

# **Pursuit of the Perfect Order: Telecommunications Industry Perspectives**

**Aman Gupta**

## **Abstract**

The telecommunications industry is characterized by new technologies, new services, and huge capital investments to make content accessible by any device anywhere. Market players are frequently coming up with new products, services, and tariffs to increase their market share in this fiercely competitive industry. With these exciting developments comes the realization that market players have to make their systems more effective, flexible, and scalable to efficiently manage an increasingly complex product portfolio. This is a multi-dimensional problem that requires optimized processes, accurate operational data, and integrated solutions.

The very first critical business area to be addressed to achieve this goal is Order Management. This encompasses several critical touch points of direct customer experience with the organization, and, thus, its proper functioning is strategic in nature. This article is an effort to analyze various challenges faced by telecom companies in regard to management space and how these challenges can be addressed.

It covers the complete order-to-cash cycle, addressing order capture, decomposition, provisioning, notification, and fulfillment. An order management solution's maturity model is also presented, and a recommended approach to a streamlined order management, with a specific focus on Telecom industry, is discussed in detail.

## Telecommunications Industry Overview

The telecommunications industry provides data, voice services, graphics, television, and video at increasing speeds and through diverse channels. While landline telephonic communication is still the core service mode, wireless communication, internet, cable and satellite program distribution are increasing their share in overall industry earnings.

The industry is experiencing rapid deregulation and technology disruption in service offerings. In many markets across the globe, governments are revoking monopolistic policies, and older players face a new breed of competitors.

The market of this industry includes residential customers, small businesses, and big corporate customers. In the residential customers market, competitors rely heavily on price to increase their customer base. Success depends on branding, reputation, and investment in agile order management and billing solutions. The corporate market has different characteristics as compared to residential customers. Big corporate customers are ready to pay premium for the quality and reliability of their voice services and data delivery. They are less price-sensitive when special services like virtual private network, data security, and video-conferencing come into picture.

Telecom operators also provide network connectivity services to other companies that need it. The players with far-reaching networks lend circuits to heavy network users like large corporations and internet services providers.

### Industry Characteristics

- ❖ High capital investment and innovation cost
- ❖ High customer churn rate
- ❖ Economies of scale between OEM and Contract Manufacturers
- ❖ Complex supply chain from contract manufacturer to end consumer
- ❖ Skilled human capital requirement
- ❖ Global nature of products for plug and play

### Industry Trends

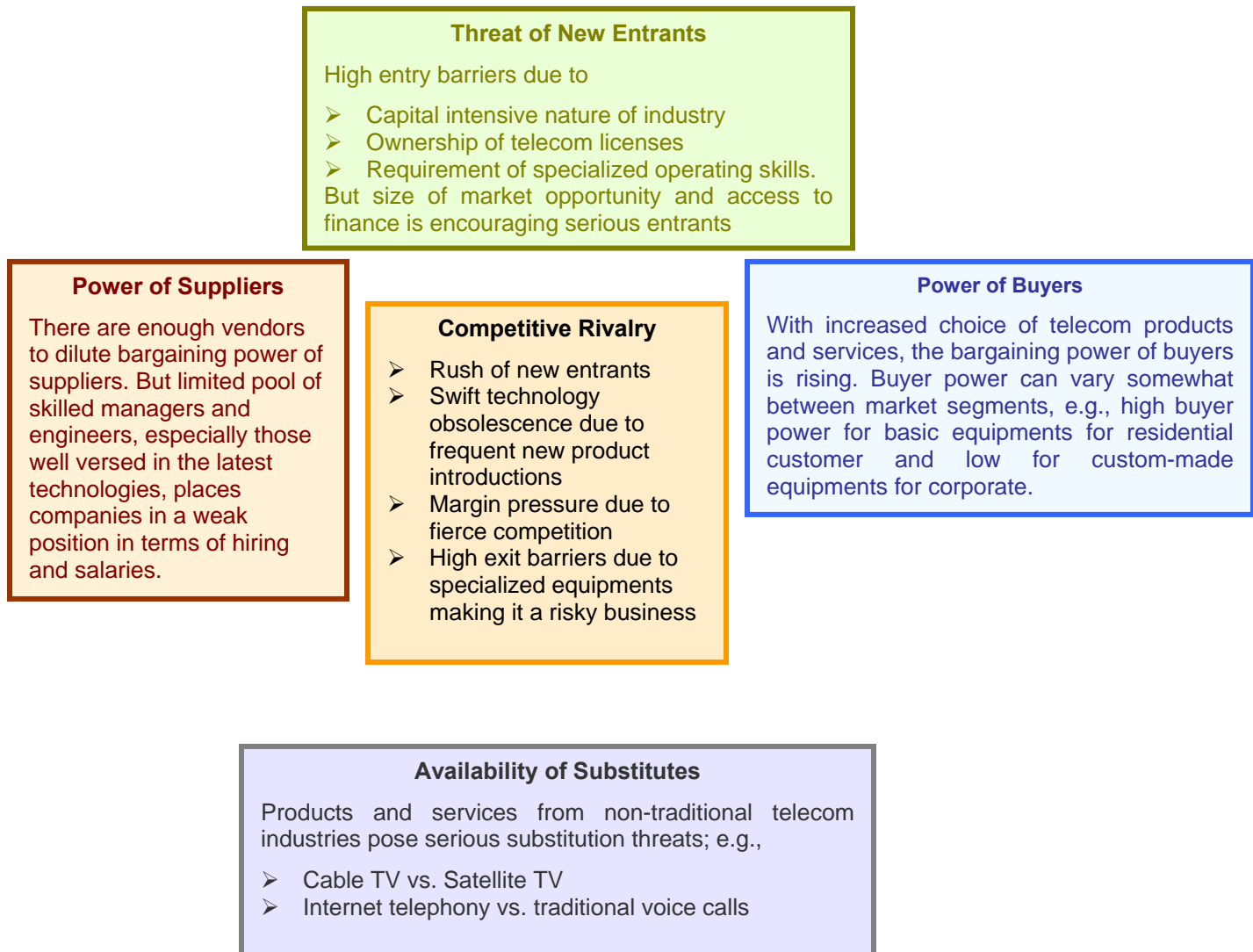
- ❖ Globalization of services - global operations in localized environments
- ❖ Bundling of services
- ❖ Frequent new product, services and tariff introductions
- ❖ Shortening of product life cycles

### Key ratios and terms

**Churn Rate:** It is a measure of customer retention – ratio of customers acquired to customers lost. Due to fierce competition, the telecom industry suffers the highest customer churn rate of any industry.

**Average Revenue Per User (ARPU):** Used for telecom operator's subscriber base. ARPU sometimes offers a useful measure of growth performance.

**Broadband:** High-speed internet access technology



**Figure 1. Telecommunications Industry Structural Analysis**

### Order Management – A Holistic Perspective

An integrated order management spectrum typically comprises the following:

- Product Information Management (PIM) (Descriptions, Attributes, and Locations)
- Vendors (Purchasing and Receiving)
- Marketing (Catalogs, Promotions, and Pricing)
- Customers and Prospects
- Order Entry and Customer Service (Including Returns and Refunds)
- Financial Processing (Credit Cards, Billing, and Payment on account)
- Order Processing (Selection, Printing, Picking, Packing, and Shipping)
- Data Analysis and Reporting
- Financials (General Ledger, Accounts Payable, and Receivable)

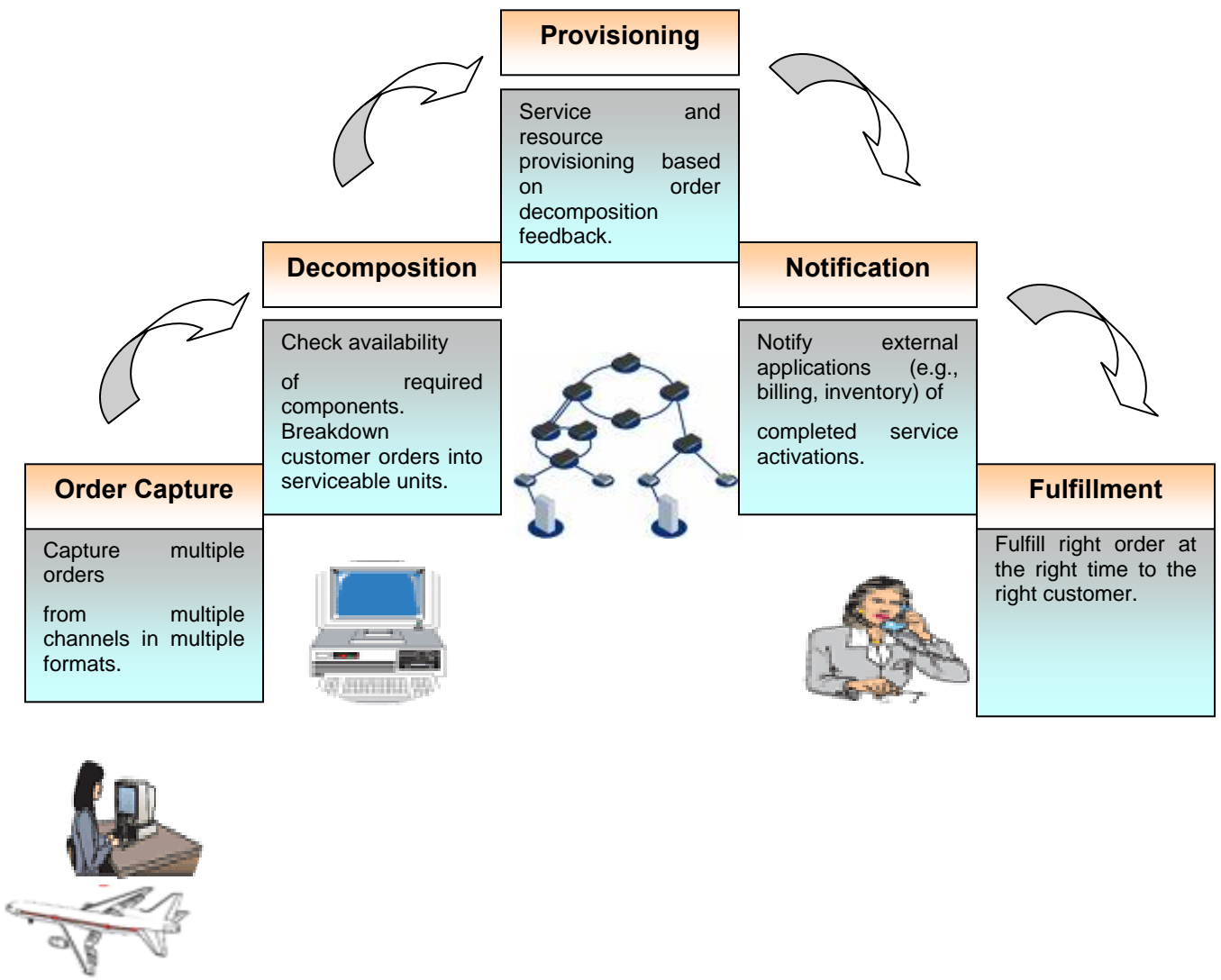


Figure 2. Order Management Lifecycle

Order management process in telecom industry is comprised of a number of subprocesses. The best available documentation of these processes is provided in Enhanced Telecom Operations Map (eTOM). Although processes related to order management are well dispersed in the eTOM framework, yet fulfillment under operations covers almost ninety percent of order management processes.

Following is an overview of critical order management processes' mapping with respect to Enhanced Telecom Operations Map (eTOM) framework:

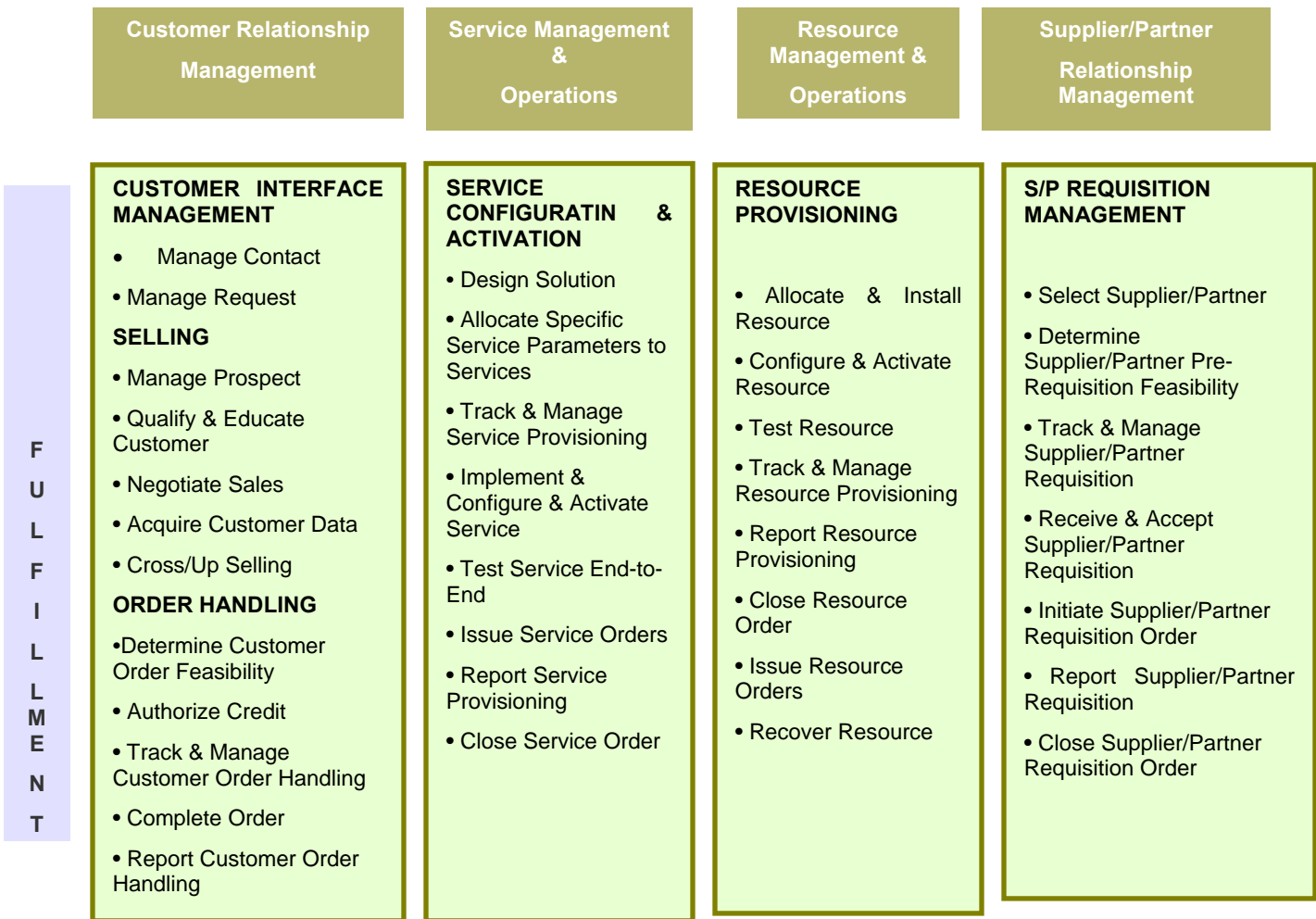


Figure 3. Order Management Processes and eTOM Framework

A process reference model like eTOM has the following advantages if implemented by an organization:

- Standard descriptions of management processes
- A framework of relationships among the standard processes
- Standard metrics to measure process performance
- Management practices that produce best-in-class performance
- Standard alignment to features and functionality

But in current context of telecommunications industry and its challenges, using only the standard process framework implementation doesn't guarantee the competitive edge. A process that is standard today may become obsolete after some time because of some new product launch, new technology introduction, or simply by entry of a new competitor in the market. That is why the telecommunications industry faces a new challenge with respect to its processes such as **highly flexible, scalable, and continuously improving processes with very less implementation time**. Processes with these characteristics can only align with the highly volatile business environment of telecom domain, and that is the reason implementation of standard frameworks is recommended but not considered enough for this industry.

### **Order Management Challenges in Telecommunications Industry**

According to Gartner Group, about 2 to 5 percent of all services delivered by the world's largest telecom providers are unbilled because of inefficient or misaligned processes. Despite significant investments in new and upgraded solutions, order-to-cash processes remain inefficient. Some of the major challenges faced in order management can be classified as follows

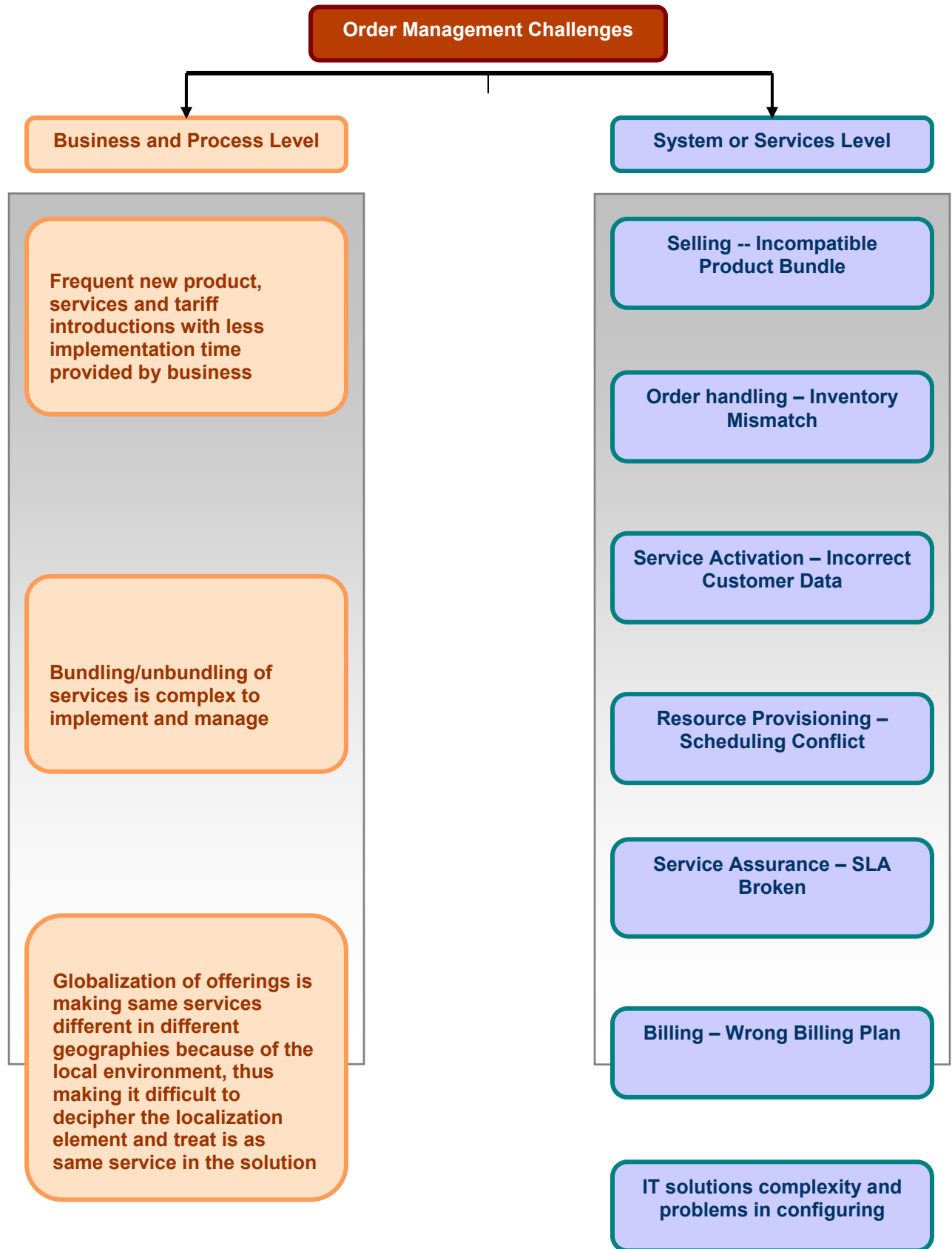


Figure 4. Order management challenges

Due to the above mentioned challenges, the telecom industry is facing the following issues in its day to day operations:

- Labor intensive offline order conflict resolutions
- Process delays and inaccuracies
- Customer dissatisfaction
- Billions of dollars in lost revenue and operational costs
- Penalties for being out of compliance or unmet SLAs
- Problems in accelerated roll out of new products/services
- Spending on efficient order management solutions is exceeding billions of dollars per year

Leading trends in telecom industry are impacting how market players manage their customer-facing processes like order management solutions. Some of the key change drivers are as observed below:

Trends	Description	Impact on Order Management
Increased focus on self service	All market players face a constant battle to reduce costs in their customer care centers. Previously, providers had set their sights on electronic bill generation and payment as a way to reduce mailing costs and decrease sales outstanding. Now, providers are placing their bets on self-care. Self-care ultimately also goes back to the idea of customer satisfaction	Requirement of real-time, user friendly and comprehensive solutions
Increased focus on customer satisfaction	Today's telecom industry is shifting from the market share acquisition to customer satisfaction focused strategy. Operators are focused on how to differentiate, target their market segment, and find better ways to understand their customers. The goal is to become the sole provider of all services to an individual customer as a way to drive up customer loyalty and combat churn.	Effective bundling of products and services during sales cycle, quote to order, and, finally, order to cash. This may require collaboration with external service providers.
Focus on Next-generation Mobile Services	Next-generation mobile services will lead the pack on innovative offerings, but this innovation will be useless if operators cannot adequately provision and bill for these services.  Market players will look toward content and data to increase ARPU, and, in doing so, they will offer new services whose pricing models are untested. Traditional order management solutions will probably not be able to facilitate the new pricing structures as well as the partner management and revenue settlements required for these services, so providers will seek more flexible	Flexible order management solutions



	solutions to manage content services.	
Push on prepayment for offerings	Supporting a real-time billing infrastructure is becoming more critical for giving service providers better control over service usage and accounting. Offering higher value services, such as content, increases the financial stakes. Thus, prepay becomes more about financial management and less about servicing the low-value, high-risk or credit challenged customer.	Scalable solution with alternative functionalities

Figure 5. Telecommunications Industry Trends and their impact on Order Management Solutions

### Key Solution Requirements

A robust order management solution needs to provide the following functionalities:

**Automation capability:** The solution has to allow for accepting multiple orders from multiple channels (Web, email, direct interface) in multiple formats (EDI, Web forms, etc.), handling them without human intervention. It then normalizes all orders and places them into a common repository.

**Speeding new product/ service roll out:** It must be scalable enough to add new product and service offerings in the existing environment and that, too, without consuming additional resources.

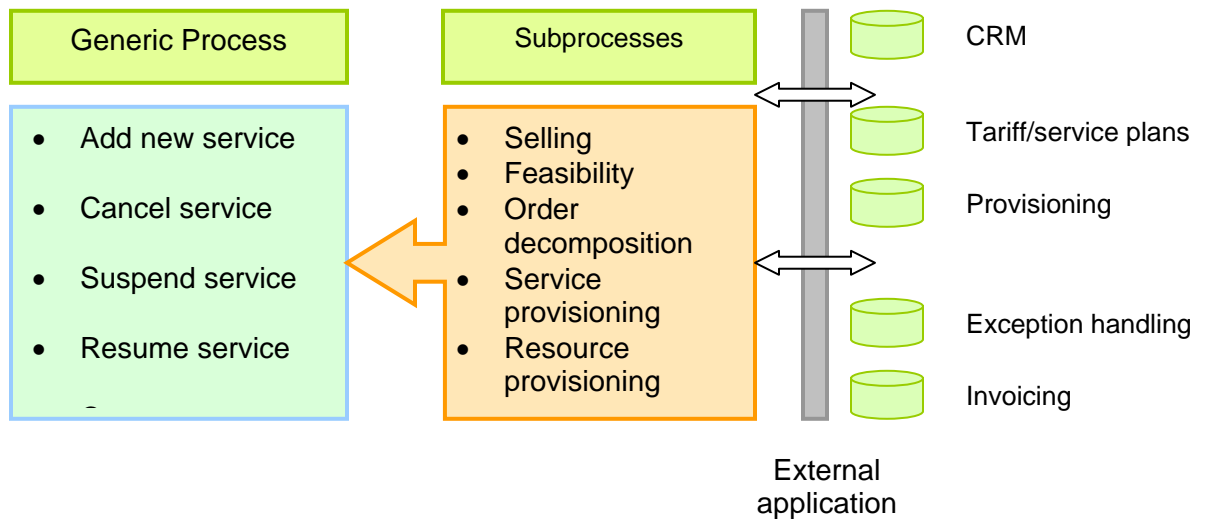


Figure 6. Order management solution

**Create cross sell, up sell opportunities:** The solution should be capable of identifying other sales opportunities for the customer by applying various market intelligence techniques like affinity analysis, environment scanning, etc.

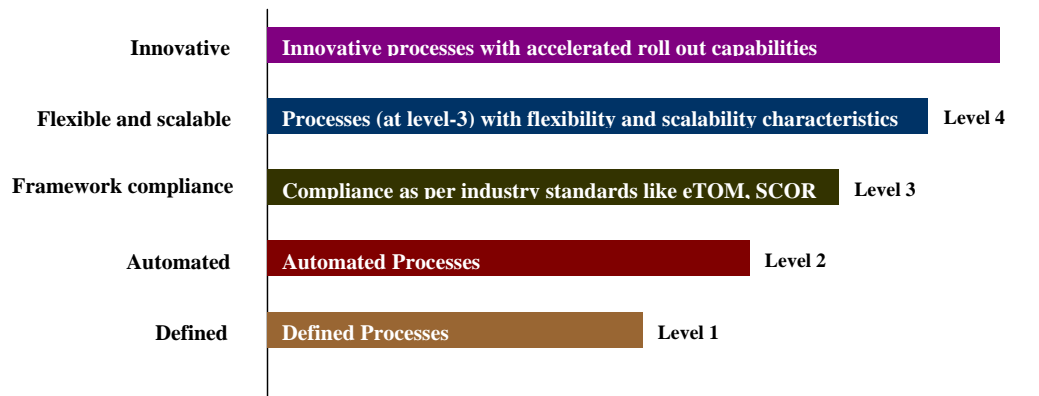
**Change management:** Unlike traditional monolithic enterprise applications that require extensive programming to implement small enhancements, the solution should provide offer flexibility and speed in making changes in existing services, tariffs, etc.

**Workflow based solution implementing complex Business rules:** The solution must apply business rules to the orders in common repository and determine which ones can be processed immediately on a straight-through basis, according to particular rules. Any order that does not meet these criteria – whether it requires disaggregation, contains a wrong part number, or any other of a multitude of reasons – must be processed, and errors handled, on an automated basis. This level of automation also provides full visibility into an order from the moment it comes in until it has been fulfilled, allowing status to be checked at any time. In turn, order visibility also provides supply chain visibility and enables supply chain synchronization.

**Enabling straight-through processing:** As mentioned above, the solution must have the intelligence to determine when orders achieve straight-through status – upon their receipt, or after exception issues have been addressed – thereby graduating an exception order to straight-through status.

### Addressing Challenges through BPM

Leveraging his experience of working across industries and after detailed study of order management processes, the author has come up with a maturity model for order management solution in telecom space. It has been observed that organizations in telecommunications industry are currently operating on five different maturity levels. The levels of maturity and related attributes are as follows:



**Figure 7. Order Management Solution – Maturity Model**

It is recommended for market players to improve maturity levels of their processes and achieve competitive edge in this highly service sensitive market. Figure 6 is a specifically-derived comprehensive process improvement framework for telecom domain. This framework leverages on the world's best quality and process improvement methodologies (Lean, Six Sigma, CEMM, etc.) and establishes their compatibility with standard driven implementation methodologies like BPM, SOA, etc.

The model given below explains a framework for addressing order management challenges in telecom domain. First of all, processes are analyzed using process improvement methodologies and standard frameworks. Existing processes are then improved, fine-tuned, and benchmarked using design of experiment and simulation techniques. After optimizing business processes, they are implemented with the help of best-of-breed process implementation methodologies like BPM, workflow management, and SOA. This provides an order management solution that is specifically tailored as per client requirements and is completely open to an accelerated roll out of new products and services.

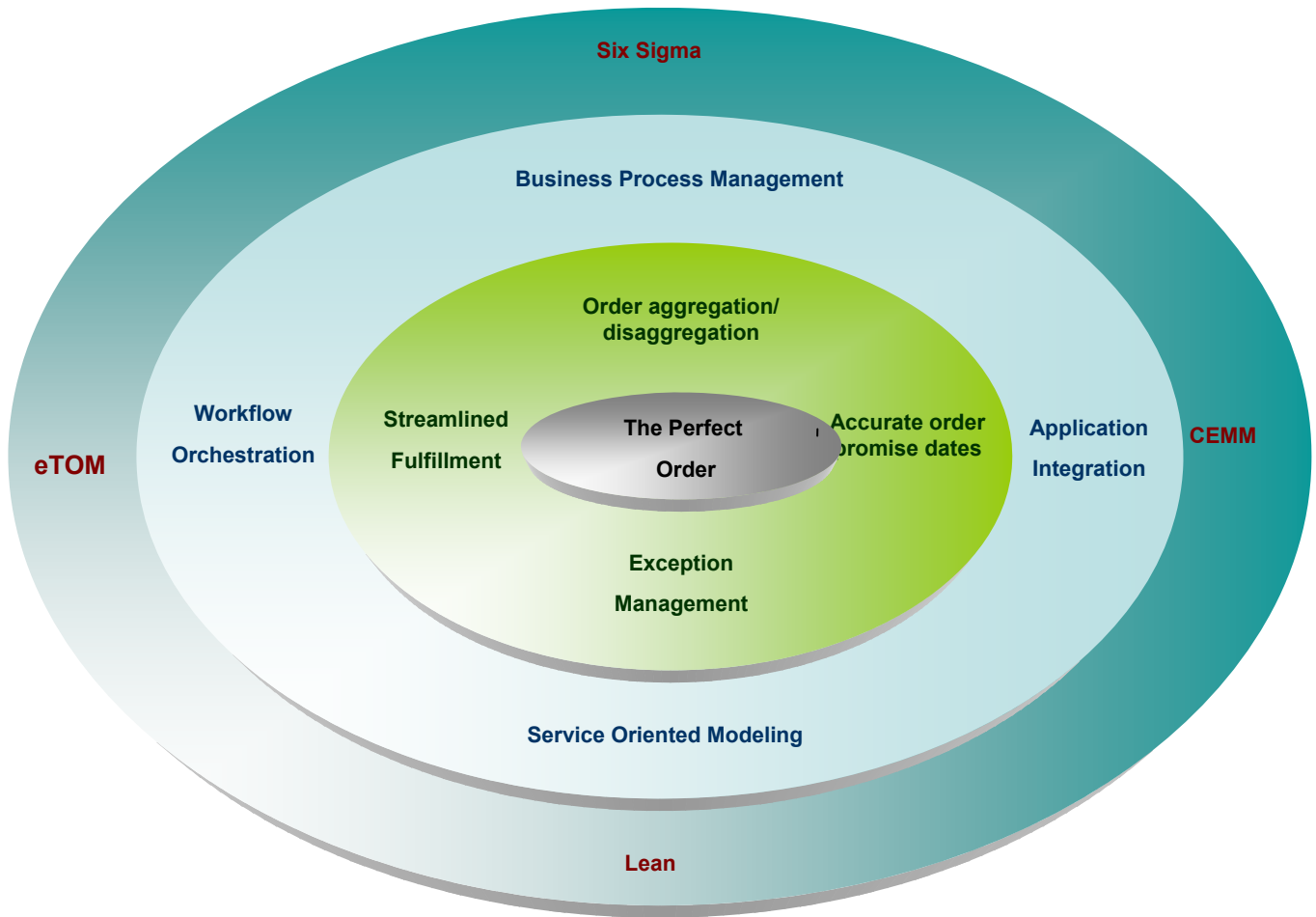


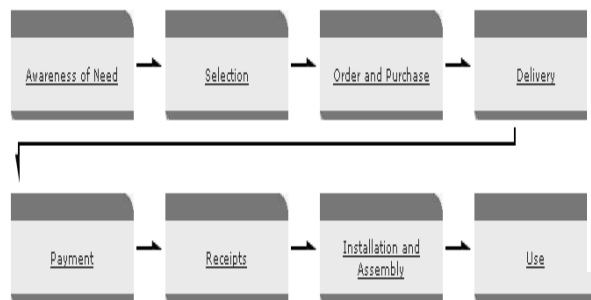
Figure 8. Roadmap to "The Perfect Order"

## Applied Innovation - Customer satisfaction to customer delight



Whether it is cutting cycle time in a business process or ensuring that customers are one-up on competition, applied innovation is required in just about everything. Applied Innovation is a 360-degree business approach covering delivery, process, business and technology innovations that help market players to work collaboratively with customers for cost take-outs, speed-to-market and new business opportunities. Many telecom companies are working intensively to bring breakthrough improvements in order management solutions. Some of the innovative concepts for fostering innovation in solutions like order management solutions are explained below:

**Intra and inter-industry benchmarking:** Intra and inter-industry benchmarking is another management tool to foster innovation in an organization. Managers benchmark their organization in order to assess how it is performing, to identify areas for improvement, and to look for new ideas. They leverage on various industry best practices for different benchmarking exercises. Some of the tools like Data Envelopment Analysis and Cost/Benefit Analysis are used to determine both commercial and qualitative outputs of benchmarking.



**Consumption Chain Analysis:** This is an effective innovation tool used by consultants to identify areas of improvement in complete consumption chain of the service/product under consideration. The best thing about consumption chain analysis is that it can be used to segregate different parts of the purchase-ownership process. It allows designing the most effective customer interaction solutions in various innovative ways.

**“Zero Touch Order” enablement:** Lack of automation leads to manual intervention for key steps such as order validation, configuration checks and exception handling. This takes extra time in order finalization and increases fulfillment time. In order to reduce this cycle time innovative concepts need to be embedded in order management solutions. Some of the key requirements to enable “Zero Touch Orders” are mentioned below:

- Proactive configuration library management with periodic updates on pricing, logistics and service related offers
- Periodic master data synchronization across multiple applications
- Plug-ins to transaction backbone addressing unique configuration and bundling requirements

Using the Business Performance Management approach a global leader in networking equipment & network management products embarked on a major **business transformation initiative** for its global logistics network called virtual logistics management resulting in:

- Reduction in **end-to-end carton handling** costs by 50%
- **Improved shipment visibility** enabled reduction in track-and- trace cases by 50%

This involved redesign of end to end critical business processes involving:

- Upstream Order Management and Order Fulfilment Processes
- Core Logistics Processes
- Downstream 3PL Processes
- Design, development, delivery, integration & implementation of end-to-end virtual logistics network to replace existing static Order Management solutions

## Acronym Key and Glossary Terms

<b>OEM</b>	Original Equipment Manufacturer
<b>ARPU</b>	Average Revenue Per User
<b>eTOM</b>	Enhanced Telecom Operations Map
<b>SLA</b>	Service Level Agreement
<b>IT</b>	Information Technology
<b>EDI</b>	Electronic Data Interchange
<b>CRM</b>	Customer Relationship Management
<b>SCOR</b>	Supply Chain Operations Reference
<b>SOA</b>	Service Oriented Architecture
<b>BPM</b>	Business Performance Management
<b>4PL</b>	4 <sup>th</sup> Party Logistics
<b>VLN</b>	Virtual Logistics Network
<b>VLNM</b>	Virtual Logistics Network Manager

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## Author

Aman Gupta is an Associate Consultant in the BPM Consulting of Wipro Consulting Services, Bangalore, India. He holds a Masters Degree from the International Institute of Information Technology, Pune, and has a wealth of consulting experience in areas of e-procurement, fulfillment strategies, online campaign management, supply chain, and software package implementation.

He can be reached at [aman.gupta@wipro.com](mailto:aman.gupta@wipro.com), Work: +91-80-30295671 & Mobile: +91-97404-93907