Pharmaceutical Sales and Marketing

A Rapidly Evolving Business

**As sales and marketing spends exceed $20 billion,
Can BIPM transform the industry?**

ABSTRACT

Pharmaceutical industry mechanics are changing at an incredible rate. Millions of dollars are being spent in drug discovery, which is followed by a rigorous clinical trial process leading up to the drug administration agency's approval to allow the drug to hit the market. The drug development process thus has a typical cycle time of 10-15 years. A great deal more is spent on marketing these drugs to boost sales. The window of profitability lies only until the patent is alive after which generic companies can manufacture and market the same drug. To maximize revenue returns, drug-marketing cycle needs to be more efficient. Over the years, revenue per sales person is falling and sales force effectiveness is reducing. While sales representatives are being added, the increase in revenue is not aligned to this cost. Companies are looking at initiatives to increase revenues without increasing sales headcount, by reducing operational costs and other downtime. While most other sectors have taken up Business Intelligence and Performance Management drives more easily Pharmaceutical firms have been a little reluctant to embracing this emerging technology.

This whitepaper is intended to illustrate the potential that BIPM holds for pharmaceutical firms in the area of sales and marketing.

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ACRONYMS AND ABBREVIATIONS

B2B	Business-to-Business
BI	Business Intelligence
BIDS™	Business Intelligence for Decision Support
BIPM	Business Intelligence and Performance Management
COE	Center Of Excellence
CRM	Customer Relationship Management
DDD	Drug Distribution Data
DTC	Direct-to-Consumer
DTP	Direct-to-Prescriber
EAI	Enterprise Application Integration
ETL	Extraction Transformation and Loading
FDA	U.S. Food and Drug Administration
HCP	Health Care Practitioner
ILTC	Intermediate and Long Term Care
KM	Knowledge Management
LTC	Long Term Care
MC	Managed Care
OTC	Over the Counter
ROI	Return On Investment
TMM	Technology Maturity Model

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THE CHANGING PHARMACEUTICAL INDUSTRY

Pharmaceutical firms often correlate their sales force size with the success of sales and marketing drives. Over the years, it has been found that size of the sales force alone cannot tackle competition. While the sales representatives are being added, increase in revenue is not aligned to this cost and revenue per sales person is falling. As is indicated in the graph (fig 1) *(Source: Eye For Pharma)* increase in Sales Force Effort after a certain period only leads to marginal improvement in sales response.

Did you know?

- The Pharmaceutical Industry spends more than $10 billion, largest amount spent on sales force by any industry
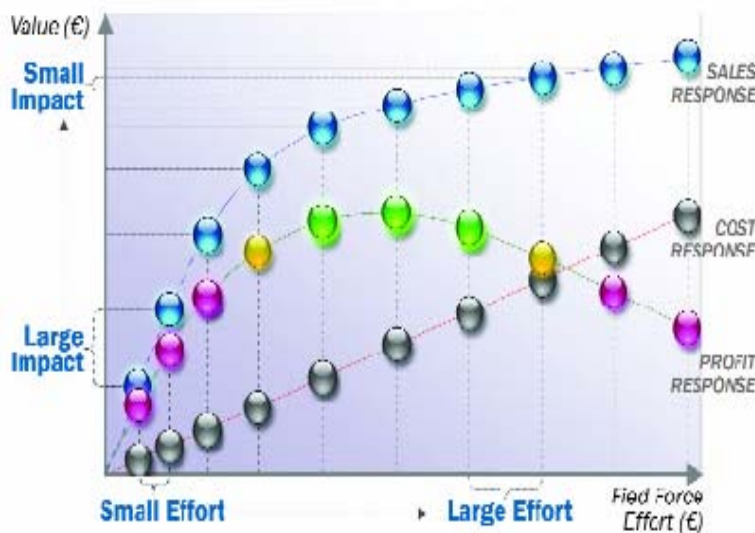- Marketing spend is 2.5 times the R&D spend for top 9 pharmaceutical firms

Figure 1 - Sales Response vs. Sales Force Effort *(Source: Eye For Pharma)*

Adding to this are the increased regulatory issues and faster patent expirations facing pharmaceutical firms, which lead to longer review cycles followed by shorter periods to corner a market. As practitioners are becoming overwhelmed with the increasing number of patients, they have very little time to spend with sales representatives learning about new drugs. Apart from doctors, decisions regarding new drugs are made by hospitals, clinical administrators and patients as well who are becoming increasingly participative about their treatments. Therefore, at a time when clinical trials are already becoming more complex and data intensive sales force optimization has become a big challenge.

Pharmaceutical sales and marketing expenditure (for sales force, free drug samples, DTC, DTP programs etc) exceed $20 billion annually. IMS Health data indicates that $15.7 billion was spent on Physician-directed promotion alone in the year 2000.

HOW DOES PHARMACEUTICAL SALES & MARKETING FUNCTION

Pharmaceutical Sales and Marketing processes can be classified under three main categories:
- Business-to-Business
- Marketing

▪ Sales

Figure (2) summarizes the business processes across above-mentioned categories.

B2B
- Contract Management and Pricing
- Prescription Validation
- Rebate and Chargeback
- Medicaid and Pricing

SALES
- Quota Setting
- Incentive Planning
- Call Plan Development
- Performance Dashboard Generation
- Market Sampling and Segmentation
- Product Target List Development
- New Product Launch Tracking

MARKETING
- Call Center
- eMarketing
- DTC Advertising
- Pharmacy POS promotions
- Thought Leader Initiative
- Patient Education
- Relationship Marketing
- Co Promotions
- Public Relations
- Consumer Advocacy
- Sample Packaging
- Direct Response Marketing
- Event Marketing
- Grass Roots Marketing

Figure 2 - Pharmaceutical Sales and Marketing Business Process Spectrum

B2B: The onus of winning large deals lies on B2B sales. B2B specialists constantly work with large hospitals, clinics, managed care, and ILTC facilities to build and sustain long-term relationships and negotiate multi-million dollar contracts.

Marketing: Pharmaceutical marketing is a strategic function. The marketing efforts vary from campaigning for a new product launch to conducting Direct-to-Customer road shows promoting patient awareness.

The organic growth of the internet and google-ization (extensive internet searches using engines such as Google) of masses has made the consumer highly informative and curious about patient treatment. The traditional DTP route of marketing the drug to the doctors has gradually yet significantly shifted to innovative DTC marketing.

The pharmaceutical consumer marketing in itself is more challenging than conventional DTC. As shown in Figure (2) consumer marketing is any intervention that influences consumer attitude/behavior towards an Rx product. This makes it more complex as compared to marketing in other industry sectors. The subtle marketing channels such as gaining interest of various thought leaders to generate favorable ideas on a drug are being employed by almost all pharmaceutical majors.

Sales: Pharmaceutical sales force is perhaps the most dynamic work force across all verticals. Sales function today is not just about sampling and detailing the drugs to the doctors. It has taken

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a whole new dimension in using the latest technology and multimedia to target the most influential physicians and converting them into high volume prescribers.

THE PHARMACEUTICAL PRODUCT LIFECYCLE

Pharmaceutical marketing activities depend largely on the stage in which a particular product is within the product lifecycle. Following represents a generic pharmaceutical product lifecycle. (*Products may vary greatly and the lifecycle stages may not manifest uniformly for all products*)

1. Introduction Stage: A new product is introduced to the physicians and either cures a disease in a different manner than existing therapies or is a totally new treatment in its own right. At this stage, sales future is uncertain and direct competition is very low.

2. Growth Stage: The new product receives widespread acceptance from the medical community and number of competitors increase. Promotion activities at this stage focus on advocating their own brands and sales volumes increase.

3. Maturity Stage: The effectiveness of the product is well established at this stage and promotional activities focus on selling the product to large volume buyers. Competition on the product line reaches an all time high

4. Saturation Stage: The product is typically used for all indications it is found useful for at this stage. A number of product variants such as dermatological, tablets, capsules etc. appear and promotional activities focus on adding extra value.

5. Decline: Decline may or may not happen and is primarily caused by identification of certain areas where the product was thought to be effective but is not. Some competitors leave the market at this stage.
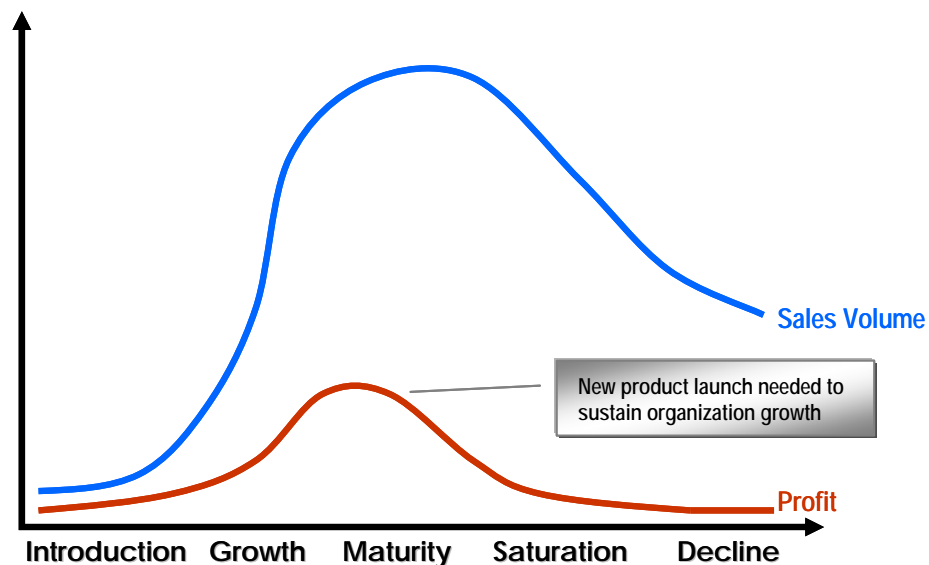

Figure 3 - Product Life Cycle in Pharmaceuticals

As indicated in figure (3) increase in sales volume is highest at the Growth stage and becomes stable at the Maturity stage before falling gradually at saturation stage when generic marketing takes hold. It is at this stage that new products must be launched to sustain the organization's steady growth.

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THE CHALLENGE OF IT IMPLEMENTATION IN PHARMA

The Pharmaceutical industry functions in a unique environment as compared with other industry verticals. Highly regulated nature of the pharmaceutical business makes specific functions associated with these processes distinctly different. TCS believes that unlike other industry verticals generic software products cannot be uniformly applied to meet unique requirements of the pharmaceuticals industry.

Following are some of the crucial differences in the way pharmaceutical sales and marketing operate:

- Pharmaceutical Sales does not have the usual manufacturer-wholesaler-retailer structure. It is more of an alliance-based network involving multiple groups and targeted physician selling.
- Multiple stakeholders are involved in sales and marketing processes such as physician, patient, insurance firm, pharmacy benefit manager, manufacturer and wholesaler.
- In general, new drug development is expensive and risky with a small probability of success. This makes it further difficult to maximize ROI in the sales cycle.
- Promotion of pharmaceutical products cannot be done like other products except for OTC drugs and have to follow stringent guidelines laid out by FDA.

Below is a cost distribution of the pharmaceutical value chain. Marketing and Distribution contributes to nearly a third of the total cost and has a huge potential of ROI improvement.

PHARMACEUTICAL VALUE CHAIN COST DISTRIBUTION	
VALUE CHAIN STAGES	COST DISTRIBUTION
R&D Cost	15%
Primary Manufacturing Cost	5 – 10%
Secondary Manufacturing/ Packaging	15 – 20%
Marketing/ Distribution	30 – 35%
General Administration	5%
TOTAL	100%

(Source: Whitepaper released by CII-Institute of Logistics viz. "Pharmaceutical Supply Chain Challenges and Best Practices", Dec 2004)

It is therefore important to make correct information available to the sales force at the right time so that they are more effective in dealing with customers. How does BIPM embark on these challenges and what potential does it hold towards improving productivity and effectiveness of Pharmaceutical Sales and Marketing?

PHARMACEUTICAL SALES AND MARKETING ANALYTICS

Business analytics driven by state of the art business intelligence solutions is gaining enterprise wide acceptance for various industry verticals. Management today craves for solutions that will ferret out organization's data and make information easily accessible for in-depth analysis. The bedrock requirement is to be able to use this information to make informed business decisions to sustain profitability.

Given the challenging nature of pharmaceutical sales and marketing business process, analytical solutions with quick time-to-market are the need of the hour. Pharmaceutical sales and marketing function presents number of natural business activities, which render themselves for analytics. TCS BIPM, with years of business intelligence solution experience in its repertoire can aid in business performance though simple, scalable and integrated analytical solutions.

SALES AND MARKETING DATA WAREHOUSE

Case Study: Data warehouse for Sales Force and Marketing Research Operations

- TCS has implemented a data warehouse intended to meet demands of sales force operations and marketing research operations for a leading pharmaceutical firm
- The data warehouse is capable of loading IMS, Product, Sales Force Alignment, Health Care Professional and Activity data
- Potential benefits to the customer include but are not limited to:
  - ✓ Consolidated source of real time analytical information
  - ✓ Improved decision making
  - ✓ Improved efficiency of data output
  - ✓ Timely access to doctor and managed care Rx Data
- Reporting and Analytics that can be obtained from the data warehouse are:
  - ✓ Sales Activity Dashboard
  - ✓ Sales Performance Dashboard and Payout
  - ✓ Competitive Sales Report
  - ✓ Sales Force Sizing Analysis
  - ✓ Sales Force Effectiveness Analysis

A sales and marketing data warehouse can make real-time data available to sales representatives making decisioning effective in a complex and dynamic environment. Pharmaceutical firms typically deal with different types of data residing across disparate systems, which makes obtaining consolidated reports from them quite cumbersome. A data warehouse can be designed to load multiple types of data from multiple source systems into a centralized repository making it possible to get concise and accurate reports without spending too much effort in querying the data sources.

Sales data warehouses also help senior management to monitor the effectiveness of their sales force by providing easy access to field data. They can also forecast and manipulate deployment of sales forces by accessing market and competitor data.
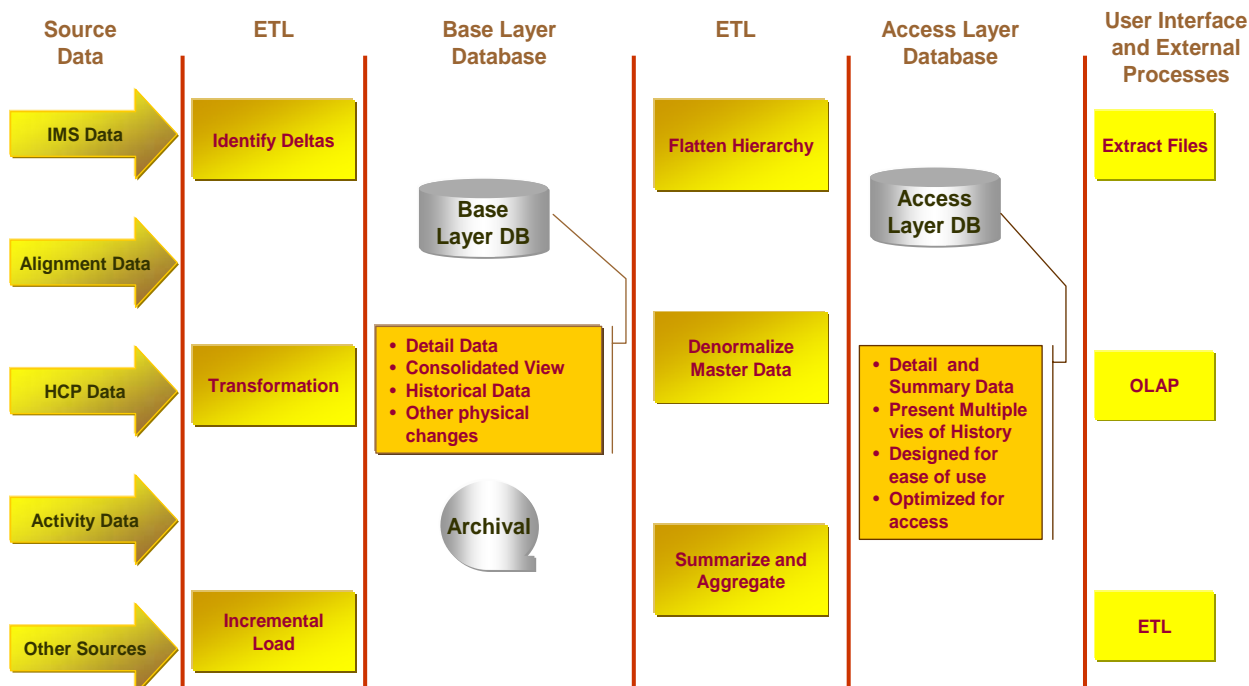
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Figure 4 - Pharmaceutical Sales and Marketing Data Warehouse Architecture

SALES ANALYTICS & REPORTING

DATA QUALITY & INTEGRATION

Pharmaceutical sales function is often marred by poor data quality. A lot of customer data about the physician profiles and addresses comes from the sales CRM systems. Inadequate system constraints concerning level1 (data format), level2 (data values) and level3 (business rules) checks lead to data inconsistency and undermines processes such as physician targeting, marketing, quota setting and incentive management. Data quality initiatives based on integrated data management architectural strategy improves the data quality. Business objects where data quality issues are most pressing are as follows:

- Physician profiling (Names, Addresses and Specialty)
- Alignments (Physician alignment and Sales force alignment)

BIPM data quality solutions based on state-of-the-art data integration tools help alleviate data quality issues.

DATA COLLECTION AND AVAILABILITY

Sales data collection and accuracy are crucial processes for the pharmaceutical sector. Pharmaceutical companies most often rely on information management vendors (e.g. IMS in the US) for drug sales data figures. The sales determination depends on type of drug and sale channel. Typically following types of sales data is made available:

- Sales data as prescriptions (Rx) [number of new prescriptions (nrx) and including refills (trx)] captured from pharmacies with prescriptions at doctor level (sold by IMS as Xponent data)
- Sales data in dollars aggregated for hospitals, LTC and Managed Care organizations or at US postal zip code level (sold by IMS as Drug DDD)

As one would expect, this data collection process and consolidation is a time consuming activity, typically the time lag is of month before sales data is made available for analysis. Moreover, Xponent data is only 75-85% real data and rest 15-25 % is projected based on various projection methodologies. DDD data is real (accurate) data. In addition, the data is always bought with historical sales figures. In the subsequent deliveries, the historical figures are also refreshed, taking into account the realities of drug returns and chargeback.

The huge volume of data resulting from the need to refresh historical sales data makes it challenging for IT to load and store it in database. On an average it takes usually a month and a half before the analytical reports can be made available to sales analysts. Quick time-to-market is an essential requirement for pharmaceutical analytics and can be addressed by effective decision support tools.

MARKET SEGMENTATION AND COMPETITIVE SALES REPORTS

One of the most intuitive sales reports is analyzing the drug sales against its competitors. Pharmaceutical business analysts create market baskets per therapeutic class (disease category) to define drugs in a particular market segment. Competitive sales reports analyze the sale of a particular drug against its competitor drugs as defined in the market basket. Creating the market basket definition in itself is an interesting analytical activity. A drug is manufactured in variant dosages. It might be informative to analyze each individual dosage against its competitive drug or analyzing combinations of these dosages against competition might yield more insightful information.

SALES FORCE OPERATIONAL EFFECTIVENESS THROUGH ACTIVITY DASHBOARD REPORTING

Typically, pharmaceutical sales force is organized as the Conventional sales force and B2B sales force. Conventional sales forces represent a fleet of sales representatives who aim at influencing the drugs prescribed by physicians by "detailing" products and handing out samples.

Activity dashboards help analyze exactly how effectively the individuals in the sales workforce are targeting physicians. Activity dashboard is constantly evolving with every new physician marketing tool. Typical activity dashboard will report following types of activity metrics

- How many calls per day does a sales representative make to physicians? (Call frequency reporting)
- How many doctors attend programs organized by the sales team? (usually segregated further by brand, tier to which a doctor is categorized and type of program)
- How many types of programs does the sales team organize?
- How many calls of the physicians are sampled? (Sampling)
- Miscellaneous (e.g, how many doctors were shown product DVD during a call?)

Activity dashboards are no doubt an important sales reporting tool. The challenge is to develop a reporting solution that is highly flexible as the dashboard requirements are constantly varying. A reporting solution based on BIPM sales and marketing data warehouse is a robust and scalable implementation for activity dashboard reporting.

SALES FORCE ORGANIZATION AND ALIGNMENT

Sales force organization and alignment is one topic that has been the management focus for quite some time; yet this remains as the most daunting of sales planning tasks. It is particularly challenging for pharmaceutical giants who manufacture blockbuster drugs and have strong sales force presence in thousands. There is no one-size-fits-all type solution. Rightsizing the sales force factors such as geography, types of markets, and consumer dynamics play an important role.

As a starting point, sales forces are categorized and organized based on whether the primary drug sales channel is doctors or hospitals/ accounts (IMS Xponent or DDD). In addition to these conventional sales forces, organization has B2B sales force wing specializing in contract and alliance management.

Sales force can be categorized as follows:
1. DDD based sales forces
2. Xponent based sales forces
3. B2B sales forces

In general, sales forces form a 3-6 level hierarchical structure.

→ **Nation**
    → **Division**
        → **Area**
            → **District**
                → **Territory**

Shown above is an example of alignment hierarchy that is most common. Within an organization, different sales forces follow different alignment hierarchies. At the same time, multiple sales forces can follow same alignment footprint. Typically, a number of Xponent sales forces with common pool of doctors based on specialty choose to have a common geography footprint to aid in quota setting process.

For operational purposes, a transactional sales force alignment system is set up by IT. The alignment system deals with aligning doctors, accounts (hospital/MC/LTC etc), and zip codes to sales geographical territories. The sales force representatives are aligned to these geographies as well. With an eye on changing markets, there is tremendous pressure on alignment systems to react with agility in the face of sales force re-alignment. As realignment becomes more frequent, BIPM solutions can help create highly adaptive alignment systems.

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SALES FORCE PERFORMANCE DASHBOARDS

Sales performance management is an overwhelming function for a pharmaceutical major owing to complexity and size of their sales force. Sales performance determination, reporting, and compensation pay-off processing usually involves an intricate procedure with a number of business activities. With shrinking profit margins in pharmaceutical industry, having a precise solution for truly performance-based compensation can become an enabler in reducing cost and improving profitability.
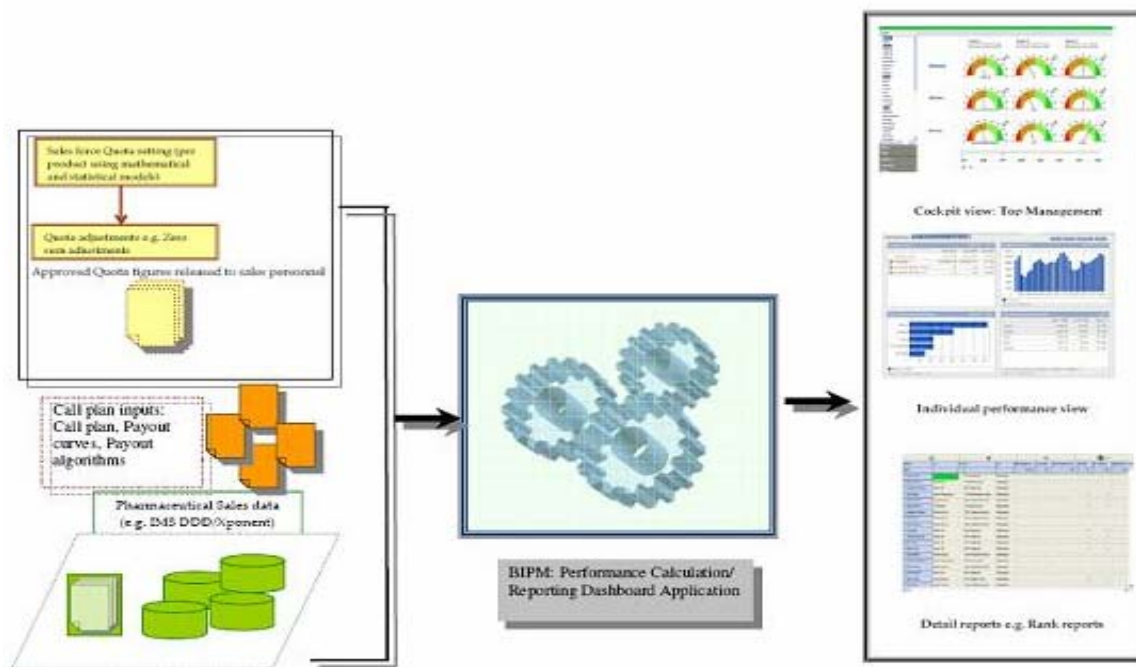

Figure 5 - Pharmaceutical Sales Performance Dashboard example

The success of a performance management process wheel is derived from the success of each individual sub process spokes.

QUOTA SETTING PROCESS

Quota acts as the yardstick to measure the sales performance. Quota is set periodically (typically quarterly) per drug. There are various quota-setting methodologies. The prime distinction is based on DDD versus Xponent drugs. The integral input in every quota setting methodology is historical sales figures (DDD or Xponent).

Quota setting for DDD products usually involves the complexity in determining the historical alignment for sales forces. The Xponent quota setting process deals with determining the major and minor specialties for a doctor and assigning them in correct doctor data pool. The accuracy of doctor profile data hence is paramount (as discussed in data quality section).

After the quota is set using a particular methodology, it undergoes a zero-sum process where quota is manually adjusted taking into account the realities of individual geographies and current social, economic and market trends. After zero-sum, quota is approved and released to the sales

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force and for the given period this acts as the target goal against which their performance will be evaluated.

CALL PLAN CREATION

For a large pharmaceutical organization, a drug is promoted by more than one sales force and a sales force promotes more than one drug. For a given sales force, there are multiple drugs that form their sales portfolio. Product weights are provided to these drugs. A market leader blockbuster drug perhaps would not require as extensive sales efforts in comparison to a drug that is loosing market to its competitors. The call plan would be devised to give a lot higher weight to the drug whose performance needs a push. Call plans are also typically created for the period for which quota is set, but these are more likely to change within a quota period as opposed to changing of the quota itself.

PERFORMANCE AND INCENTIVE CALCULATION

Complicated formulations and methods are devised for performance calculation and incentive pay-offs. Some of the common performance management methods are described below.

- Ranking based on sales versus quota and rank based pay-offs – Sales is divided by quota for each product for each individual. Based on sales versus quota ratios, the sales personnel are ranked for each product and then for the entire portfolio, considering the product weights. A pay-off curve then maps ranks to payout amounts.
- Share of market based ranks and rank based pay-offs – Quota is set not on direct sales but on the percent of drug sales against the drugs in the market basket. This method is termed as share-of-market calculation. Ranks are determined based on share of market calculations and payouts are done based on ranks.
- Share-share change calculation – another variant to share of market calculation is calculating how much the share of market has increased over time. Ranking is done based on this share-share change calculation.
- Alternative to rank based payout curves is target-based curves, where payouts are directly determined rather than calculating ranks.

The information after calculation is reported in a department wide "performance dashboard". Below is a Performance dashboard example:

Geography Information					Drug 1				Drug n				Portfolio	
Org. Level	Geography Name	Territory	District	Area	QTD Sales	QTD Quota	QTD Earnings	QTD Rank	QTD Sales	QTD Quota	QTD Earnings	QTD Rank	QTD Earnings	QTD Rank

Pharmaceutical industry is constantly trying to cut corners by opting for more innovative processes to pay their sales workforce. In doing so, they are adding layers of complexity. This complexity is often the inhibiter for IT to react and alter the reporting application within the stipulated time window. BIPM reporting solution based on quality assured data and use of innovative business intelligence tools can deliver flexible and accurate performance dashboards with ability to react quickly to changing business needs.

KNOWLEDGE MANAGEMENT AND COLLABORATION

Knowledge sharing has conventionally been considered as more of an individual level activity as against an organization level one. However, this scenario is fast changing and some of the major businesses across all industry verticals are creating frameworks for collaboration spanning all sections of the organization. In context of pharmaceuticals, KM holds special value by virtue of its ability to manage structured and unstructured knowledge assets effectively.

Large Pharmaceutical firms often have R&D groups dispersed geographically. A KM framework can aid in collaborative researching. Pharmaceutical business is knowledge intensive and there needs to be multi disciplinary sharing of knowledge in order to make drug research and marketing cycles more productive. Analysis conducted by TCS shows that in the coming years pharmaceutical business is likely to see a lot of outsourcing in terms of almost all components of the pharmaceutical value chain. KM will therefore be the key to facilitate decision-making at various levels.

As a result of the prevailing competition, physicians and health care organizations are getting inundated with sales communications. They need constantly updated data about drug interactions, contraindications, and adverse effects to provide better advice to the patients. Lessons learnt about various drugs and therapies can be shared using KM tools.

Another key area in pharmaceutical is Patent Management. KM can help in effective tracking of patents and their licensing. An in-depth understanding of the competitors' patents can help in boosting sales drives on appropriate drugs/therapies.

CONCLUSION

Pharmaceutical industry is experiencing enormous churn in terms of their processes and mechanics of the market. They are also the heaviest spenders in the area of sales and marketing. In the face of emerging competition, it is evident that the sales team has to be equipped with appropriate decision support tools. BIPM, which is deep rooted in most industry domains, can help pharmaceutical processes to be more integrated, real-time data driven and accurate. Pharmaceutical sales and marketing by virtue of its complexity is heavily data driven and the processes therein may not be well integrated. To efficiently target physicians and make best use of the detailing time it is important to have a framework for business intelligence and performance management. Activity dashboard reporting, competitive sales reporting and other performance reports can go a long way in measuring the effectiveness of sales forces and identifying the best way to segment physicians. BIPM has in store the ability to give a new dimension to the way pharmaceutical sales operates.

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BIPM PRACTICE @ TCS

BI Dashboard

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- Active Projects: 345+
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- Consultant Base: 3,850+
- Years of experience: 10,000+

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- Matured COEs for focus technologies
- Excellence with TMM - eSTREAM

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- Joint go-to-market strategy
- Participation in beta programs
- Bundled offerings of Product Sale and Service

The TCS Business Intelligence and Performance Management Practice was established in 1997. It is a USD 300 MN (FY 2006-2007*-projected) Practice and delivers solutions spanning across industry verticals and technologies to a majority of Global Fortune 500 companies - 5 of the Global Fortune 10 companies are our valued customers today. The BIPM Practice is considered in one of the Top 10 leading BI Service Providers globally (META Spectrum Survey). The BIPM Practice has consistently grown by over 45% (in terms of revenue) year-on-year.

We believe the following are the key value adds of the TCS BIPM Practice:

Matured Methodology and Solutions: Strategy-through-Execution Capability: BIDS™ (BI Program Conceptualization, Strategy, and Implementation) Methodology that encompasses solution, offering, technology and process

Technology CoE: Established Product and Core Technology CoE: eSTREAM™ technology maturity model to build, establish and excel in technology and solution delivery to customer

Global Deployment Ability: TCS and TCS BIPM Practice' Global Presence and Organizational structure that provides environment and direction for accelerated growth and quality solution delivery

Alliances: Strategic Partnership with leading BI product vendors and domain solutions that leads to faster and stable delivery

Multi-skilled Resource: Large BI resource pool at all levels (Developer, Designer, Architect and Program Manager)

About Tata Consultancy Services

Tata Consultancy Services (TCS) is among the leading global information technology consulting, services and business process outsourcing organizations. Pioneer of the flexible global delivery model for IT services that enables organizations to operate more efficiently and produce more value, TCS focuses on delivering technology led business solutions to its international customers across varied industries.

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