinquent Accounts Report
- Report on documentation received per loan account at responsibility levels.

- Comparison of limit transgressions at different responsibility levels
- External data based alert systems and relevance to each responsibility center. Commodity Price based, stock market index movement based, economic research cell based, currency movement based.
- Comparison of bank prices with external spreads charged by bond markets.
- Report of Customers whose one account at least has crossed the 90-day delinquency.
- Liability products held by asset product holders. Trigger to be defined. Descending Order of Size.
  - Ones who became delinquent this month.
  - Delinquent over a certain period say Sixty Days.



## **3.6 Insurance**

### **3.6.1 Goals**

The goals of the Business Solution Pack for Insurance are to provide ready access to the key information in the datawarehouse through a powerful information portal which is a single window for all the information in the organization. The analytical domains and the reports shall be designed to provide the required information management solutions to Insurance.

### **3.6.2 Strategic Focus**

The strategic focus faced by Insurance can be broadly defined as:

- a) Strategic Marketing management to :
  - Identify low risk but new segment of customers
  - Retain Profitable Customers
  - Identify Loss Making /Risky Customers
  - Increasing Product Holding Penetration and Depth of Relationships
- b) Better risk management: leading to lower claims and a low risk portfolio.

The domains of analysis, which are explained in a great detail in the next chapter, will show how FIC provides the information for the above questions and many more to help the management to take strategic decisions.

### **3.6.3 Analytical Domains**

#### **3.6.3.1 New Business Acquisition Analysis**

##### **Background**

Analyzes of new customers answers questions such as what is the profile of my new customers, through which acquisition channel were they brought into the fold, and what kind of products they have been buying. An Insurance Company's CRM Strategy is driven by this analysis and answers the following questions

- Telling the company qualitatively more about all its customer segments
- Of how it should invest in each segment in terms of products
- How products should be promoted to each customer segment, and
- What communication strategies to adopt for each of these segments

##### **Strategic Questions Answered**

Some of the strategic level questions that this analytical domain seeks to answer are:

- How many new Households (HHs) and Customers have been added across different product/policy types?
- Who are my new customers and what do they look like in terms of profile and demographics?
- Which is the product with which HHs start their relationship with our company?
- What are the product buying patterns amongst my customers – is there a relationship between products sold and customer profile?
- What has been the source of acquisition of customers? Is there any relationship between source and customer profile ?
- Does the profile of new Customers match with that of existing and profitable customers?

- Which state or region has generated more business?
- Which product is getting me more Customers?
- Are the new policies sold, the contribution of a few agents only or is the new business generated spread across different agencies?
- What is the amount contributed in terms of premiums across regions, and Customer profiles?
- What has been the percentage increase/decrease in number of new customers booked, coverage amount sold, and premia collected by policy types, regions over time?
- Which Customer profile and Policy Type combination gives me the highest premium and coverage amount?

#### **List of Base Measures**

- Number of New Policies
- Number of Customers (with New Policies)
- Number of Households (with New Policies)
- Amount of Premia from New policies
- Coverage Amount of New Policies

#### **List of Derived Measures**

- Percentage change in New HHs
- Percentage change in New Policies
- Percentage change in New Customers
- Percentage change in Coverage Amount of New Policies
- Percentage change in Amount of Premia from New Policies

#### **List of Dimensions – Hierarchies**

- Time
- Agent Hierarchy
- Product/Policy Type
- Customer Age
- Customer Gender
- Customer Marital Status
- Customer Income
- Acquisition Channel

### **3.6.3.2 Cross-Sell & Up-Sell Penetration Analysis**

#### **Background**

Cross-sell and up-sell campaigns are targeted at existing customers with the objective of increasing the number of products held (cross-selling), and increasing the level of usage of an existing product respectively (up-selling). A cross-sell campaign could therefore target home insurance to existing auto insurance holders, while an up-sell campaign induces existing home insurance policyholders to increase the amount of their total insurance coverage.

#### **Strategic Questions Answered**

This analytical domain will quantify business generated specifically for cross-sell and up-sell campaigns only as these campaigns differ substantially from the usual “prospect campaigns” referred to in the previous analytical domain. Some of these questions are :

- What are opportunities to cross-sell products amongst my customers – whom do I cross-sell which product to?
- Are my customers making optimal utilization of products that they are currently using, or is there scope to up-sell?

#### **List of Base Measures**

- Number of Policies
- Number of Customers
- Number of House Holds

#### **List of Dimensions – Hierarchies**

- Time
- Products currently owned (HH)
- First Product purchased (HH)
- First and Second Product purchased (HH)
- Length of Relationship (HH)
- Customer Profitability Range
- Customer Age
- Customer Gender
- Customer Marital Status
- Customer Income
- Occurrence of Claims

### **3.6.3.3 Campaign Performance Analysis**

#### **Background**

Campaigns are periodic and focused attempts by a business to generate sales. Such efforts have over time become a science and hence are being treated differently from pure sales.

#### **Strategic Questions Answered**

The strategic level questions this analytical domain seeks to focus on the efficiency of various campaigns undertaken. The analysis generated will help in determining response rates as well as the level of business generated by each campaign. Some of these questions are :

- Between campaign types, which campaign type was more successful in generating number of customers, with greater coverage amounts, and higher premia collections?
- Which prospect source and list over time, generates higher number of prospects, and of a profile matching profile of existing profitable customers?
- What were the response rates, contact rates, application rates, rejections rates, and conversion rates, both between types of campaigns, and in comparing different campaigns of the same type?
- What are the total number of solicitations received by a prospect, and the vintage of these solicitations, by product, channel, and combined by product and channel?
- What is the most frequently used response mechanism by prospects, campaigns, and by customer profile, over time?

#### **List of Base Measures**

- Number of solicitations made to Existing Customers
- Number of solicitations made to New Customers
- Number of Qualified Leads
- Number of Applications Rejected
- Number of Applications Accepted
- Number of policies sold
- Amount of premia collected
- Coverage Amount of policies sold

### List of Dimensions – Hierarchies

- Time
- Geography
- Time (month/year) since start of Campaign
- Campaign Type
- Campaign Media
- Response Mechanism
- Campaign Product
- Recent Purchases of Products – HH
- \$ premium range: high/medium/low
- Customer Value
- Customer Age
- Customer Gender
- Customer Marital Status
- Customer Income

### 3.6.3.4 Customer Persistency / Retention and Attrition Analysis

#### Background

It is a well known fact that the longer a policy is held by a customer, the higher the customer's profitability to the insurance company. Further, the longer a customer holds a policy, the more likely he is also to subscribe to greater number of insurance products from the same insurance company.

It is said that an organization spends more money on trying to get new customers than on retaining existing ones. However, while closure of relationships by customers probably cannot be entirely avoided, analysis of customer behavior prior to closure can assist in reducing further attrition. Understanding this behavior is important because most customers decide to defect to competition at least a couple of months before they actually do so - recognizing their behavior at the point of decision rather than at the point of attrition is critical. Customer attrition is preceded by certain changes in behavior, such as non-payment of premiums, cash surrenders etc. Recognizing these signs can forewarn against future attrition.

#### Strategic Questions Answered

This analytical domain seeks to determine the policy persistency levels amongst various policyholders. Some of the strategic questions this analytical domain seeks to answer are :

- Is there a relationship between policy persistency, and region and policy type?
- Is there a relationship between policy persistency and customer profile?
- Is there a relationship between coverage amounts booked and premia collected, and policy vintage?
- Is there any discerning pattern in customer attrition? How can the knowledge of this pattern be used to prevent further attrition?
- What is the profile of customers who are closing down their relationship with me? Can I protect other customers with similar profile and product holdings?
- How do I retain my loyal customers? Is there any relationship between vintage and loyalty ?
- Are customers of greater vintage using more of my products?

#### List of Base Measures

- Total Number of Households
- Number of Household Lost
- Total Number of Customers

- Number of Customers lost
- Total Number of Policies
- Number of Policies Lost

**List of Derived Measures**

- % of HH retained/lost
- % of customers retained/lost
- # and % of policies retained/lost
- \$ amount and % of premium retained/lost
- \$ amount and % of face amount retained/lost

**List of Dimensions – Hierarchies**

- Time
- Product
- Geography
- Occurrence of Claims
- Customer Value
- Number of Claims
- Reason for Cancellation
- Customer Age
- Customer Gender
- Customer Marital Status
- Customer Income

**3.6.3.5 Customer Profitability Analysis**

**Background**

Generating sales volumes by itself will not aid profit generation if customers are unprofitable, i.e. their claims and the cost of servicing a customers exceed their premia contribution. “Profit” itself is a much-debated issue because most profit calculating methodologies differ on how to allocate indirect expenses amongst products and divisions. This analytical domain assumes profit being calculated as premia received less claim settled and commissions paid to agents.

**Strategic Questions Answered**

This analytical domain therefore seeks to quantify the gross contribution of a policyholder.

- What is the profile of marginally profitable customers and the clearly loss customers?
- What are the defining characteristics of their profiles?

**List of Base Measures**

- Total Estimated Annual Premium
- Estimated Gross Contribution Amount
- Estimated Total Annual Potential Premium
- Estimated Potential Gross Contribution Amount
- # of Households with current annual premium range

**List of Derived Measures**

- Change in total premium collected
- Change in Gross Contribution

**List of Dimensions – Hierarchies**

- Time
- Customer Demographics

- Customer Product Holding
- Agency hierarchy

### **3.6.3.6 Claims Analysis**

#### **Background**

Claims management is a key ingredient to long term profitability for insurance companies. Therefore, this analytical domain has been devised to determine the overall claims levels across policy types and Customers.

#### **Strategic Questions Answered**

This analytical domain will focus on :

- The quantum of claims received and settled
- The overall claims efficiency process
- How the company compares against its identified competitors in this crucial key claims management process.
- Number, amounts, and average number of claims settled in insurance industry by policy type compared with number, amounts, and average number of claims settled by insurance company
- Number, amounts, and average number of claims received by policy types over time
- Number, amounts, and average number of claims settled by policy types over time
- Number of claims received and settled by policy types held over time, classified by key customer profile and sales channels
- Average lag time between receipt of claim and settlement of claim by policy type, over time

#### **List of Base Measures**

- Number of claims received
- Number of claims settled
- Claim amount paid out
- Number of Vehicles with claims
- Number of policies with no claims

#### **List of Derived Measures**

- Percentage change in number of claims received
- Percentage change in amounts of claims settled
- Percentage change in number of claims received
- Percentage change in average number of claims settled.

#### **List of Dimensions – Hierarchies**

- Time
- Geography
- Customer Demographics
- Resolution Time
- Claim Type
- Customer Value

### **3.6.3.7 Agent Productivity Analysis**

#### **Background**

The key distribution channel in the insurance industry today remains the agency, though with serious doubts being expressed as to its utility and productivity, as discussed earlier in this business solution pack. It therefore becomes imperative to measure agency and agent productivity.

## Strategic Questions Answered

This analytical domain will examine the productivity levels of individual agencies and agents, so that only the most productive agencies and agents are retained over time.

### Background

While the importance of the agency channel is decreasing, it still remains a formidable distribution channel. It is therefore crucial to identify the chief traits of an outstandingly performing agency, and agent too.

This analytical domain will analyze the persistency levels amongst agencies and try to identify the key winning features of an agency that generates more customers, books higher coverage amounts, and collects more premia than other agencies.

### List of Base Measures

- Number of policies sold
- Amount of premia collected
- Coverage Amount of policies sold
- Number of HHs
- Amount of Commissions
- Number of Vehicles
- Number of QAHs

### List of Derived Measures

- Number of policy types sold over time and campaign, by agency and agents
- Percentage change in no. of policy types sold over time and campaign, by agencies and agents
- Amount of premia collected by policy types sold over time and campaign, by agencies and agents
- Percentage change in amount of premia collected by policy types sold over time and campaign, by agencies and agents
- Coverage amount sold by policy types over time, by policy types over time and campaign, agencies and agents
- Percentage change in coverage amount sold by policy types over time and campaigns, agencies and agents
- Premia amount collected per policy type over time and campaigns, by agencies and agents
- Coverage amount sold per policy type over time and campaigns, by agencies and agents.

### List of Dimensions – Hierarchies

- Time
- Geography
- Customer Profile (including Life Events)
- Agent Status
- Agent Vintage
- Agent Profile
- Loss Scores

## 3.6.3.8 Service Resolution Analysis

### Background

Increasingly, with insurance products becoming commoditised, insurance companies feel the need to differentiate themselves from competition. One of the key ingredients identified has been service resolution given the high importance attached to it by customers.

## Strategic Questions Answered

This analytical domain seeks to focus on some of the key aspects of service resolutions like :

- Which contact mode do customers use to communicate their service requests?
- What are the dates and time when most of these service requests are received?
- Is there a particular product type for which more service requests are received, and what are the most common types of service requests received?
- What is the average time taken to resolve service requests?

### List of Base Measures

- Number of calls/inquiries
- Number of HHs called
- Number of calls/inquiries resolved
- # of calls/inquiries pending
- # complaints to State Regulating Agency
- # problem customers

### List of Derived Measures

- Number of contacts received by contact mode, policy types, and region, over time
- Average time taken to resolve contacts by contact mode, policy types, over time
- Number of incoming calls by call type, policy types, and region, over time
- Number of calls dropped over time
- % of calls dropped over time

### List of Dimensions – Hierarchies

- Inquiry Date (Month/Quarter)
- Time since Inquiry (Months etc).
- Geography
- Inquiry channel: rollover from agent, inbound 800 #, internet
- Type of inquiry: product info, billing, claims
- Time to resolution
- Customer value
- Agency hierarchy
- Time
- Average duration of call
- Average waiting time of call
- Customer

## 3.7 Enterprise Financial Reporting

In the past few years there has been a change in the quality of information required by the investing community from publicly listed companies as much as there is a growing need from diligent managers for better and more timely information to make intelligent decisions. Financial data aggregated from general ledgers is no longer sufficient in a fast changing world, it needs to be broken down into knowledge one can use to specify areas which are doing exceptionally well and the ones where there are problems. This financial and management reporting also needs to be geographical consolidated across legal entities and in single reporting currency for meaningful enterprise wide management.

The need for qualitatively better information has come at a time when competitive pressures are compelling financial institutions to offer a larger variety of products with shorter life cycles and to



operate in markets that are geographically spread. The pace of change is not only high in categories of products being offered and the geographical reach but also in the rate of change in the regulatory requirements.

### **3.7.1 Goals**

EFR is designed as a high level reporting tool to help analyze the performance of financial institutions. EFR provides the ability to standardize reporting of performance for financial and management control purposes across product groups and responsibility centers. This enables monitoring, on a global portfolio basis, the performance of parts of the global organization, its variance from any budgeted amount or forecasts made by the institutions and a period to period analysis of performance.

EFR is designed to provide performance reporting at a user-defined frequency at a global level from the accounting records. This powerful feature would allow an almost continuous monitoring of performance of a global portfolio and improve decision-making capability by increasing the frequency of performance reports.

The financial and management reporting modules in the base EFR allow managers to understand unit level profitability, product profitability at each of these units, statement on assets position for each unit and schedules on controllable expenses. EFR also provides a configurable reporting line structure that can be easily customized at the client site to accommodate each institution's specific management reporting needs.

EFR comes equipped with a tested allocation program for allocating central office overheads to units and other overheads to product lines. The variance analysis engine of EFR can perform variance analysis and attribution analysis for more focussed performance evaluation. The better/(worse) performance of actual vis-à-vis budget or prior period are attributable to business conditions in a specific area or to the change in value of currency values between reporting currency and local currency. The variance analysis allows for setting up early warning indicators for monitoring performances across various dimensions and hence aid in making dynamic decisions through the budgeting cycle.

The primary source of data for the EFR offering is the flat file feed of the unit level General Ledger, supplemented by any external information inputted by the user. EFR offers the flexibility to integrate management data and the financial data in the GL to enhance performance indicators. For example, the Mergers and Acquisitions (M&A) management reporting in the investment banking module can integrate pipeline client data with the financial reporting data to monitor and allow for better quality of information and managerial decisions.

### **3.7.2 Analytical Domains**

#### **3.7.2.1 Balance Sheet Analysis**

This Analytical Domain provides a snapshot of the asset and liability position of the bank consolidated across various dimensions like responsibility center, time, scenario, and product. The GL Balances provided by the user are mapped to reporting lines configured by the user.

#### **Strategic Questions**

- How have the asset balances of the bank moved across time?
- How are the bank's loan balances distributed across geographical regions?
- Which regions have achieved the business targets set?

#### **3.7.2.2 Earnings Analysis**

This Analytical Domain captures the income expense statement of the bank consolidated across dimensions. The GL balances provided by the user are mapped to income expense reporting lines configured by the user. The overheads are allocated across products in the manner parameterized by the user. This AD seeks to analyze product profitability across dimensions like product, responsibility center & time and is aimed at product managers who have to take decisions on which product to support & promote and which to drop from their portfolios.

### **Strategic Questions**

- Which product contributes the most to the profitability of the bank?
- How is the profitability distributed across regions?
- Which are the products that have been showing a downward trend in profitability in the past year?

### **3.7.2.3 Budgeting and Planning**

Most budgeting and planning applications tend to look backwards. While this helps in assessing performance and in rewarding achievement, it is not very useful when it comes to re-looking at plans or budgets. This Analytical Domain is forward looking when it comes to budgeting planning. It helps measure target achievement. It also looks at the balance target for the planning period. It also helps assess whether the balance target is achievable by considering the numbers achieved over the same time periods in previous years, the maximum, minimum and average numbers achieved over a similar time period in the previous year or twelve months. Hence this AD not only measures target achievement for performance monitoring, reporting and appraisal, it also is proactive in providing early warning signals to managers, and also provides inputs for future planning efforts.

### **Strategic Questions**

- Which are the products that have met targets set?
- Which are the regions that are behind the targets set for them and what are the chances of these regions catching up?
- Are there products that are over/under performing the targets set? Do targets have to be set in a more rational fashion in the future?

### **3.7.3 Key Indicators**

This AD monitors certain key indicators as defined by the user. These could include profitability, liquidity, and risk asset indicators.

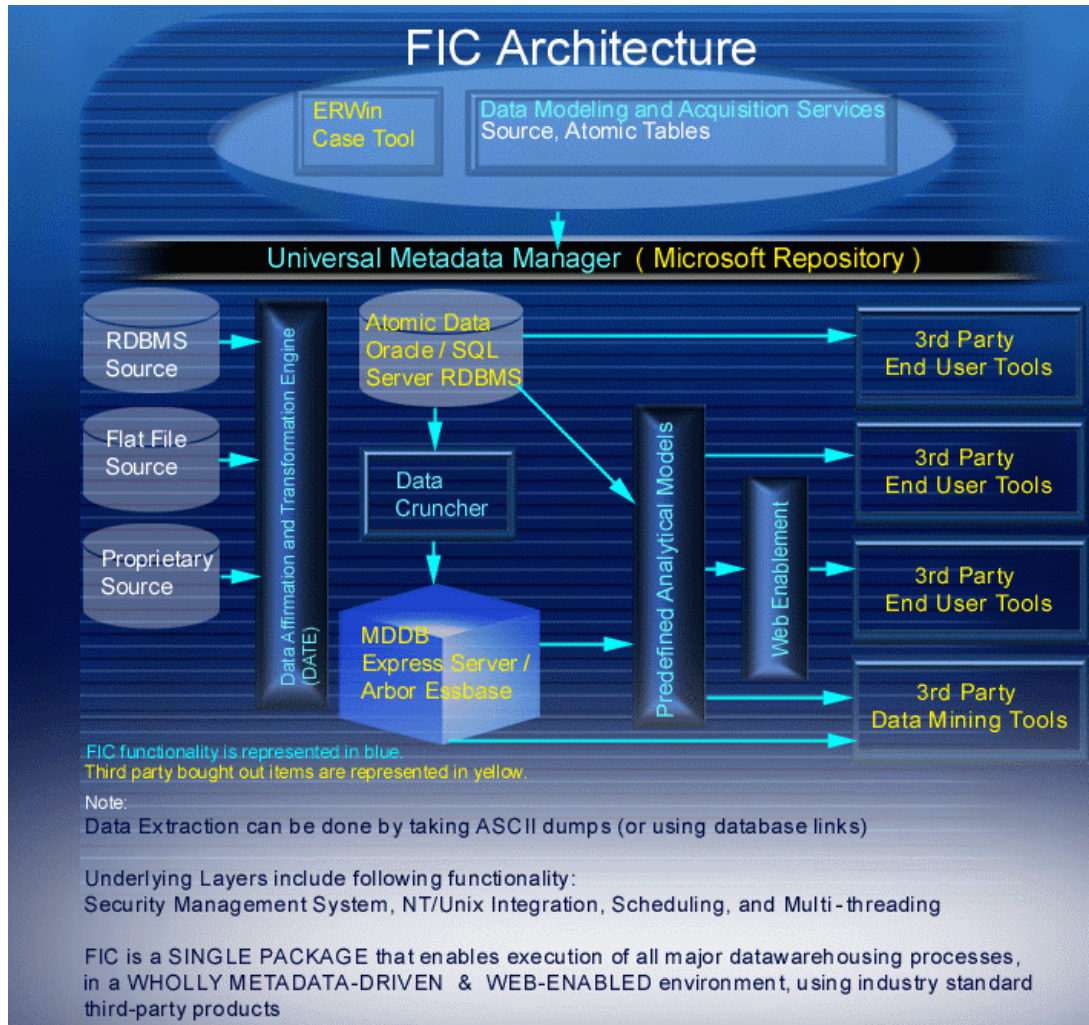
### **Strategic Questions**

- How has the bank's spread been moving over time?
- Which product or region has been showing consistently high spreads over time?

## 4 FLEXCUBE Information Center – Product Details

### 4.1 FIC Architecture

The FLEXCUBE Information Center product structure is given below:



## **4.2 Major Components**

A brief description of each of the major components is provided below:

### **4.2.1 Data Modeling and Acquisition Services (DMAS)**

This module provides a number of capabilities to address data acquisition and loading into the data warehouse tables. These include:

- Storing the data model created in the case tool into the repository.
- Data transfer from application sources and external sources into the data warehouse.
- Viewing of captured information

FIC works off data from various sources. Data feed inputs to FIC can be from any third-party tool that is best suited to specific customer IT infrastructures. Also data in any standard format, such as ASCII, can be fed into FIC. Data extraction capability from FLEXCUBE suite is built-in.

### **4.2.2 Data Affirmation and Transformation Engine (DATE)**

FIC's Data Affirmation and Transformation Engine (DATE) ensures that the data in the warehouse is reliable. It also enables the user to apply business rules to the source data in order to obtain quality and business-relevant data.

The key features of DATE are:

- Sieving and cleansing of data that is loaded from external sources
- Business validation rules: ensuring validity through user defined rules
- Maintenance of entity and referential integrity

### **4.2.3 Universal Metadata Manager (UMM)**

The Universal Metadata Manager provides a mechanism to store Business Definitions, Business Intelligence and Business Analytical Domains. Business Definitions in the UMM are consistently applied every where they are referenced in the system, providing a consistent view of Information, across various Analytical Domains.

Built around the industry standard repository from Microsoft, the UMM dramatically simplifies all the tasks involved in capturing an organization's metadata. With an easy to use graphical user interface, it helps capture both technical and business metadata. It has the capability to provide a transparent mapping of warehouse definitions to those of data sources - a key issue in data warehousing. Since the UMM is very well integrated with the rest of the solution, users are assured of minimal efforts for integrating any kind of OLAP engine or end-user access tool. The UMM ensures that FIC is fully metadata driven. This enables easy maintenance and growth of FIC by users themselves. The use of a standard repository not only minimizes cost to the end-user but also enable connectivity to a wide range of tools in the industry, thus protecting investments made thus far.

### **4.2.4 Data Cruncher (DC)**

One of the primary objectives of a Data Warehouse is to provide a degree of cumulation and summarization. The multi dimensional database provides a ready means of storage of this kind of

data to enable users to view summarized data across various dimensions. Appropriate summaries need to be loaded as needed into the multidimensional database.

FIC addresses this issue with the Data Cruncher. The Data Cruncher is a powerful high performance engine that enables number crunching, in a timely and cost effective manner.

Often, different users require varying summarization of the same data. The Data Cruncher, based on the Metadata definitions of Analytical Domains, proceeds to summarize the data, in a very efficient manner. For example, if Credit and Marketing Analysts want to analyze data from a Card Master Table, the Data Cruncher will provide the necessary summaries in just a single pass of the table. This avoids reading data records more than once; multiple reads are very expensive, especially when handling very large volumes of data.

The Data Cruncher, then loads these summaries and related data into OLAP Databases, using a transparent backend process, specific to the OLAP Server, and these are then made available to the Information Analyst. The Data Cruncher thus provides a completely automated process based on metadata.

Some of the Key Features of this engine are as follows:

- A transparent back-end automated process, either operator driven, or user initiated
- High performance and cost effective solution for OLAP loading
- Advanced high efficiency algorithms for data aggregations
- Metadata based design
- Capable of handling variations of aggregations like SUM, COUNT, DISTINCT COUNT
- Provides a unique feature for handling distinct counts along hierarchy rollups, using a highly advanced algorithm
- Highly scalable for handling large volumes of data for aggregations

Finally, ability to handle data feeds from multiple sources on one hand, and feed summaries to a variety of OLAP servers (of differing designs) on the other, helps minimize the effort and expense involved in implementation of data warehouses.

#### **4.2.5 Flexible Analyzes, Analytics, Reports, Queries**

As detailed in a previous section, FIC comprises of several pre-packaged and ready to install analytical solutions called Business Solution Packs (BSPs). These solutions are available on an off-the-shelf basis and can be further customized to the exact business requirements of any user, resulting in a faster and more economical solution.

#### **4.2.6 Security Management Services (SMS)**

One of the main priorities of FIC is ensuring application, network and data security. It provides a single security shell for the whole application and third party vendor tools. The main features of this system are:

- Maintaining User profiles
- Controlling User Accessibility
- Specifying 'roles' and 'functions' for user profiles
- Maintaining audit trails to monitor user access
- Maintaining security over the Intranet and the Internet

## 5 Conclusion

i-flex's FLEXCUBE Information Center represents the state-of-art solution for Information Management in the Banking and Financial Services industry.

Key benefits delivered to customers are summarized below:

- Leverages on the twin advantages of business and data warehousing expertise of i-flex
- A pre-configured ready-to-go warehouse solution which is fast and easy to implement.
- End-to-end Metadata Driven Architecture thereby providing a single consistent view of information and enabling end-users to derive the information they need minimizing dependency on the IT department.
- Complete Web Based Solution which can easily integrate with the bank's intranet. This ensures instant deployment and the business users can derive the benefit from any location within the Intranet domain of the organization.
- I-flex's proven Implementation Methodology and 100% success rate in all its data warehouse implementations.
- Lower Total Cost of ownership as a result of the overall metadata driven architecture which ensures that the customization is minimized and the changing business needs are easily addressed by end-users themselves which therefore minimizes implementation and usage efforts.

FIC helps i-flex to vastly enhance the value delivered to customers by its existing FLEXCUBE operational solutions. Further it is a product that is very mature in design and implementation. Finally, it is very easy to use and administer.

The FLEXCUBE Information Center is a key element in i-flex's initiative to provide the best possible Information Technology solutions to customers. In an environment with FLEXCUBE operational solutions, the FLEXCUBE Information Center provides excellent decision support capability, to enable tactical and strategic information management.