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Knowledge@Wharton – Wipro Future of Industry Series: Standardization at the Core

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More and more companies are standardizing functions across people, processes and technology. Such “standardization at the core” positions them to achieve cost savings, increased customer satisfaction and improved competitiveness, says Anand Sankaran, senior vice president and business head at Wipro Infotech and global business head — infrastructure and services for Wipro Limited. Companies that share components and processes across product platforms can develop differentiated products efficiently and be more responsive to market changes, says Karl Ulrich, vice dean of innovation at Wharton. According to Morris A. Cohen, Wharton professor of operations and information management, standardization has made way for “servicization,” wherein products are sold and delivered as services. They share their insights on the subject in this white paper produced by Knowledge@Wharton and sponsored by Wipro Technologies.



Three broad pillars support the core businesses of any organization: its people, processes, and technology. Standardization at the core level “negates variability,” says Anand Sankaran, senior vice president and business head at Wipro Infotech and global business head — infrastructure and services for Wipro Limited.

“It enables consistency, predictability, uniformity and in a way, flexibility of operations.” Other advantages include cost reduction, the ability to scale, better brand equity, quality control, wider customer reach, innovation and faster time to market. In short, by standardizing the core, organization will not only realize higher efficiency and productivity at the back-end, but will also enable differentiation at the front-end. Sankaran maintains that standardization is not restricted

to any company or industry, its size, scale of operations or nature of business.

According to [Karl Ulrich](#), Wharton professor of operations and information management and its vice dean of innovation, standardization or a “platform approach” to product development is an important success factor in many markets. Pointing out that, “increasingly, good product development means good platform development,” Ulrich says in a paper on the subject: “By sharing components and production processes across a platform of products, companies can develop differentiated products efficiently, increase the flexibility and responsiveness of their manufacturing processes, and take market share away from competitors that develop only one product at a time.” It is also a way to achieve successful mass customization, he adds. “It allows highly differentiated products to be delivered to the market without consuming excessive resources.”

STANDARDIZATION AT WORK

Sankaran offers examples of how such “standardization at the core” works. For instance, problems relating to IT Infrastructure can be resolved through automation. This helps in realizing higher efficiencies and in redeploying an organization’s scarce resources into more strategic initiatives.

Standardization also results in consistency in company policies and helps create standard operating procedures across different functions. Here, automation can reduce repetitive and redundant work and enhance process efficiencies. In the area of “technology,” open standards supported by IT infrastructure allow companies to adapt more easily to the “business rhythm” of their industry.

Sankaran offers some recent examples of successful standardization programs:

- India’s government-run Employee State Insurance Corp., which provides social security and health care benefits to workers earning less than Rs. 15,000 monthly (approximately \$285) across its network of nearly 2,000 hospitals and dispensaries. With the standardization of platforms and processes, eligible workers now have smart cards to access health care facilities across the country. An electronic medical records system enables physicians to access a patient’s medical history. Platforms for functions such as managing hospital pharmacies are also standardized.
- A global steel major achieved cost savings of approximately 42% with a payback of 17 months through a “transformational, shared service consolidation” program.
- A new telecom entrant in South Asia standardized its IT infrastructure leveraging plug-and-play architecture, enabling it to go to market in record time. Standardization helped the telecom company implement in seven

months its entire IT program (including 115 core processes and more than 30 applications), enabling it to quickly roll out its services in a cluttered market.

- A global manufacturer shaved 2% off its procurement spending of \$50 billion by standardizing processes that enabled “better contract visibility and compliance.”
- A leading British grocery chain improved the productivity in its processes by 20%, reduced purchase order errors by 50% and the cost of processing invoices by 40% through standardized action plans and process design.

Ulrich points to one of the most dramatic examples of successful standardization. In 1987, Kodak was caught napping when rival Fuji introduced QuickSnap, a 35mm single-use camera. Kodak launched a competing product later in the year, but by then Fuji had already developed a second model. Yet, Kodak won back market share from Fuji and captured more than 70% of the U.S. market by 1994. “The success of Kodak’s response resulted in part from its strategy of developing many distinctively different models from a common platform,” says Ulrich.

Between April 1989 and July 1990, Kodak redesigned its base model and introduced three additional models, all having common components and common production process steps. “The different models appealed to different customer segments and gave Kodak twice as many products as Fuji, allowing it to capture precious retail space and garner substantial market share,” says Ulrich.

BENEFITS AND CHALLENGES OF PLATFORM PLANNING

Ulrich lays out the benefits of standardization below. (The illustrations are from recent Knowledge@Wharton articles.)

- Companies that engage in successful platform planning have greater ability to tailor products to the needs of different market segments or customers.

Jia Guolong, chairman and founder of the Chinese restaurant group Beijing Xi Bei is discovering that advantage for his chain of 48 restaurants. In his attempt to include the cuisine of northwestern China – one among the country's eight distinct cuisines – he has employed standardized, modern equipment. For example, Xi Bei uses a German oven process to make roast mutton, replacing the traditional Xinjiang way of baking it in pits. The restaurant chain also overcomes logistical challenges with standardized menus. The new Xi Bei menu has 60, 90 or 120 dishes, depending on the size of the restaurant.

- It reduces the incremental cost of addressing the specific needs of a market segment or of an individual customer.
Chinese fast food chains Da Niang Dumpling and Ji Xiang Wonton successfully used standardized processes and products to grow their network to 200 and 400 outlets, respectively, in the past decade. For example, Ji Xiang Wonton has standardized processes to prepare wontons and their sizes. Da Niang Dumpling has invested in a 100 million yuan processing facility to supply its chain stores worldwide.
- It reduces development cost and time. Parts and assembly processes developed for one model do not have to be developed and tested for the others.
- It reduces manufacturing cost. When producing larger volumes of common parts, companies achieve economies of scale.
- It reduces production investment. Machinery, equipment tooling and the engineering time needed to create them can be shared across higher production volumes.
- It simplifies systemic complexity. Cutting the number of parts and processes lowers costs in

materials management, logistics, distribution, inventory management, sales and service, and purchasing.

Maria Rieders, Wharton professor of operations and information management says that in recent years, hospitals have systematically decreased the number of infections by standardizing their procedures.

- It lowers risk. The lower investment required for each product developed from a platform results in decreased risk for each new product. Lowering risk is a top goal of new rules U.S. regulators proposed in March 2011 for the private securitization market, aimed at tightening standards for borrowers and lenders. Wharton professor of real estate and finance Susan Wachter feels it is also important to improve transparency where investors see risks more clearly. That could be accomplished, she says, by standardizing mortgage bonds, much the way stock options and futures contracts are standardized. An investor would then know, for instance, that a bond contained 30-year, fixed rate loans from borrowers with credit ratings exceeding a certain threshold, and who had made down payments of a minimum size.
- Sharing components across products allows companies to reduce inventory. This also translates into better service levels and/or lower service costs.

Pointing out the challenges in standardization, Ulrich notes companies developing platform products must meet the needs of diverse market segments while conserving development and production resources. Product planning and marketing managers must be able to resolve conflicts with system-level designers.

Two common problems dog companies attempting platform planning, says Ulrich. First, "organizational forces frequently hinder the ability to balance commonality and distinctiveness." Design and manufacturing engineers may say

that it is too expensive to create distinctive products. However, marketing executives may argue that commonality is pennywise and pound-foolish. Secondly, the platform planning process could be bogged down in details, “resulting either in the organization giving up or in products lacking character and integrity.”

MAKING WAY FOR “SERVICIZATION”

“There has always been a tradeoff between standardization and customization,” says Morris A. Cohen, Wharton professor of operations and information management. His current area of focus is the concept of “servicization,” wherein products are sold and delivered as services. According to Cohen, a key factor driving this is commoditization of products (which includes standardization) and the standardization of manufacturing processes through global outsourcing.

“One of the consequences [of servicization] is that delivery of after-sales service becomes a competitive advantage since it allows for a high level of differentiation even if product and production process are standardized,” says Cohen. His research has shown “considerable heterogeneity among customers when it comes to expectations for quality of product and quality of service.” This further supports the role of service in delivering differentiation, he adds. Thus, standardization and differentiation can co-exist, bringing the best of both worlds.

Increased adoption of standardization principles enables organizations in servicization and vice-versa, says Sankaran. He points to findings by research firm Gartner, which predict that service-led solutions will displace traditional sourcing approaches in the next three to five years. That will occur as more and more organizations increase the standardization of infrastructure, applications and business processes, he adds.

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