Executive Summary

Lean methodologies and practices optimize operational efficiencies and accelerate the digitization of applications and processes - obliging enterprises across industries and economies to rethink how they manage and deliver information, goods, and services. But aside from their complementary aspects, Lean and digital capabilities can coalesce to enrich strategies, improve collaboration, heighten customer services, and fuel profitable growth.

First employed by Toyota in the 1990s, the Lean methodology was subsequently adopted by others in the automotive industry, and soon after by manufacturing and services companies. It is safe to say that Lean approaches and practices have transformed entire economies, and remain a powerful lever for improving operational efficiency and productivity, elevating quality, and sharpening overall performance.

The rapid growth of digital platforms across industries and business environments is considered by some to represent the fourth industrial revolution, with an impact equivalent to the invention of the steam engine, electricity, and the scientific
Along with Lean practices, digital platforms and applications have become ubiquitous - automating important functions such as marketing, finance, logistics, and human resources. Digital systems have also augmented organizations' capabilities in areas such as communications, knowledge management, and information-sharing.

In recent years, digital technologies have been organized into four categories, or pillars: Social, Mobile, Analytics, and Cloud - commonly known as the SMAC Stack. This paper explores how a Lean-Digital model and approach can restructure and accelerate the transformation to digital business and raise the performance bar in areas such as quality assurance, service delivery, cost containment, employee and stockholder value, and customer relationship management (CRM).

Supporting Growth & Ensuring Profitability

The evolution of digital technologies is broad in scope, able to restructure cultural and business models in more profound ways than Lean methods alone. However, both Lean and digital share the core business principle of driving profitable growth. They can operate independently or in concert. One serves the other. Lean facilitates the adoption of digital technologies by providing a framework for their development; digital acts as a catalyst for facilitating Lean transformations.

Figures 1 and 2 compare the four complementary aspects of Lean and digital.

How Lean & Digital Complement One Another

<table>
<thead>
<tr>
<th>Focus on Value and What is Critical to the Customer</th>
</tr>
</thead>
<tbody>
<tr>
<td>• New communication channels</td>
</tr>
<tr>
<td>• Collaborative tools</td>
</tr>
<tr>
<td>• Knowledge of the consumer</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Remove Waste (Mudas)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Dematerialize</td>
</tr>
<tr>
<td>• Share Information</td>
</tr>
<tr>
<td>• Reduce Time</td>
</tr>
<tr>
<td>• Shave Costs</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Adjust Production with Tight Flows</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Share information in real time</td>
</tr>
<tr>
<td>• Analyze negative signals</td>
</tr>
<tr>
<td>• Utilize Big Data</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Aim for Operational Excellence with Continuous Improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Exploit Social Media</td>
</tr>
<tr>
<td>• Extend Communities</td>
</tr>
<tr>
<td>• Support Collaborative Knowledge Management</td>
</tr>
</tbody>
</table>

Figure 1
### The Four Pillars of Lean

**Focus on value and what is critical for the enterprise and its customers.**

- Refocus the product or service on customer expectations.
- Propose the simplest product that meets the need (Critical to Quality).

**Analyze the entire value chain to eliminate all waste.**

- Identify all forms of waste: overproduction; overstock; over-quality; unnecessary transport costs; errors and faults; extended wait times and delays; under-utilized skills.
- Eliminate waste through a value stream mapping (analytical) approach and field site conversion.

**Adjust production based on customer demand.**

- Initiate the traditional production line with a customer request (pull production).
- Allow for flexible production to cope with changes in demand.

**Aim for continuous improvement to achieve operational excellence.**

- Undertake continuous and iterative improvements (based on the Deming wheel: Plan-Do-Check-Act).
- Guarantee a permanent commitment by the entire company, especially employees in contact with the ground floor.
- Emphasize the importance of utilizing lessons learned.

### How Digital Supports Lean Initiatives

- Integrates new communication channels (social media, commercial platforms, chat rooms, forums, etc.) with traditional touchpoints to promote highly targeted communications and strengthen the collective knowledge of customers and partners in Lean logic.
- Applies digital tools to facilitate collaboration (even co-creation of new products) with customers.
- Utilizes information collected from customer channels to deepen knowledge of the customer and identify problem areas.

- Enables the dematerialization of paper documents and information-sharing at a low cost, almost instantaneously.
- Automates low-value business processes.
- Reduces delays, transport costs, and errors.
- Identifies, quantifies, reduces, or even eliminates sources of waste with digital tools.
- Utilizes the IoT (Internet of Things) global network of small, powerful sensors and interconnected objects to monitor equipment remotely, for example, and take proactive measures to prevent and resolve problems.

- Supports concurrent information-sharing.
- Exploits data to be more responsive to customer requests and even anticipate them through advanced analytical models.
- Reduces inventory and creates more flexible and responsive production processes by concentrating on what is critical for the customer (Critical to Quality).
- Analyzes negative feedback obtained through knowledge of the customer and the exploitation of Big Data. Improves the ability to predict demand and optimize stock levels.

- Leverages social media to allow collaborative and open exchanges, and enable clients and partners to create broad communities around continuous improvement.
- Employs online tools (Cloud) for information-sharing and collaboration among physically distant teams, supported by Lean practices. (This adds to the advantages of collaboration and lessons learned).
- Promotes an open, collaborative environment supported by knowledge-management tools and practices for developing a corporate culture augmented by the know-how of company employees.
- Allows employees to be more involved in Lean initiatives through MOOC training, which invites unlimited participation and open access, enhanced by e-learning and gamification.
QUICK TAKE

Capitalizing on Lean-Digital

An industry leader in in-vitro diagnostics turned to us for help in initiating the development of a CRM (Customer Relationship Management) Cloud platform to improve the quality of the company’s customer orientation program and increase overall efficiency and productivity. The initiative is a good example of how companies can benefit from the Lean-Digital model.

Through this effort, the organization can:

- **Refocus efforts to meet the true expectations of customers** by combining the management of its sales, marketing and services activities on the same platform. The company can centralize customer data to capture and use “the voice of the customer.” Using commercial platforms, it can better integrate that knowledge with co-development initiatives.

- **Concentrate on value-added services and the core business** through a cloud approach – using a Software as a Service (SaaS) model to enable seamless IT outsourcing. The company can eliminate many tasks that do not directly contribute value, and focus on the products and services its customers expect. It can also make its entire portfolio of information and knowledge available to its wide group of internal engineers, customers, and partners at a low cost.
• **Minimize mudas** (waste) by eliminating many administrative tasks and allowing customers to autonomously access basic services, 24/7. Customer contact channels are free to deal with complex requests requiring a technician or service expert.

Also, by integrating its various information systems (CRM, ERP, regulatory software, or even its IoT platform), the company can automate many processes; reduce, anticipate, and plan for direct communication with customers; and enrich its knowledge of market and service offerings.

• **Structure a process for continuous improvement** that engages the entire company, especially technicians closest to the field and the end customer. The mobility and collaborative platforms available for CRM allow technicians, call center agents, and technical experts to connect with like communities from around the world about various issues – be they commercial, regulatory, or technical. It is thus possible to share experiences and organize support to resolve the most complex problems without the constraints of physical boundaries. Feedback from the field can be analyzed and integrated throughout the Research and Development (R&D) stage. This perspective paves the way for Design Thinking and Design for Lean Manufacturing initiatives.

This approach can also be used to consolidate and analyze information, and improve performance based on consistent, unified objectives and indicators.
It is important to remember that a successful transition to a Lean-Digital model depends on three factors:

- The decision to transform to a new business model
- Consensus by the entire organization
- Adoption by internal teams

A BUSINESS MODEL THAT TRANSFORMS ITSELF

Lean-Digital tools and practices can fundamentally improve enterprise business models and in many cases the very nature of industry sectors – from goods to services. Use takes precedence over the intrinsic characteristics of a product. For example, miles replace tire sales; print management services replace printing machines, and advanced analytics are used for medical testing rather than traditional diagnostic systems. At the same time, the impact on a company’s business model is dramatic, and must be anticipated and communicated in order to navigate the transformation and retain market advantage.

The internal repercussions of a Lean-Digital approach require a willingness to adapt, meet new challenges, and take advantage of advanced methods and technologies. Eliminating hierarchical relationships through digital systems, adopting collaborative tools, and utilizing social media can potentially open the floor to everyone - allowing employees to interconnect easily from virtually anywhere, around the world. That said, this transformation requires placing more experienced professionals on the ground floor, and is not without risk. It can create discord, lessen the emphasis on achieving benchmarks, and blur strategic vision.

Lean-Digital businesses push the demand for a new kind of leadership that is open to change and unwilling to accept the traditional role of authority. A new operating model and new responsibilities will be required to manage information, arbitrate exchanges, oversee virtual communities, and extract the most value from the Lean-Digital environment. Continuous improvement is at the heart of a Lean approach, even when supported by digital technologies. It cannot work without proper allocation and redeployment of resources. And it must not waver when it comes to basic business principles.

Appropriating New Tools

Doing away with certain tasks and positions; fulfilling the need for new skills and training; and adapting to an information-led environment that moves at the speed of digital can challenge conventional ways of working and call into question traditional IT skill sets. The near-total transparency (Big Brother syndrome) that Lean-Digital tools afford is an issue that must be addressed and supported by proactive change management that articulates the vision, the stages of the transformation, and the business and operational goals. An analysis of the impacts, from training to new methodologies, plus the willingness to answer questions and assuage concerns, is key.
LOOKING FORWARD

Lean-Digital transformation is about much more than the application of Lean methods in an increasingly digital world; it represents a true fusion of Lean methodology and digital technologies that complement and enrich one another.

At the same time, this new operating model must be part of a viable, long-term strategy and proven change management approach. For companies focused on driving profitable growth and remaining competitive, it is the best way to capitalize on the fourth industrial revolution.

FOOTNOTE


ABOUT THE AUTHOR

Marie-Christine Barnaud
Director, Cognizant Consulting Life Sciences Practice

Marie-Christine Barnaud leads Cognizant Consulting’s Life Sciences practice. With almost 30 years of experience in transformation projects across industries, she is now driving transformation programs in Life Sciences AND Healthcare, covering the pharmaceutical industry, medical devices and equipment, hospitals, research organizations, and health insurance. Marie-Christine graduated from Ecole Centrale de Paris and holds a Master’s degree in Management Science from Imperial College in London. She can be reached at Marie-Christine.Barnaud@cognizant.com | LinkedIn: www.linkedin.com/in/marie-christine-barnaud-958594/

Note: We wish to thank Olivier Frémont, Transformation Expert Consultant in Healthcare and Life Sciences, for his contribution to this paper.
ABOUT COGNIZANT BUSINESS CONSULTING

With over 5,500 consultants worldwide, Cognizant Business Consulting offers high-value digital business and IT consulting services that improve business performance and operational productivity while lowering operational costs. Clients leverage our deep industry experience, strategy and transformation capabilities, and analytical insights to help improve productivity, drive business transformation and increase shareholder value across the enterprise. To learn more, please visit www.cognizant.com/consulting or email us at inquiry@cognizant.com.

ABOUT COGNIZANT

Cognizant (NASDAQ-100: CTSH) is one of the world's leading professional services companies, transforming clients' business, operating and technology models for the digital era. Our unique industry-based, consultative approach helps clients envision, build and run more innovative and efficient businesses. Headquartered in the U.S., Cognizant is ranked 205 on the Fortune 500 and is consistently listed among the most admired companies in the world. Learn how Cognizant helps clients lead with digital at www.cognizant.com or follow us @Cognizant.