



## Business Intelligence – Your Key to Winning in the Downturn

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### About Infosys

Infosys Technologies Ltd. (NASDAQ: INFY) defines, designs and delivers IT-enabled business solutions that help Global 2000 companies win in a flat world. These solutions focus on providing strategic differentiation and operational superiority to clients. Infosys creates these solutions for its clients by leveraging its domain and business expertise along with a complete range of services.

With Infosys, clients are assured of a transparent business partner, world-class processes, speed of execution and the power to stretch their IT budget by leveraging the Global Delivery Model that Infosys pioneered.



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# Executive Summary

## How can we thrive in the economic downturn?

Are you still thinking of this while the questions most often heard in your war room continue to be -

1. Will we survive the downturn?
2. Is our investment in IT having a positive impact on our bottom-line?
3. How can we leverage our existing ERP landscape in helping reduce costs?
4. Can we get higher business agility with reduced IT budgets?

## An efficient and holistic BI solution is the key to your winning in the downturn!

Faster payback, higher visibility to operational efficiencies and a better understanding of customer needs by extracting value from data available within the information warehouse are some of the immediate benefits which BI will drive at while providing an immediate ROI. Now ask your team these questions -

1. Do you have a clear view of the 'Nuts and Bolts' of your operations?
2. Does your Business Intelligence solution help you make prudent decisions and reduce cost?

Are your key business decision makers getting action oriented information at the right time?

To start with a view of the Business Intelligence – Performance Management (BI-PM) jigsaw, the various components of the jigsaw in this section - both from a business and IT perspective would be discussed in this document.

- The Key Performance Indicator (KPI) Matrix forms the core. Business needs the right KPIs to be defined across all the business functions – right from Procurement/Sourcing to Inventory Management, Supply Chain, Production Planning, Human Resources.

KPIs consider your business processes and define how you can measure the efficiency of these processes – **the right KPIs need to be tracked and the right KPI definition is essential to measure your efficiency accurately.**

KPIs present you with a summarized or aggregated view. Once you know where your business is not operating well, you need to be able to act upon it to fix the problem at its root – **you need an analysis trail to drill down and identify the problem**

- Once you have the optimal KPI matrix and analysis trail defined, your business needs to be able to view this information in a way that is intuitive for them, with the right level of information being available to the right people and without having to spend a lot of effort and time in getting this information.

It is essential to understand your users, what they will do with these reports, how frequently will they access the reports, how up-to-date will they need the data to be and how it impacts their business areas – **exploit the features of your BI reporting tools to make it easy and comfortable for your users.**

Some of the functionality seen in the best BI implementations includes dashboards, exceptional alerts, daily/weekly offline report broadcasts, real/ near time tickers, desktop widgets etc.

- With the performance of the business processes covered by the KPI matrix and analytics provided on the same, the other critical areas to cover for business are strategy management, planning, forecasting, budgeting and financial consolidation.

Business agility requires that everyone in the organization is able to execute on changing strategies. Everyone is communicated plans clearly, can translate them into activities by priority, and monitor and report on progress.

Strategic goals, initiatives taken to meet the goals and performance indicators of goals need to be integrated for the business to have a clear view of where it is headed – **your goals and KPIs defined across functions need to align to ensure that what you measure helps you achieve your business goals**

Forward looking and agile enterprises cover all aspects of planning holistically right from sales and revenue planning, to capital expenditure planning,

headcount and salary planning, expense planning, and cash flow planning.

There is a vital need to be able to compare the plans with the actuals as they occur and take corrective actions to be more aligned and predictive on the results. Reducing cycle times for planning and budgeting processes and improving user productivity is often a key consideration– **cycle time for creating and approving budgets can be considerably reduced by using a collaborative top-down and bottom-up approach**

The planning process however can often be a chaotic and ineffective process with managers submitting unrealistic budgets and executives changing numbers without the information passing to the managers and too many spreadsheets being used without appropriate or automated version control. Your implementation needs to address these challenges.

The financial and statutory consolidations can be equally problematic when data is distributed across different departments, systems, and even countries.

Inter-company matching, reconciliation and eliminations, currency translation, allocations, management roll-ups, and legal consolidation are the key activities of this process that need to be taken into consideration when implementing the consolidation solution.

- Having covered three major components of the jigsaw we now come to next one that is many a times not given the importance that it should be given and leads to the failure of numerous BI programs. This component deals with various facets of 'Governance'.

Data quality and governance is one such aspect. Consider an example where for a key figure like 'Net Sales' if a business user see different values (for a set of dimensions) in different reports, the user will not understand which one (if any) is right and will lose confidence in the information the BI solution provides – **consistency of data between reports and data marts, traceability of data from an aggregated to detailed level as well as back to the source system are must haves for an effective BI environment**

Similarly in another example, if an organization has its enterprise functions running in multiple systems across the regions and system 1 identifies a customer as A while system 2 identifies the same

customer as B. If BI reports aggregated at the customer level treat customer A and B differently many wrong decisions could be taken that impact the business significantly – **management of master data, business rules for data integration and governance of data are essential to ensure your business makes the right decisions that drive growth**

Other important aspects of governance include the BI organization structure, business representatives need to be a part of the BI organization - **BI is not just a technical implementation**

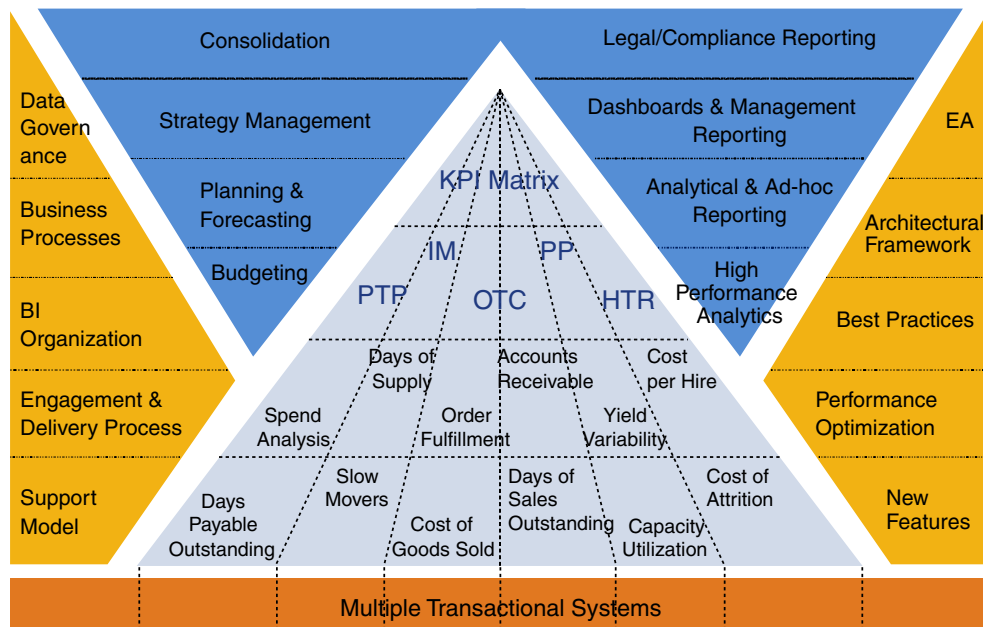
Equally important is the way in which the BI implementation program engages with the different business functions and the delivery and development model and processes followed. Ensuring stakeholder buy-in is of utmost importance in a BI program – **the need to work closer with the business and following more agile and flexible processes (where required) is imperative in BI**

Once the BI applications go-live, it is also important to ensure a robust support model. Business BI leads, key/super users need to be a part of the support organization help move towards value realization of the solution implemented. A proactive support environment needs to be set up such that the system health is regularly checked and parameters maintained for attaining optimal performance and future growth – **the goal should be to increase BI usage and reduction in the number of tickets being raised**

- Finally from an IT/IS perspective the BI program also needs to be aligned with the IT strategy and Enterprise Architecture. The implementation should follow the prescribed design guidelines and best practices across implementations in the industry.

Optimal performance such that timely and up-to-date reports are available to the business needs to be ensured.

Multiple support packs, version upgrades are usually made available from the product vendors that provide better and improved features and functionality, a strategy for upgrading the BI landscape to the latest support packs or versions must be made to avail and exploit the new functionalities – **a sandbox environment where prototypes are being developed and demonstrated for cost benefit analysis and gauging business & technical impact is a good practice**



EA: Enterprise Architecture, KPI: Key Performance Indicator, PTP: Procure to Pay, IM: Inventory Management, OTC: Order to Cash, PP: Production Planning, HTR: Hire to Retire, BI: Business Intelligence

Infosys has helped its customers implement effective BI solutions by putting together different components of the Jigsaw that are just discussed and establishing frameworks that accelerate the implementation and evolve the BI program to a higher maturity.

Some examples of how these BI solutions and frameworks from Infosys have helped our customers are as follows:

### Business Intelligence Competency Center (BICC)

Infosys defines BICC as “A permanent, cross-functional, formal organizational structure that includes representatives from the business units and IT, to advance and promote the effective use of business intelligence to support the organization’s business strategy”. Based on our experience in multiple BI implementations across technologies and industries, Infosys believes that a BI organization needs sufficient internal representation from the companies IT and business units to be able to increase the adoption of BI within the organization, build right channels of feedback from the user community and to ensure effective use and value realization from the BI environment. BICC addresses this and several other overarching aspects of a BI implementation.

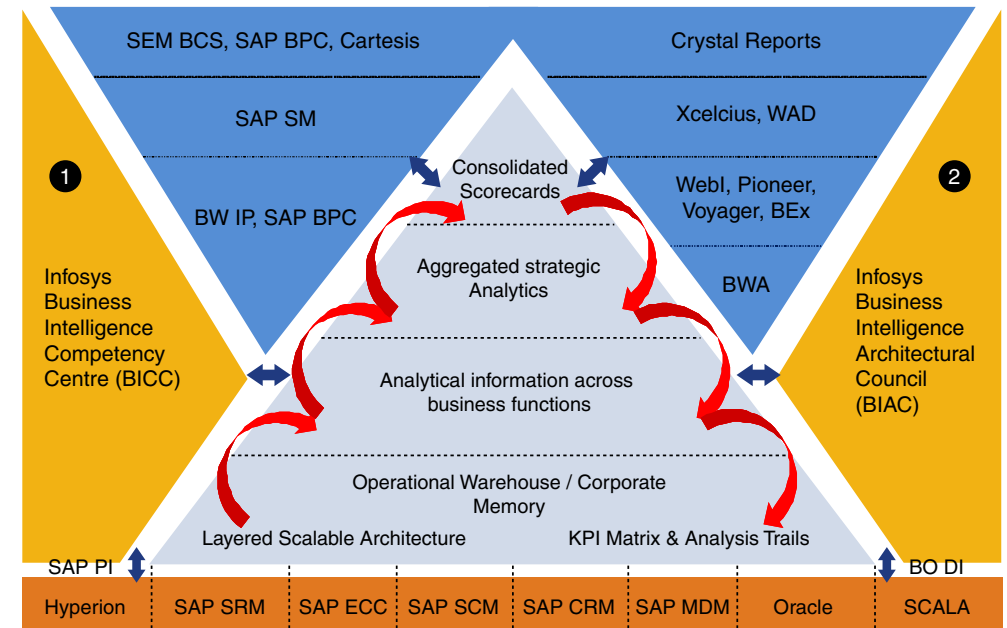
Infosys has put together a framework solution on BICC to help its customers assess the maturity of its BI environment, understand the different models possible and build a model that would work best for their organization. There are five pillars of our solution:

- BI Strategy
- Governance
- Processes
- Delivery Excellence
- Operations and Support

*One of our large global customers in the chemical manufacturing space has built its BI organization with functional business representation at a regional and country level together with a central core team. The regional/country leads have been able to save millions of dollars by working together and reusing 70-80% of reports built for a region with some localization.*

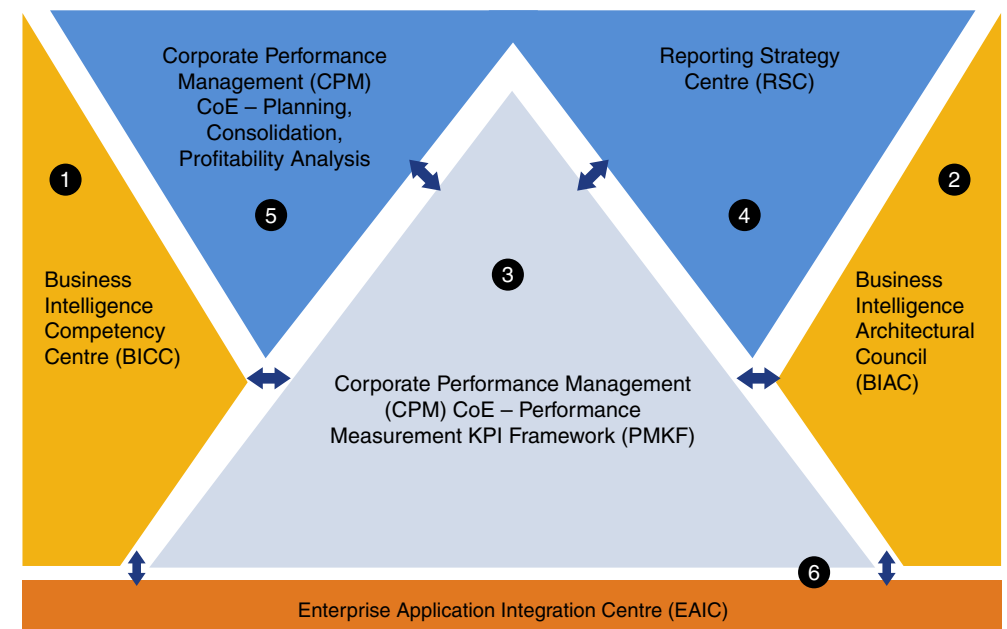
*For another of our mining and energy customers a support model has been built where any problem that repeats more than 5 times needs a root cause analysis and be resolved either through a workaround or a permanent fix. Over one year the ticket volumes have reduced by 20% with high savings on maintenance costs.*

“Infosys can help your enterprise fit together pieces of the BI jigsaw and achieve an efficient and effective BI landscape that sustains business agility and increases return on investments.”



BCS: Business Consolidation, SM: Strategy Management, IP: Integrated Planning, BPC: Business Planning & Consolidation, WAD: Web Application Designer, WebI: Web Intelligence, BEx; Business Explorer, PI: Process Integration, DI: Data Integration

Figure 2: Infosys fits together the pieces of the BI-PM jigsaw



CoE: Centre of Excellence

Figure 3: Infosys end-to-end BI solutions and framework help its customers win with BI

## Business Intelligence Architectural Council (BIAC)

This is a team of experts hand-picked across multiple engagements for their technical and architectural abilities. This team provides our BI practice with the architectural models and framework, design guidelines, accelerators for the implementation and support, and also helps review complex designs for different projects on request.

The architectural council team also collects information on industry best practices, upcoming BI trends, new tools available in the market etc and shares the same across our BI consultant pool. This information is then used for across our various customer engagements to be leveraged in the BI environment as best as possible.

This council is also responsible of coming up with utilities or tools that help cover some of the product gaps and help the projects and customers improve productivity and reduce costs. Example of such tools are provided in Figure 5.

*Our largest oil and gas customer in the UK followed the same BIAC model for its BI implementation. The BIAC has a 360° view of the EDWH implementation; it not only defines standards,*

*frameworks, processes but also ensures that they are followed. Innovation and use of new features available is the mantra. The customer has one of the most successful BI implementations and has been able to effectively tune operational efficiencies and reap business benefits with the visibility that their BI implementation provides.*

*One of the world's leading life sciences conglomerate implemented SAP BI as its enterprise datawarehouse (EDWH) following a layered scalable architecture (LSA) and best practices as suggested by our BIAC. The implementation today houses 3 TB of data (grown from 500 GB in 2 years) and 2000 users including senior management. The robust architecture has laid a strong foundation for future growth and ensures a healthy system with data being available to users in time (loading as well as reporting).*

## Corporate Performance Management (CPM) – Performance Measurement KPI Framework (PMKF)

The traditional approach to performance management has been silo'ed and focusing on narrow unit or function limits. They have been managed through existing functional or business processes without an integrated and cross

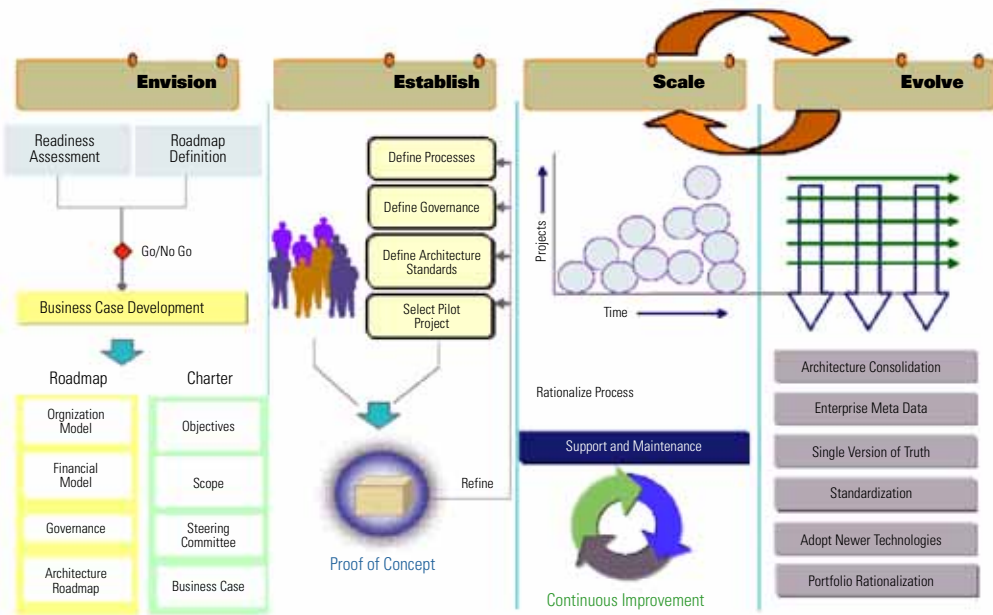


Figure 4: BIAC at Infosys

Solution / Tool	Brief Description	Value Adds
Automated Workbench	<ul style="list-style-type: none"> <li>A workbench which takes input in the form of DataSource name, the Source System, the name space of the 'InfoObjects' and then automatically creates the InfoObjects</li> <li>It also helps in creation of InfoCubes, MultiCubes and DSO based on an Excel input</li> <li>Helps in automatic creation of Objects in the Admin Workbench and particularly useful in roll-out scenarios when similar objects need to be recreated based on a template</li> </ul>	<ul style="list-style-type: none"> <li>Saves development time of up to 20%</li> </ul>
SAP BW Metadata Comparison Tool	<ul style="list-style-type: none"> <li>This tool helps the developer to track object inconsistencies across the SAP BI landscape i.e. enables easy comparison of metadata across different SAP BI systems in a landscape</li> <li>The tool is useful in an environment where multiple developments happen in parallel</li> <li>It can also be blended easily with the existing development process to ensure quality</li> </ul>	<ul style="list-style-type: none"> <li>Prevents inconsistencies</li> <li>Facilitates parallel developments</li> <li>Ensures quality</li> </ul>
ABAP Checker	<ul style="list-style-type: none"> <li>This utility helps check the ABAP code written within update rules for best practices</li> <li>Deviations from ABAP best programming practices are high-lighted to check the quality</li> </ul>	<ul style="list-style-type: none"> <li>Ensures quality before movement of Objects to the next landscape</li> </ul>
Daily Load Checker	<ul style="list-style-type: none"> <li>This tool was created for checking the loads in the BW system</li> <li>It provides a quick view of all successful/failed loads</li> <li>Navigation to the failed steps of Process Chain is much easier</li> </ul>	<ul style="list-style-type: none"> <li>Saves monitoring effort</li> <li>Saves reporting and handover effort</li> </ul>

Figure 5: Illustration of tools and their benefits

functional approach while strategic and operational performance issues arising out of changed industry dynamics are often overlooked.

Our performance measurement KPI framework for pervasive performance management is based on

metrics and KPIs, actionable visibility, roles based analytics and flexible collaboration.

The four step approach to definition of the KPI framework and capturing business requirements is illustrated in Figure 7 in the next page

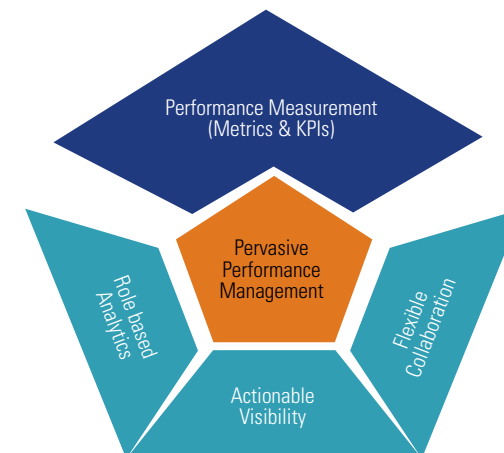


Figure 6: Performance Measurement KPI Framework

## Business Requirement Definition

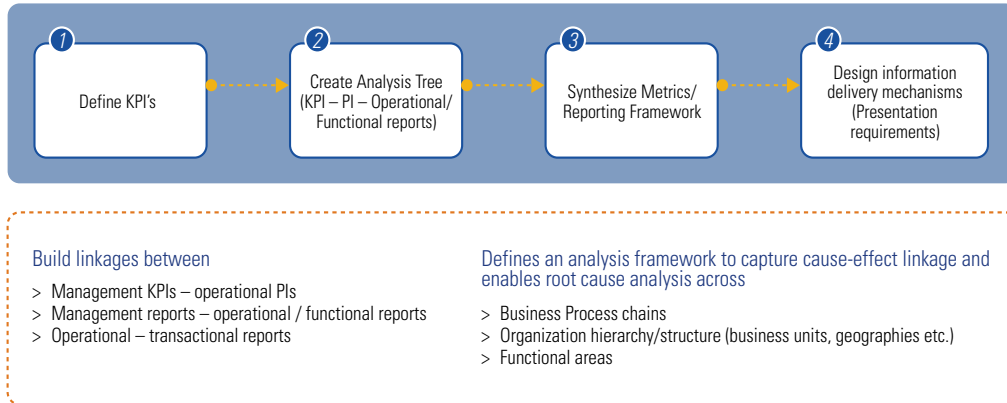


Figure 7: Business requirement definition to define the KPI Framework

One of our leading agribusiness customers sought Infosys help to define a KPI matrix for a green field implementation. Infosys used the PMKF approach to identify the key processes through interviews with the business core team, defined the key objectives and mapped them on a balanced scorecard, defined the KPIs and analysis trails, identified the reporting needs and put together the dashboard design using a cognitive architecture approach. The solution presented the customer with the ability to conduct root cause analysis for business success or failure and helped in making effective business decisions. The solution is currently under implementation for North America after which it will be rolled out for other regions across the globe.

For one of our customers which is a world leading pharma organization, we provided the management and finance organization year-to-date KPI tracking, updated weekly regional sales forecasts, profit and loss forecasting by region and other financial metrics. As per the business director "The BI solution provides standardization of reporting and how analysts and top management looks at the business, it also eliminates emails and multiple versions of reports, decreases errors and gives a clear 'screenshot' of business performance. Data is now available, within seconds, at the click of a button and the business saves more than 70 hours a month."

## Reporting Strategy Centre (RSC)

The right information needs to be made available at the right time to the right person for the right decisions to be made.

The reporting strategy should enable decisions at all levels of users, define tools that support the required reports and users and facilitate user adoption of the BI environment. Infosys RSC supports its customers on this.

From a technology perspective, aligned with SAP's roadmap, currently the focus is on NW BW and BI BO integration and report disposition considering the tool set available with BI BO. Another focus area is performance management of reports and the BWA implementation guidelines and laboratory tests.

One of our chemicals manufacturing organization was looking for management reporting, apart from the dashboards on sales, finance and inventory we implemented a sales ticker which flashed across the portal giving up-to-date information on the sales achieved. This was a very useful facility for the sales managers who did not need to log into any reports to understand what their current sales were, the facility was also very useful for sales representatives especially during month-end and quarter-end closing when sales targets were most crucial to be tracked.

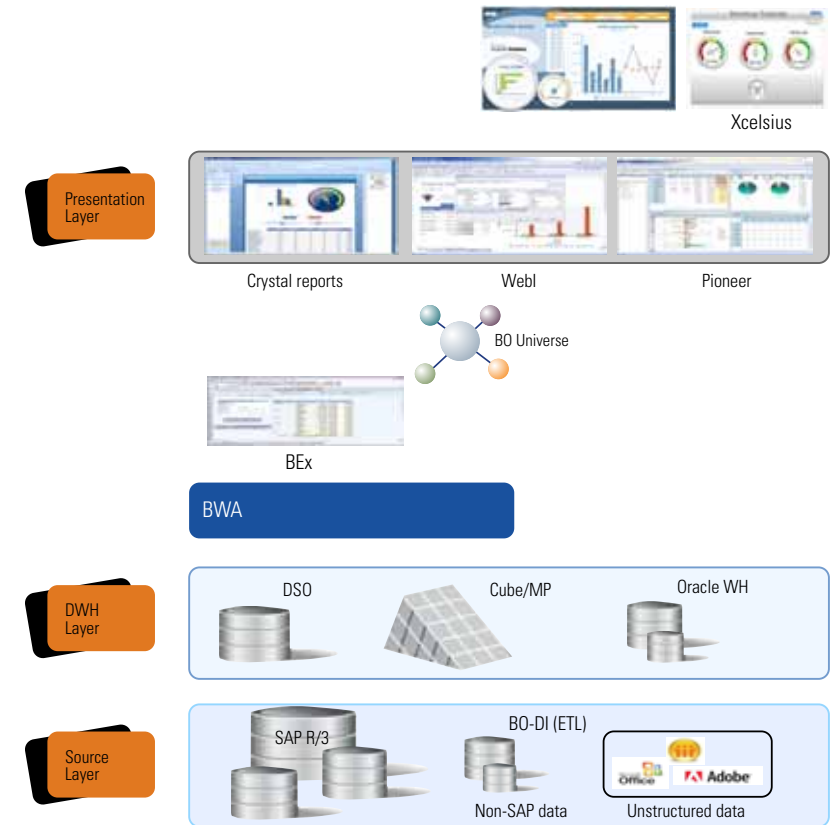


Figure 8: SAP NW BW and BI BO Architecture and Toolset

We are currently working with many of our customers to define the reporting strategy ahead and how they can align with SAP's roadmap. As a part of this exercise many PoCs on the BO reporting tools, integration aspects with BW, BO, EP, authorization between BW and BO, performance and BWA usage, etc, have been implemented. Our learnings, point of view and recommendations are captured to help other customers get onboard quickly and also regular discussions with SAP help us stay abreast with the features and tighter integration available with upcoming versions.

## Corporate Performance Management (CPM) CoE – Planning, Consolidation & Profitability Analysis

Infosys CPM CoE for planning, consolidation and profitability analysis works on two aspects – the business process and the tools available for the same.

From a business perspective it outlines the business processes of planning, consolidation and profitability analysis, the different scenarios that exist for these, the critical activities of the processes, best practices from customers as well as industry verticals and creates process maps and scenarios that help accelerate our implementations.

From a tools perspective it works with SAP's FPM roadmap and implements the business scenarios using SAP Strategy Management (SSM), Integrated Planning (IP), Business Planning and Consolidation (BPC), Business Consolidation (BCS) and Cartesis.

For one of our agribusiness customer, we implemented a planning application for sales and operational planning for a 24 months rolling forecast. This forecast was also fed to the SCM system on the basis of which the S&OP figures were frozen. Apart from streamlining the process and providing all users with a single common planning platform the application was able to reduce the cycle time substantially by also providing offline planning capability.

### Enterprise Application Integration Centre (EAIC)

To ensure enterprise agility it is essential for your BI environment to have easy and fast connectivity to heterogeneous source systems. It is also required that the data is clean and the data quality issues can be assessed and resolved at the source itself.

The EAIC at Infosys works in this area with the BO Data Integrator (BO DI) and Process Integration (SAP PI).

The focus of this document has been to introduce you to the various aspects of BI that help you look at your implementations more holistically, and how such an effective and holistic BI-PM implementation can enable you to take better business decisions and bring more agility to your business.

**Infosys has helped many of its customers achieve this business agility through the collaboration of all aspects of the BI-PM framework giving them increased governance, improved visibility to their business performance for increasing operating efficiencies and thereby reducing TCO and increasing the ROI in BI!**

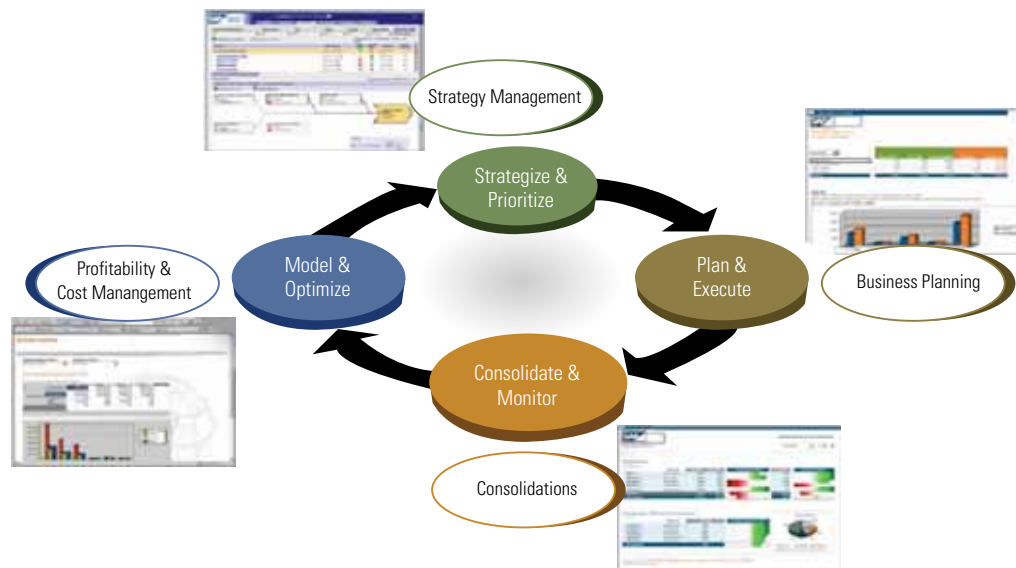


Figure 9: FPM in focus

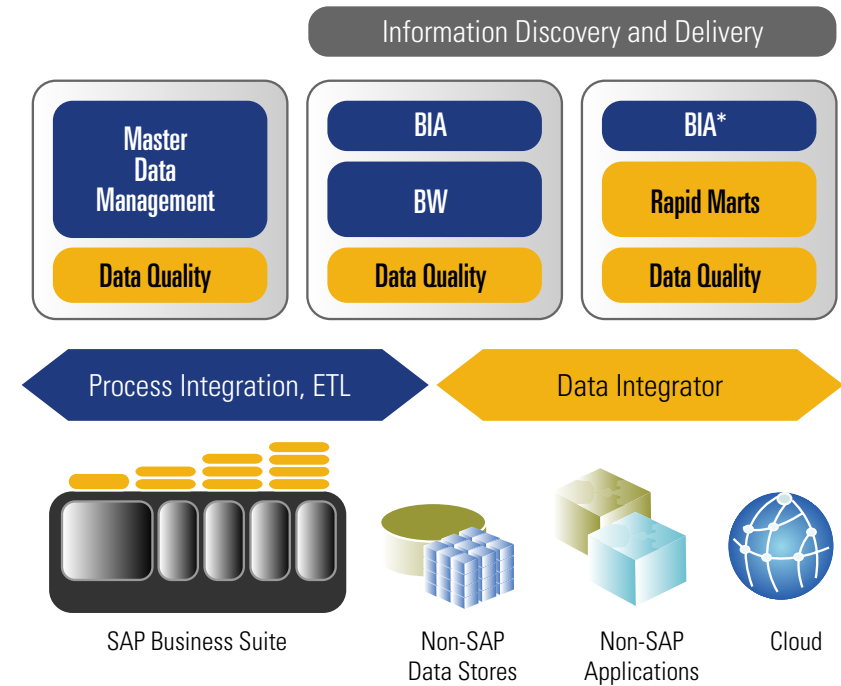


Figure 10: Data Integration



Figure 11: BI visibility for improved business agility

BI Practice	<ul style="list-style-type: none"> <li>• 5000+ dedicated professionals in DW/BI Projects</li> <li>• Constituting over 10 CoEs in multiple BI platforms</li> <li>• 550+ successfully executed projects in DW</li> <li>• 250+ active client relationships</li> <li>• Strong focus on functional expertise</li> <li>• Focused people development through trainings and certifications</li> <li>• Majority clients include Fortune 500 companies</li> <li>• Presence in Americas, EMEA and APAC</li> </ul>
SAP NW BW and BI BO	<ul style="list-style-type: none"> <li>• 1400+ consultants</li> <li>• More than 90 active projects</li> </ul>
Technologies	<ul style="list-style-type: none"> <li>• SAP suite including Business Objects, Oracle suite, Hyperion, Siebel Analytics, Cognos, Informatica, Teradata, Microstrategy, Abinitio, Microsoft suite</li> </ul>

Industry Verticals	<ul style="list-style-type: none"> <li>• Manufacturing</li> <li>• Automotive</li> <li>• Insurance, Healthcare and Life Sciences</li> <li>• Retail</li> <li>• Logistics and Distribution</li> <li>• Banking and Financial Services</li> <li>• Media</li> <li>• Telecom</li> <li>• Oil, Energy and Utilities</li> </ul>
End-to-End Services	<ul style="list-style-type: none"> <li>• Bi Strategy and Roadmap</li> <li>• BICC Set-up</li> <li>• Architecture Consulting</li> <li>• EDW Implementation and Rollouts</li> <li>• Application Support and Maintenance</li> <li>• Upgrade</li> </ul>