The IBM Product and Service Framework

Define, build, sell and support outstanding innovation
Highlights
• Boost responsiveness, agility and customer centricity
• Create intelligent products and services that are intuitive to users
• Dramatically reduce the cost and time of product development
• Maximize Return on Assets (ROA) and cash flow while minimizing operating expenses
• Provide value-added services that enhance user experience
• Build a flexible technology road map adjustable over time as business needs change

The proliferation of handheld electronic devices has resulted in unprecedented connectivity across the globe. Consumers and businesses can compare and share product features and reviews from anywhere; and they demand more from what they buy. This creates opportunities for new kinds of products and services.

To capitalize, manufacturers and high tech firms must develop flexible, visible and collaborative value chains while engaging users in the innovation process. A way to capture needs and produce solutions within an adaptable framework that helps firms define, build, sell and support outstanding innovation—successfully, repeatedly—must exist.

For most product companies, significant obstacles stand in the way of achieving this level of integration. Evolving business models and the interdependency of supply chains add to the challenge. And regulatory concerns increase the demands product companies must meet. Many companies are taking a new approach, one that delivers an integrated enterprise-wide set of capabilities and supports the increasingly complex value chain.

For example, when a European truck manufacturer faced shrinking domestic markets it needed to accelerate its emerging market strategy. The company automated its business processes and integrated various product configuration, development, and manufacturing systems across the enterprise to meet new market requirements in a manner that matched the operational maturity of these emerging market businesses.

The distributed approach of the last decade—numerous geographically dispersed assets, facilities, applications and personnel—has resulted in increasingly complex high tech and manufacturing operations. Firms are left with increased complexities integrating operations that drive up cost, make innovation difficult, hinder client centricity and impact competitiveness. The cry to “do more with less,” as fast as possible, grows more stringent and business leaders are charged with balancing increasing consumer expectations with burgeoning demands on the resources that keep their firms going.
**Product innovation is expected to be the primary concern for CIOs by 2012.**

— Gartner Research, “Meeting the Challenge: The 2009 CIO Agenda.”

**The IBM Product and Service Framework**

The IBM Product and Service Framework is a road map for business transformation—an approach to reduce complexity, cost and drive innovation. Manufacturers and high tech firms can create innovative products and services that are intuitive to the end user, and build dynamic value chains using new information and capabilities.

Accelerating innovation and enabling effective change is highly dependent on the ability to manage effective software delivery. The Framework provides strategic solutions that enable organizations to:

- Take advantage of the information explosion
- Communicate with a trillion devices
- Drive ongoing product differentiation
- Serve new global markets

A framework approach reduces the need for custom development, which is lengthy and expensive. The Framework enables automotive, electronics and aerospace and defense organizations to choose from a variety of solutions that are pre-integrated on common middleware and industry-specific extensions. As a result, customers can deploy solutions in their current environment faster and at lower cost, without compromising flexibility and choice, while improving time to value.

The IBM Product and Service Framework delivers:

- **Speed** of implementation with repeatable architectural patterns, accelerators and data models
- **Flexibility** to progressively transform the business one project at a time
- **Choice** in how to get started and who to partner with for business capabilities
- **Cost Reduction** through re-use of services and assets through faster implementation
- **Alignment** of business and IT priorities for more effective results from solution implementation

**Product and Service Framework Domains**

The IBM Product and Service Framework provides unique client value across three process lifecycle domains that span the boundaries of manufacturing and high tech organizations’ business functions.

- **The Insight and Product Innovation Domain** helps to create new, innovative product and services by driving insights from markets, partners and employees early in the process. The Insight and Product Innovation Domain also leverages dynamic collaborative processes to effectively manage portfolios and integrate software, electronics and mechanical development.
The Operations and Supply Chain Optimization Domain helps to exceed customer expectations, reduce operating expenses, maximize cash flow and return on net assets by optimizing supply and demand processes, driving enterprise business intelligence and enhancing health, safety and environment governance initiatives.

The Market, Sales and Service Differentiation Domain helps to capture new growth markets and increase revenues with higher levels of customer intimacy by providing new, value added services that enhance the customer’s experience and return on assets—while optimizing internal commerce and fulfillment functions.

The Product and Service Framework

Insight and Product Innovation Domain

Business Planning and Transformation
- Product and Portfolio Management
- Requirements and Quality Engineering
- Systems Architecture
- Product Line Engineering

Product and System Design
- Software Development for Systems
- Model Driven Systems Development
- Enterprise Verification Management

Design Chain Collaboration
- Enterprise Engineering Change Business Process Management (BPM)
- New Product Introduction BPM
- Simulation and Analysis BPM
- Systems Engineering BPM (Extendable Integration Support Environment)
- Product Collaboration Portals/Hubs

Digital Product Asset Management
- Technical Document Management
- IT Asset Management/Multi-Site Replication

Operations and Supply Chain Optimization Domain

Manufacturing and Operations Productivity
- Integrated Operations
- Track and Trace
- Real Time Asset Locator
- Sales and Operations Planning
- Production Scheduling/Sequencing
- Supply Chain Optimization
- Supply Chain Visibility
- Plant Asset Management
- Enterprise Content Management and Compliance
- Master Data Management (MDM) for Enterprise Parts Sustainability

Health, Safety and Environmental Governance
- Intelligent Building Management (Energy and Space Optimization)
- Location Awareness and Safety
- Green Certification
- Enterprise Security Solutions

Marketing, Sales and Service Differentiation Domain

Commerce and Fulfillment
- Marketing Analytics
- Dealer Management/Optimization
- MDM for Marketing, Sales and Service
- Sales and Operations Planning
- Multi-Channel Marketing and Analysis
- Multi-Channel Fulfillment

Services, Aftermarket and Support
- Service Management
- Service Management with Real Time Monitoring
- Service Management with Digital Delivery
- Warranty Analytics
If the communications revolution of the last 20 years has taught us anything, it’s that there is no such thing as “fast enough.”

— IBM Research, “Global Technology Outlook,” 2008

While globalization creates a host of new market opportunities for manufacturers, it also tends to intensify — and in some cases redefine — the terms of competition. Put simply, global high tech firms and manufacturers need to do a great many things correctly to perform successfully on a bigger and more demanding stage.

By using the proven approaches and tools within the Insight and Product Innovation domain designed for business planning, transformation and product development and design, organizations can align their business and technology investment strategies and manage ever-evolving project priorities and resources.
Operations and Supply Chain Optimization: Insight across the network

The miniaturization of computing power combined with the pervasiveness of telecommunications, internet and related standards and services is leading to greater business and IT integration. The ability to embed tiny chips into millions of devices enables manufacturers to track and trace systems and services better than ever before. Breakthrough applications like the cloud and web 2.0 are empowering more open collaboration between companies, their suppliers and customers.

Competitive differentiation is realized by utilizing systemic insight to enhance ecosystem-wide operations and performance, optimize supply chains and partnerships, ensure health, safety environmental compliance, and drive greater return on net assets (RONA). Projects in the Operations and Supply Chain Optimization domain help manufacturers build more connectivity, collaboration, and integrated processes to improve visibility among network partners and create a self-actuating value chain.

Every insight derived from a world of interconnected objects can lead to action—and more value. With so much embedded intelligence, supply chain management can progress from decision support to decision delegation and, ultimately, to a predictive capability. These supply chains can be inherently flexible. They can be composed of an interconnected network of suppliers, contract manufacturers and service providers that can be tapped as conditions change.

The entire supply chain can be connected—not just customers, suppliers and IT systems in general, but also parts, products and other interconnected objects used to monitor the supply chain. Extensive connectivity can enable worldwide networks of supply chains to plan and make decisions together.

Marketing, Sales and Service Differentiation Domain: Right products, right customers, right time

Customers in today’s interconnected marketplace are increasingly relying on their social networks when making buying decisions. A recent Gartner research study analysis found that key contacts among a consumer’s social network affect up to 74 percent of purchase decisions. At the same time, web-enabled applications allow users to rate, review and ask questions about your products instantly—and they expect to be heard. An April 2010 MIT study found that 62.5 percent of social network users expected responses within one hour.

Interconnected organizations can satisfy these rising expectations by providing new services that enhance experience and return on investment (ROI). Projects in the Marketing, Sales and Service Differentiation domain help manufacturers provide value added services that enhance user experience and ROI, maximize profitability and minimize operating expenses.

Many manufacturers are so focused on designing, manufacturing and selling products they can overlook a surprisingly large opportunity: service. For most firms, the service function not only strengthens customer relationships, but can also provide a significant source of revenue and impact company cost structures. The time is now right for manufacturers to innovate their service functions.

For many manufacturers, the service function represents a significant source of untapped value, impacting cost structure, revenue and customer experience, three primary drivers of business value. Yet many manufacturing companies treat service as an afterthought. The time is now right for innovating traditional service operations and for moving the service model toward a profit center—where success can be garnered from outsourcing services, information services, financial services or professional services.
A Drastically Different World

Increasingly interconnected economies, enterprises, societies and governments have given rise to vast new opportunities. But greater connectivity has also created strong – and too often unknown – interdependencies. The new economic environment, CEOs agree, is substantially more volatile, much more uncertain, and increasingly complex. Interestingly, views on the strength and impact of these shifts differ by vantage point.

A surprising number of Electronics CEOs told us they feel ill-equipped to cope with this drastically different world. 73 percent expect the level of complexity to grow significantly over the next five years, but only 44 percent believe that they know how to deal with it successfully. In short, Electronics CEOs face a “complexity gap” that poses a bigger challenge than any we’ve measured in the eight years we’ve been conducting such research.

In a massively interconnected world, CEOs are prioritizing customer centricity as never before. Globalization, combined with dramatic increases in the availability of information, has exponentially expanded customers’ options. CEOs know that ongoing engagement and co-creation with customers produce differentiation. They consider the information explosion immensely valuable in developing deep customer insights.

Electronics CEOs are especially determined to put customers front and center. “Getting connected” to better understand, predict and give customers what they really want is the top priority for 94 percent. CEOs in our total sample that put getting closer to customers first on their agendas are also 29 percent more likely than other CEOs to anticipate that the information explosion will have a major impact on their organizations over the next five years, and 18 percent more likely to be using insight and intelligence to realize their strategy.4

Realizing benefits with a Framework project

IBM has deep, practical experience in helping traditional organizations in high tech and manufacturing industries evolve to meet the challenges of the future. IBM can help you define your business imperatives and explore the technologies that can result in increased competitive advantage.

The IBM Product and Service Framework is designed by IBM professionals who have applied their business, industry and technology expertise to creating high tech and manufacturing solutions that drive real business value. Continued investments in these industries and an understanding of the complexities give IBM an unmatched perspective. IBM can help you to reduce complexity and costs, increase competitiveness and client centricity. Adding a global presence means that you can access resources around the world via a single local source.

Together, we can help build a flexible solution for today and tomorrow.

For more information

To learn more about the IBM Product and Service Framework please contact your IBM sales representative or IBM Business Partner, or visit the following website: ibm.com/software/industry

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