

ISB CTO

Week 3: CTO as Innovation Catalyst: Discovering Innovation Opportunities

To effectively drive innovation, a Chief Technology Officer must possess the ability to identify digital innovation sweet spots. But what exactly are these sweet spots? Let us begin by understanding the concept of business models and their role in this context.

Business Models

A business model serves as a valuable and fundamentally important tool that allows us to comprehend a firm's strategy. It enables us to understand how a company generates value in a sustainable manner and serves as a basis for identifying opportunities for digital innovation. This tool provides a comprehensive approach to describing a firm's business strategy in a practical and actionable manner. Within a business model, there are four crucial components that play a significant role: the customer value proposition, critical resources, critical processes and capabilities, and the profit model. Let's explore each component in detail.

Customer Value Proposition

The customer value proposition lies at the core of a business model and involves asking three important questions:

- **Who is the customer?**
It is crucial to identify who the customer is, ensuring a laser-focused approach that distinguishes the target audience from those who are not part of it.
- **How to build a strong relationship with the customer?**
This can be achieved by delivering superior value, whether through product innovation, cost-effective solutions, or in-depth knowledge of customer needs.
- **What are the important ways to deliver value to the customer?**
The value proposition should be based on meeting and exceeding customer needs, including both delivered and latent needs, in a superior manner.

Critical Resources, Processes and Capabilities

Once the value proposition is established, the next step is to consider how to deliver it in a superior and sustainable manner. This is accomplished through the identification of critical resources, processes and capabilities.

- **Critical resources** refer to the assets that the firm invests in, such as human talent, brand reputation, physical locations, and land.
- **Critical processes and capabilities** are developed within the organisation through culture, roles, and organisational values.
Examples of critical processes include supply chain management, manufacturing, operations, talent management, and financial management.

These components are fundamental to effectively delivering the customer value proposition.

Profit Model

The profit model encompasses how a firm generates profit, earns revenue, and manages its cost structure. It is essential to consider the sustainability and profitability of the business. This involves analysing pricing strategies, revenue streams, cost management, and margin optimisation. By focusing on a profit model that aligns with the overall business strategy, a company can ensure financial success and long-term viability.

Exploring Examples: Apple and Walmart

To illustrate the application of a business model, let's consider two well-known companies: Apple and Walmart.

	Apple's Business Model	Walmart's Business Model
Customer Segment	<ul style="list-style-type: none"> Technologically literate and digitally savvy urban segment View technology as an integral part of their lives across various aspects, including work, entertainment, fitness, and mobility 	Price-conscious individuals seeking a wide product selection
Customer Value Proposition	Provide seamless online access to content that shapes the lives of the urban segment.	Offer everyday low prices to customers who prioritise affordability and value
Critical Resources	<ul style="list-style-type: none"> Apple's strong brand, which drives traffic and lowers customer acquisition costs Talented product designers and architects Apple's relationships with music companies enabled them to introduce industry-first innovations, such as selling individual songs. 	<ul style="list-style-type: none"> Strategically acquired large land that ensure cost control for store construction and parking Talented workforce, particularly in IT and other areas
Critical Processes and Capabilities	Product design, outsourcing management, and sales and marketing	Supply chain management and merchandising, Maintenance of tight cost control
Profit Model	Centres on high willingness to pay, allowing for revenue generation through high prices and margins	Built on thin margins and high volume turnover

Digital Sweet Spot

Having understood how to describe a strategy using a business model, the next crucial step is identifying opportunities for digital innovation. This is done by identifying specific areas that serve as sweet spots for digital innovation. These areas include

- Enriching the customer experience
- Optimising core operations
- Creating digital products and services.

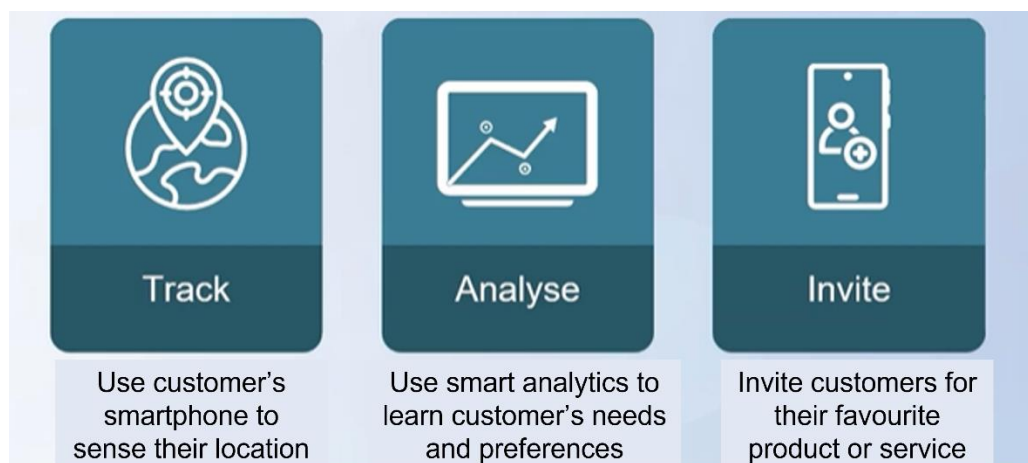
Enriching the Customer Experience

By focusing on your interactions with customers, you can identify ways to enrich their experience through digital innovation. This may involve leveraging technology to improve convenience, personalisation or engagement with customers. Enhancing the customer experience can lead to increased customer satisfaction, loyalty and ultimately, business growth.

Businesses can leverage technology to enhance the customer journey and create meaningful interactions. This can include various strategies, such as geofencing, data-driven insights, omnichannel experiences, augmented reality, social connections and seamless digital payments. By focusing on enriching each step of the customer interface, businesses can foster loyalty and differentiate themselves in competitive markets.

- **Reach and Engagement**

Geofencing, geolocation and geotargeting provide opportunities to create personalised micro moments for customers.



These tactics build reach and engagement, capturing the customer's attention and increasing the likelihood of a visit.

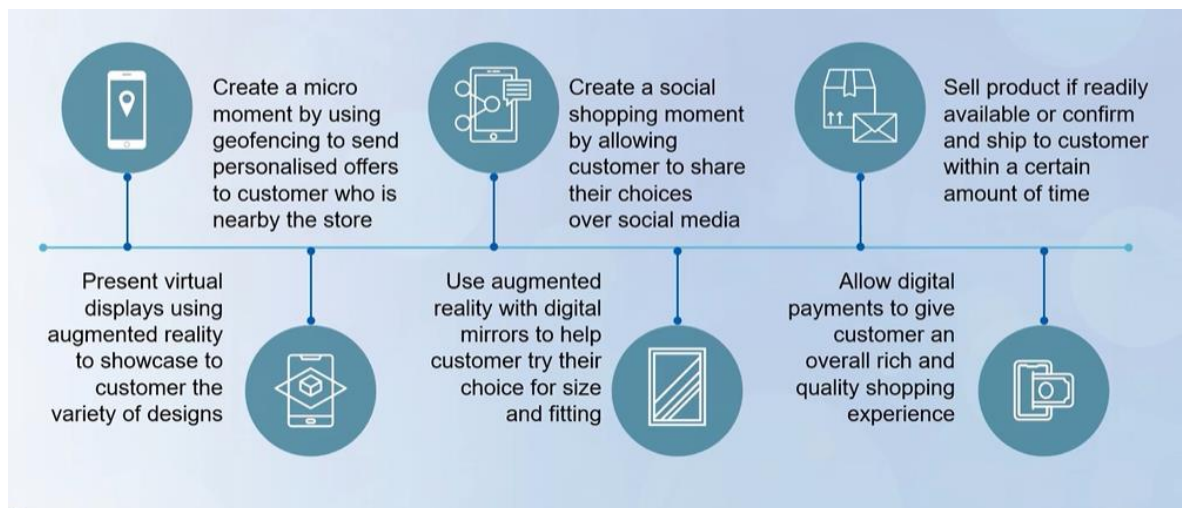
- **Customer Data Insights**

Companies with vast customer data can derive valuable insights to enhance the customer experience. By leveraging this data-driven approach, businesses can

provide tailored recommendations and deliver greater value to their customers, ultimately building stronger partnerships.

- **Internet of Things**

The Internet of Things enables seamless integration between physical and digital realms, leading to the creation of omnichannel experiences. Here's an example of a retail customer experience:



Optimising Core Operations

Core operations encompass activities such as manufacturing, supply chain management, warehousing, sales and service. By streamlining and synchronising these operations, businesses can enhance their efficiency and effectiveness.

Digital innovation plays a significant role in this optimisation process, enabling automation, real-time data analysis, predictive analytics and process optimisation. Improving core operations through digital innovation can result in cost savings, improved productivity and better overall performance.

- **Standardisation and Empowerment:**

Companies strive for productivity, quality, reliability, and cost control as indicators of operational effectiveness. They aim to produce high-quality products while keeping production costs under control. However, the challenge arises when customers demand personalisation and customisation, which increases the cost of producing a wide variety of products. Today, companies are turning to technology to address this challenge and achieve operational synchronisation.

Example: Asian Paints used augmented reality to enhance their customer interface, which led to increased market penetration while maintaining cost-effectiveness and productivity.

- **Balance Control with Innovation**

Control and innovation can often be seen as opposing forces. Innovation is risky but companies must balance freedom to experiment and necessary controls. Customer experiments can be conducted on platforms such as mobile apps and websites as these provide a controlled environment for innovation to thrive without endangering the company's financial stability or reputation.

- **Orchestrate and Unleash**

Understanding pain points in core operations and leveraging technology to overcome them is key to digital innovation.

Example: Tesco used an innovative approach to overcome the land constraints in Korea and quickly established itself as a top competitor. It recognised that Korea had a highly digitised population, with many people relying on smartphones and public transportation. The company created virtual grocery stores in train stations, displaying products on wallpaper. Customers could use their smartphones to scan QR codes and place orders, which were then consolidated and synchronised for delivery.

Creating Digital Products and Services Innovation

It is essential to reimagine the business around the customer instead of focusing only on the products or services. This will allow the business to identify new avenues for innovation and meet customers' evolving needs. To do this businesses can consider shifting from selling standalone products to providing consumption platforms that enhance the customer experience. For this approach businesses must consider

- What other elements are needed to complete the consumption process
- How to provide smart context to enrich the customer's interaction with the product or service.

Example: Nike transformed their sneakers into a comprehensive fitness and health platform by integrating Bluetooth technology into their sneakers which was synced with the runner's smartphone. By leveraging this digital innovation Nike met the broader needs and aspirations of their customers.

Driving Digital Innovation

To understand how to apply the principles and lessons of the CTO being an innovation catalyst, let us look at ING, a legacy incumbent firm

- ING faced four key challenges in their digital transformation journey:
 - Consumers had high expectations and desired the same experience as other consumer firms.
 - Millennials, the digital natives, had different banking preferences and didn't rely on physical branches.
 - It was crucial to build a platform of opportunities to leverage smart, mobile, analytics, and cloud technologies.

- It was a challenge to balance data usage with privacy regulations.
- ING's digital vision focused on providing clear and easy anytime, anywhere services for smart decision-making.
- The digital innovation sweet spot identified was enriching the customer interface. To achieve this ING did the following:
 - Launched Yolt, a mobile management application that allowed users to manage their finances across institutions.
 - Experimented with Ginger, a voice-driven AI interface for enhanced customer experiences and voice payments.
 - Created a €300 million fund and established 110 partnerships to build a new ecosystem.

ING recognised the need for a new ecosystem and became a venture capitalist, investing in startups for learning and future acquisition opportunities.

Next let us look at DBS, a bank in Singapore to understand how to spur innovation and how a CTO could help in some of those conversations

- DBS faced the challenge of attracting younger customers while being perceived as bureaucratic and slow.
- Their digital vision was to provide clear and easy anytime, anywhere banking services that make smart decisions and bring joy to customers.
- The bank identified three principles for their business model transformation:
 - Being digital to the core
 - Customer obsession
 - Creating a start-up culture.
- They aimed to be the "D" in GANDALF, comparing themselves to digital giants like **G**oogle, **A**pple, **N**etflix, **A**mazn, **L**inkedIn, and **F**acebook. The goal was to
 - Shift from specific projects to a platform
 - Embrace agile processes,
 - Automate tasks for speed
 - Design modern systems.
- DBS launched Digibank, the first mobile-only banking app, by which they embedded themselves in the customer journey and transformed their image.

DBS identified the customer interface as the digital innovation sweet spot, strived to be customer-obsessed and digital to the core. to achieve its digital transformation.

Key Steps and Responsibilities of a CTO

To drive digital transformation and foster innovation, the CTO's role as an innovation catalyst is crucial. The CTO should

- **Focus on comprehending the organisation's business model**
This includes identifying the value proposition, critical resources, critical processes and capabilities and the profit model and this understanding provides a foundation for strategic decision-making.

- **Identify the innovation sweet spots**

These include enriching the customer interface, synchronising core operations, and creating new products and services and recognising these areas of opportunity sets the direction for innovation initiatives.

- **Bring expertise in technology, market trends, and emerging tools to drive innovation.**

CTOs must stay updated with industry advancements, assess the potential impact on the organisation and apply their knowledge to guide technological investments and decision-making.\

- **Play a key role in cultivating a culture of innovation within the organisation**

This involves promoting risk-taking, encouraging experimentation and creating an environment that values and rewards innovative ideas. They can establish innovation frameworks, processes and collaboration channels to support idea generation and implementation.

- **Collaborate with various stakeholders to effectively drive innovation**

Stakeholders include business leaders, cross-functional teams and external partners. By fostering strong relationships and understanding business needs, the CTO can align technology initiatives with strategic objectives and drive innovation projects forward.