



# THE ROLE OF ETL IN TRANSFORMING BILLING AND REVENUE DATA TO ANALYTICS FOR STRATEGIC DECISION-MAKING

## Abstract

Organizations leverage various billing or revenue management products to stop revenue leakage, automate daily operations, and enhance product-price offerings. At the same time, CXOs need a solution that can contribute to timely decision-making by leveraging deep insights from the data generated from sales, product, pricing, billing, collections, profitability, and regulatory compliance. This paper describes how the right extract, transform, and load (ETL) solution can help transform billing and revenue data to analytics and thus empower executives with insights-driven decision-making.

## Introduction

The rise of digital business has brought new challenges for CXOs who must constantly automate operations and innovate service offerings to stay competitive. One way to keep up with the rapid evolution is by using powerful data that is already available within organizations. Businesses typically spend millions on billing solutions but fail to convert the data generated into actionable analytical reports. Despite using high-end billing solutions, operations teams often use stale data in reports to create manual spreadsheets from billing data. Accounting teams perform manual reconciliations of operational activities with accounting entries and balances. Users use the data as reports instead of analytics. This affects business expansion and decision-making.

A key objective for undertaking the transformation of billing processes and systems is improved decision-making. This can be enabled through solutions that are highly capable of handling exceedingly large data loads and provide data analysis by slicing and dicing, real-time visibility, historical trends, what-if business scenarios, predictable analysis with probability, and drill-down analysis.

Further, it is important for organizations to enhance their existing revenue management and billing systems by including an efficient reporting solution. The efficiency of reporting depends on the capability of the extract, transform, and load (ETL) solution.

## Critical Considerations for the Right ETL Solution

Before businesses pick an ETL solution for their organization, they must ensure that the solution meets certain important requirements.

- The ETL solution must ensure that there is no data loss or duplicate data. It must identify every record created or updated in the source system and ensure that it is reflected in the reporting database.
- Reports must reflect the latest data and the data refresh frequency must not be too long.
- In today's digital world, businesses are dealing with enormous volumes of data. The daily load of data can be hundreds of millions of rows within a few groups of tables. Therefore, performance plays a critical role in the ETL solution design. The solution must ensure that data is loaded from the billing system to the reporting database within a benchmarked amount of time.
- The approach for data denormalization and the use of fact-dimension model play a pivotal role in report performance as

well as in self-serve analytics. This may consume more storage and increase the time to write data, but provides immense benefits in terms of report publishing performance along with the ability of self-service.

- Time-based snapshots can be a requirement for regulatory compliance as well as for handling customer queries. The data transformation solution must provide access to snapshots.
- The ETL solution must optimize and balance the load on both the source and the reporting databases.

## The Infosys Solution

Oracle Revenue Management and Billing (ORMB) encompasses pricing and billing capabilities with significant flexibility in designing pricing models, consuming huge volumes of transactions, calculating charges, creating invoices for customers, and recording payments. Infosys has designed an ETL solution on top of the transaction and billing data of ORMB to enable the usage of data in generating analytics. The solution considers the uniqueness of the ORMB system and data for various aspects.



## Optimal solution for data extraction and load

The ETL solution should focus on preventing data loss and duplication. While not all ORMB tables have the creation date or last update date, the Infosys solution is designed to ensure that ETL covers all data with no duplicates.

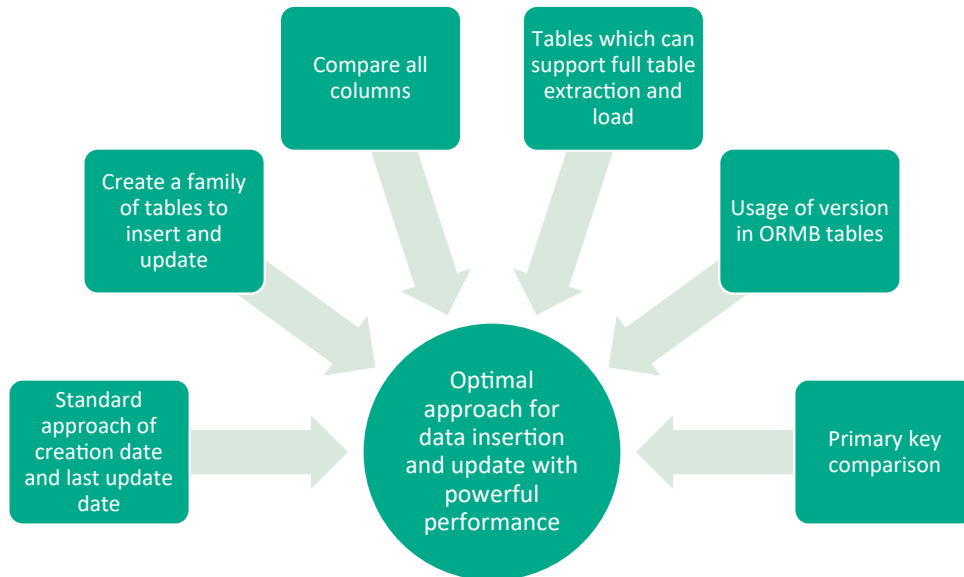


Figure 1: Data extraction and load approach for ORMB

## Right frequency of data refresh

The frequency of data refresh plays a vital role in reports and analytics. Frequent data refresh can cause performance issues in the ORMB, ETL, and reporting systems. At the same time, a low frequency of refresh renders data stale in reports. The Infosys solution considers various billing aspects to set the right frequency of data refresh for different types of data.

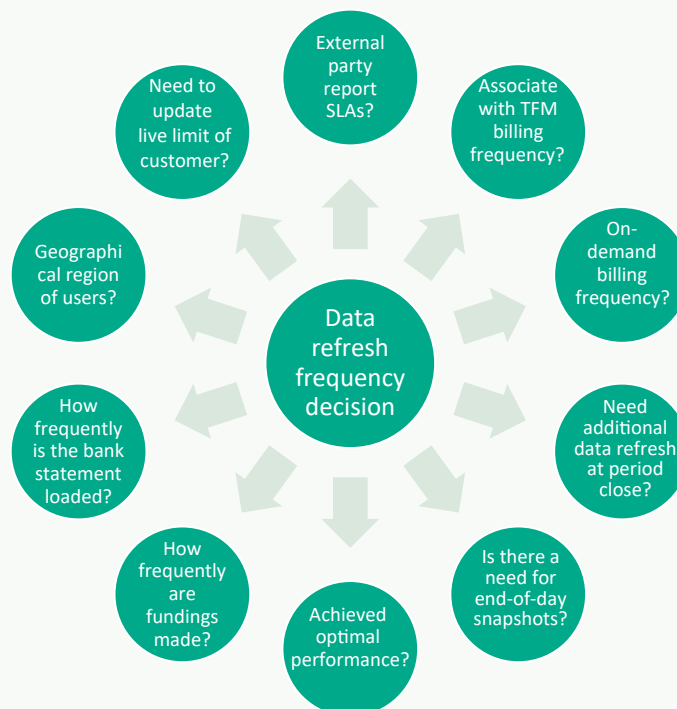


Figure 2: Data refresh frequency decision

## Performance-engineered solution

ETL and reporting solution performance depend on several factors. With the immense size of data and complexity involved in the transformation of data into analytics, the solution must be engineered to provide optimal performance for ETL, reports, as well as the source ORMB system.

The Infosys solution takes into consideration the source ORMB system design in addition to technical aspects, design aspects of data management, and business requirements to deliver optimal performance.

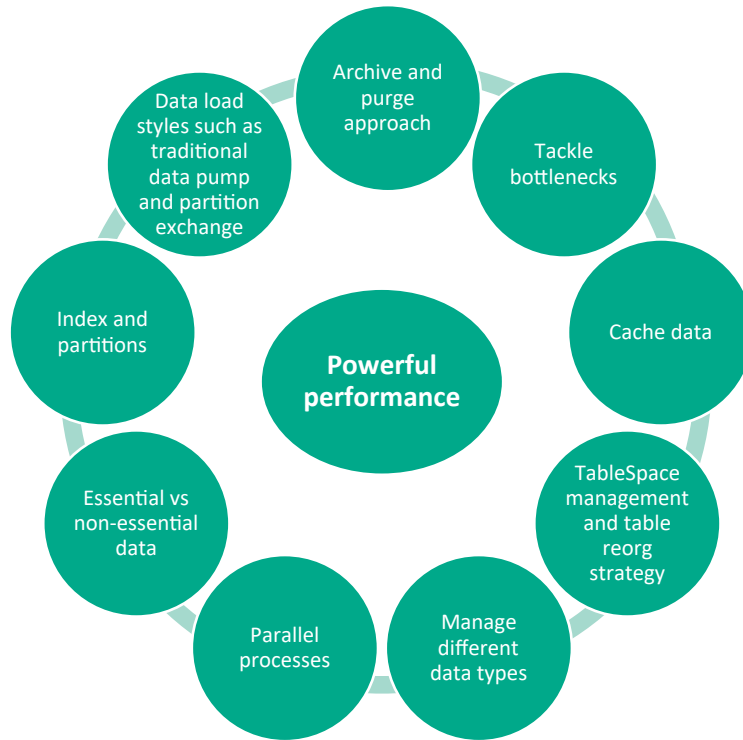


Figure 3: Considerations for performance management



## Cutting-edge analytics

The foremost aspect for generating analytics is understanding the data. The Infosys ORMB practice has vast experience in ORMB implementation and billing transformation across the financial services and healthcare industries. We have leveraged this experience to design a robust and sound analytics solution. It has been built considering popular requirements, historical trends, and predictable analysis.

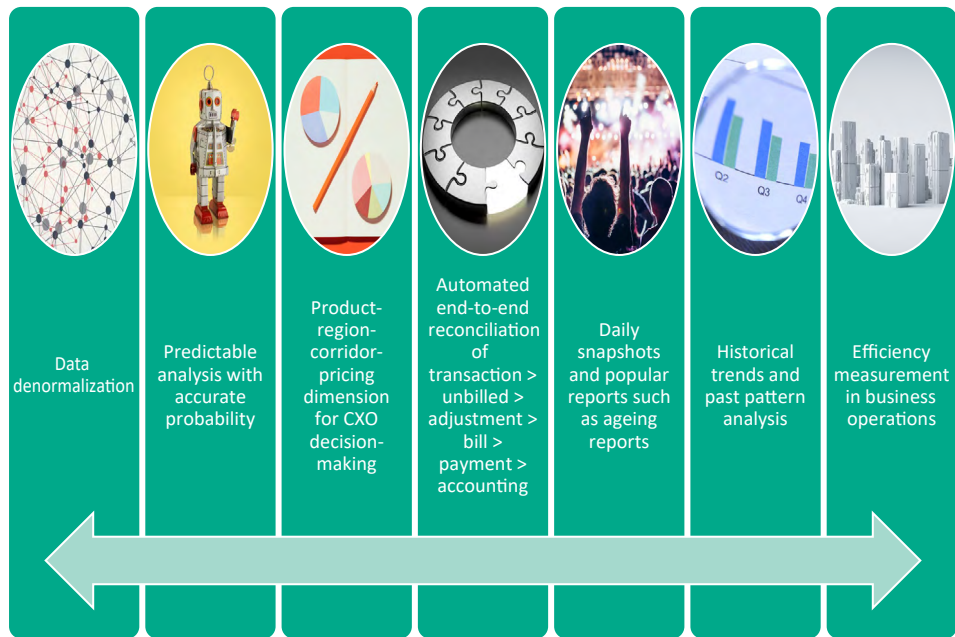


Figure 4: Types of analytics and reports





# Analytics

Home Dashboard Reports

## Audience

- Country
- City
- Status
- Sex
- Age
- Interests
- Collaboration
- Behavior
- Technology
- Mobile
- Custom 1
- Custom 2
- Custom 3
- Income
- Education

Daily Unique Sales by Country



Daily Product Sales by Country



## Conclusion

In today's digital-first world, organizations need to critically evaluate how effectively they are using data and how thoroughly their ETL strategy is planned. The success of billing transformation will depend on a well-designed, executed, and managed ETL solution. With the right ETL solution, CXOs will be able to substantiate their decisions with data and facts. In addition, the operations team will not spend time in manual repetitive tasks and spreadsheet formula-based reports. A well-orchestrated ETL approach is now a business imperative for billing transformation.



## About the Authors



### Ramesh Mantri

Principal Consultant, Infosys

Ramesh is a chartered accountant with over 17 years of experience in IT consulting and delivery. He has successfully guided organizations in their cloud-enablement journeys and spearheaded complex digital transformation programs within the financial services industry. Ramesh has extensive expertise in leading finance transformation, digital transformation, billing and reporting transformation, and implementing ERP and reporting solutions, as well as finance and accounting process implementations.



### Sanket Subhash Udare

Senior Technology Architect, Infosys

Sanket has over 16 years of IT experience which includes more than 7 years of core Oracle middleware and ETL/ELT experience. He has guided the implementation of ETL for reporting and analytics solutions for complex digital transformation programs across the financial and telecommunications industries. Sanket has experience across multiple integration products and is certified in Oracle Data Integration (ODI), Oracle Integration Cloud (OIC), and Oracle Cloud Infrastructure (OCI).

For more information, contact [askus@infosys.com](mailto:askus@infosys.com)



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