"..Mobile telcos are putting churn management systems in place, which can almost accurately predict the behaviour of fickle customers" -- Express Computer, 22nd Sept 2003.

As a professional organization in the competitive Telecommunications industry, your company would surely have invested substantially on all the modern technology for the likes quoted above, including Information Technology and other state-of-the-art offerings.

All this to ensure that your decisions in operations and planning, and strategies are well supported by timely, reliable and relevant information from all your available data.

It may be worthwhile vetting your business preparedness against the following checklist

• **Customer Churn**
In time there will no longer be a vast pool of new customers to attract. Instead, the challenge will be to retain existing customers and attract new ones from competitors.

• **Campaign Performance**
How effective is your existing campaigns to new customer acquisition/growth?
Or which 'competitor campaign' is seemingly stealing your existing customers?
Examples of ***external data*** *to analyze reasons for customer churn.*

• **Customer relationships; Brand loyalty; Billing services**
How well and how quickly are customers' complaints handled is key to the business, as a common reason for ***churn*** *in many Operators is poor customer service.*
The service usage information can be used to help **validate** the billing engine / **detect fraud.**

• **Fraud detection**
Fraud in the telecom industry worldwide accounts for losses up to 10% of the revenue

• **Network Utilization**
To maximize profitability, the network must be utilized efficiently and effectively.

The above checklist is only indicative of some benefits from an Enterprise-wide Information System. Should you, however, find your senior management not fully satisfied with the relevant business critical information for multi-dimensional analysis of the kind illustrated above, it is then apparent that your '*technology solution investments*' are yet to deliver its full potential for the corporate user.

Going by what Sheila Moorcroft, Business Futures writes

Our approach to time is changing: it is becoming far less uniform. Young people increasingly live in the moment, have 'just in time' lifestyles based on readily available information about where they are, who is around and what options are open NOW. The increased access makes managing time very different.

Situations also change time. We want fast time, slow time, now time. Companies will face a major challenge in managing relationships with customers which respond to these different time frames and the different types of relationship that will emerge both at different times with the same person and across different groups.

Flexible, intuitive, responsive, reliable, secure, and scalable access to customer and product information consistently across the enterprise is required in order to **provide first-rate customer service** and in the Telecommunications industry, this is ever so true.

Deregulation has brought international and local competition and has, and will, erode market share and threaten revenue streams. Competition has created alternative product offerings as well as price sensitivity. An industry that requires huge capital investments to upgrade its network, billing, support and other system infrastructure is also faced with a systemic decline in revenues and margins.

To maintain market leadership it thus becomes necessary to:
- Increase emphasis on internal growth in core businesses with market leadership
- Shift focus from market share & acquisition to customer penetration, profitability & retention
- Lower provisioning and network costs through downsizing and increased utilization
- Develop, bundle and sell more products in shorter timeframes
- Improve customer relationships to build brand loyalty
- Empower staff through governance processes
- Restructure organization to respond and support market needs and customer requirements

Without a data warehouse or without the right tools making decisions to support this is challenging. Making better decisions faster can make the difference between surviving and thriving in an increasingly competitive communications marketplace. In order to successfully address these issues the Operator must:
- ✓ Acquire more customers with high value (or potential)
- ✓ Increase profitable product update and usage
- ✓ Reduce usage, provisioning and servicing costs
- ✓ Broaden penetration – cross sell and up sell Operator and partner goods and services
- ✓ Ration and target promotions to customers with value improvement potential
- ✓ Reduce churn – retaining valuable customers longer

The data warehouse holds information about the business that can be used as the basis for supporting a detailed analysis of the areas of most concern to Operators today:

- **Customer Churn**

In time there will no longer be a vast pool of new customers to attract. Instead, the challenge will be to retain existing customers and attract new ones from competitors.

- **Billing Complaints**

Understanding how well and how quickly customers' complaints are handled is key to the business. A common reason for churn in many Operators is poor customer service.
*The service usage information can be used to help **validate** the billing engine / **detect fraud.***

- **Network Utilization**

To maximize profitability, the network must be utilized efficiently and effectively.

- **Service Order Handling Efficiency**

Service Order Processing and Flow Through Service Fulfillment are key components in rapid end-to-end revenue generation for any Operator. Service Order Processing Analysis enables service providers to identify recurring provisioning failures, thereby reducing servicing costs and improving time-to-market.

- **Credit Risk and Collections Analysis**

Track payment patterns to try predict which accounts are going to become delinquent. Billing and collections data can be combined with usage data to determine customer value analysis metrics.

- **Product Profitability**

The Operator needs to come up with a sufficient number of equipment, tariff and payment options to cater for as many different customer preferences as possible, while ensuring that they will still generate profits. To identify such offers that firstly, are an option a potential customer would find appealing and, secondly, are profitable for the operator is not easy.

- **Sales Channel Performance**

The Operator can analyze various factors and cross-compare the different sales channels, to establish the most and least profitable channels, and can also be better informed in negotiating appropriate commission rates for any channel not directly within its control.

- **Segmentation and House-holding**

To carry out market segmentation and target customer prospects with specific products and services. Using information gleaned from the Data Warehouse it is also possible to develop new products and services to attract additional subscribers

- **Campaign Performance**

How effective is your existing campaigns to new customer acquisition/growth?
Or which 'competitor campaign' is seemingly stealing your existing customers?
*Examples of **external data** to analyse reasons for customer churn.*

Competitive Advantage can be gained from using information in the data warehouse to develop a coherent strategy, which enables the Operator to respond to

- ✓ The pressures of increased competition
- ✓ The need to increase the velocity of marketing activities
- ✓ Globalization and product innovations.

To gain business advantage from this situation, the data warehouse can be used as a single source of consolidated data about:

- Historical business trends
- Product gaps and opportunities
- Activity and performance targets
- Cross-selling opportunities
- Customer market segmentation
- Sales channel performance
- Tariff reviews

The organization of the information in the data warehouse in this manner enables business advantage to be gained by identifying opportunities for:

- Focused marketing campaigns
- Product customization and bundling
- Behavioral scores and rewards
- Performance tracking
- Cross-selling
- Exposure management
- Sales channel incentives
- Promotional pricing

- Competitor alliances
- Wallet share and market share estimation
- Planning and forecasting

The problem Operators are facing is not with the amount of data available but rather with consistency, accuracy, timeliness and complexity.

Over the past number of years these problems have been recognized, resulting in the types of system known as Decision Support Systems, Executive Information Systems and Management Information Systems.

These systems typically download data from a number of sources, run specialized programs against the data to reconstruct it in a useable format, which then allows queries to be run against the data.

Many of these systems are mainframe based and have enjoyed only limited success:
- OLTP systems are not designed for data analysis
- Data is diverse and complex
- User access is complex and slows business operations

A **data warehouse** provides on-line analytical processing, (OLAP), as opposed to on-line transaction processing, (OLTP).

An OLAP data structure describes the organization of the data used within multidimensional tools for accessing, storing and manipulating decision support and Enterprise Information Systems (EIS) forms of information.

This type of tool also enables 'drill down' ability into the summarized information for further detail.

The data warehouse overcomes limitations of EIS in that:
- Complex ad-hoc queries are submitted and executed rapidly
- Queries don't interfere with ongoing operations
- Data can be organized by useful categories such as customers or products because the data is consolidated from multiple sources.

In short, the data warehouse is a single source of consolidated data, which provides an enterprise-wide view of the business. The data warehouse will become the main source of information for data marts, which are usually departmental, line of business or business function oriented.

An enterprise transaction system ensures data synchronization with internal and external legacy systems and permits the storage of enterprise information to support present and improved business processes. The enterprise transaction system provides a pathway to replace the mainframe interface with an intuitive, graphic interface that can be customized to specific business processes, including e-Commerce

The vision of the architecture is to provide the legacy applications only information necessary to execute their intended functions. End users will eventually interact with applications that are integrated with the enterprise architecture, permitting timely and consistent delivery of information changes to legacy and decision support systems. Reliable, scalable, enterprise transaction architecture enables process improvement across the enterprise and a pathway to integrated e-Commerce applications.

The best enterprise integration solution is one with an enterprise transaction system that is loosely coupled to the enterprise database. A **single source** for enterprise data will ensure that there is one true version of the data. When data anomalies are uncovered, the most accurate version of the data is easy to determine. Treating updates in a transactional manner ensures that all applications that need to be notified in a change in enterprise data will receive that change.

Any integration effort requires that each connected application maps accurately to all other applications. If each application connects only to the enterprise transaction system, then this effort is greatly simplified. When a new application is added to the enterprise, it must only be mapped to the enterprise transaction system to be connected to all other applications. The effort to create an enterprise version of data becomes less than trying to map each application to all other applications.

The enterprise database can also feed decision support databases and the data warehouses. Since the data has already been defined from an enterprise viewpoint, there is no need to further scrub the data.

Components are re-used to reconcile legacy application data with the enterprise database. A rolling inventory checks the enterprise data against application data. Anomalies are corrected by determining which system "owns" the data and executing a transaction to correct all data stores accordingly.

FOOD FOR THOUGHT

For Operators who wish to take full mileage of their Enterprise Data warehouse, for use in Business Intelligence, Decision Support Systems et al, it is imperative not to undermine all that which goes behind such solutions, ie. validated source data.

At the end of the day, it is the Data Quality, Data Model and Strategy that will determine the end offering that users see in reports and Business KPIs'.