

## ISB CTO

### Week 4: CTO as Innovation Catalyst: Managing Innovation Portfolio

While discussing the role of the Chief Technology Officer (CTO) as an innovation catalyst within an organisation, we explored three distinct avenues of digital innovation that can augment the existing business model: enriching the customer interface, synchronising core operations and creating digital products and services. Building upon this foundation, let us delve two additional concepts:

- **Enhance the existing business model**  
Are there opportunities for creating a new business model or innovating a digital business model? Are there different types of digital business models?
- **Manage a digital innovation portfolio**  
Are there ways in which the CTO can keep a portfolio perspective in order to make sure that there is a balance among the stream of ideas in the organisation?

#### Motivations for Digital Business Model Innovation

When considering digital business model innovation, it is important to understand the underlying principles and motivations that drive organisations. By exploring the reasons behind digital business model innovation, we can better comprehend its value. Three key motivations can be identified:

- Enhancing customer delight and experience
- Synchronising and harmonising core operations
- Orchestrating new ecosystems

#### Digital Business Model Innovation: Approaches

There are specific business models that we can identify as approaches to digital business model innovation and we will focus on four such models: omnichannel, subscription-based model, business as a service and platform business model.

##### Omnichannel model

The word omni suggests all, and the word omnichannel suggests multiple channels, all connected to deliver a seamless experience. Traditionally, firms relied on the brick-and-mortar, either their store or their branch office.

In an omnichannel, the focus is on providing customers access to products, services and other offerings seamlessly, across multiple digital, physical and other channels. Omnichannel digital business model is about

- Blending the different channels seamlessly to put the customer at the centre of that experience and let the customer choose how he or she wants to conduct business

- Providing customer with support for different stages of their journey, and the ability to execute their wishes across those channels, and for the firm to support that in a seamless manner

<b>Primary Goal</b>	Delight the customer by owning the customer relationship end-to-end
<b>Metric of Success</b>	Net promoter score, in other words, how many people recommend you
<b>Strategic Levers</b>	<ul style="list-style-type: none"> <li>• Business process integration <ul style="list-style-type: none"> <li>- Integrating the various business processes seamlessly across channels</li> <li>- Emphasising on automation, technology such as rapid process automation, building on top of ERP systems</li> </ul> </li> <li>• Data warehousing and analytics <ul style="list-style-type: none"> <li>- Have the ability to recognise your customer instantly and marry that with mobility technology</li> </ul> </li> <li>• Social media, mobility and cloud</li> </ul>

### Example: Starbucks

- Customers of Starbucks can go into their store and smell the coffee proverbially, literally and buy their coffee.
- Customers can use their app to
  - Place the order while in the store or when they are approaching the store
  - Identify the nearest location, place the order and be ready to have it picked up
  - Access the total rewards program through which customers can choose their points to either redeem or to build.

### Personalisation and Subscription Services Model

This business model reiterates the concept of reimagining the business around the customer. Underlying the subscription model is a flat fee and consume all that you want. It puts the customer in the driver seat because they don't need to price individual products. The advantage of a subscription model is that it tends to attract customers with a higher willingness to pay, and as a result, it tends to be more profitable

<b>Primary Goal</b>	Delight the customer by offering them access to a broad product variety and enabling them to personalise the product choice almost in real time, almost on a daily basis
<b>Metric of Success</b>	Share of the customer's wallet
<b>Strategic Levers</b>	<ul style="list-style-type: none"> <li>• Broad product variety <ul style="list-style-type: none"> <li>- Product innovation, frequent refresh of products and expanding product variety is a fundamental requirement for the success of this model</li> </ul> </li> <li>• Deep personalisation through data and analytics <ul style="list-style-type: none"> <li>- Help customers make choices,</li> <li>- Build recommendation engines</li> <li>- Use collaborative filtering as an analytics technique to help customers discover what others like them have chosen</li> <li>- Expanding the range of choices available to them</li> </ul> </li> <li>• Business process integration and automation</li> </ul>

### Example: Netflix

Rather than offering their customers the ability to rent specific movies, Netflix introduced a subscription model, through which it made available a whole range of entertainment offerings for a flat monthly fee.

### Business as a Service Model

This is an emerging digital business model that shifts the customer supplier relationship from a traditional model of ownership to a model that evolves around providing services on a non-ownership basis.

This is a service centred model where the customers are the focal point. Once again, reimagine the business around the customer. Think about their complementary consumption needs. Organisations not only supply the product, but they support and offer value in use.

<b>Primary Goal</b>	Delight the customer by offering them access to a broad product variety and enabling them to personalise the product choice almost in real time, almost on a daily basis
<b>Metric of Success</b>	Share of the customer's wallet
<b>Strategic Levers</b>	<ul style="list-style-type: none"> <li>Services-oriented architecture <ul style="list-style-type: none"> <li>Focus on technology, applications and defining services which are a combination of data, application, technology, bundling them into units.</li> </ul> </li> <li>Rapid process automation</li> <li>Data warehousing and analytics.</li> </ul>

### Example: GE Engines

GE sold engines to airlines and trained them in maintenance. The airlines were responsible for the uptime and availability. GE launched a Business as a Service called GE Predix through which the engines were rented to the airlines, but the ownership and maintenance remained GE's responsibility.

### Advantages of Business as a Service



## Platform Model

The three models discussed are evolutionary models while this business model is a revolutionary model. It centres around creating a digital platform that connects various participants, such as customers, suppliers and producers to facilitate interactions, transactions and value exchange. Organisations operating as platforms can capture value through network effects, data-driven insights and ecosystem growth.

<b>Primary Goal</b>	Connect and transact, leverage interactions between two sides that depend upon each other around a unit of value
<b>Metric of Success</b>	Winner-take-all, means huge opportunities to gain market share
<b>Strategic Levers</b>	<ul style="list-style-type: none"> <li>Services-oriented architecture <ul style="list-style-type: none"> <li>Focus on technology, applications and defining services which are a combination of data, application, technology, bundling them into units.</li> </ul> </li> <li>Rapid process automation</li> <li>Data warehousing and analytics.</li> </ul>

### Example: Uber

Uber provides mobility services. It is a platform connects two sets of customers

- Riders who need convenient, flexible, predictable, anywhere, anytime mobility
- Drivers who are car owners willing to the mobility service

Every time there is a passenger who needs a ride, the Uber technology infrastructure creates awareness of the location of passenger and where they want to go and what's the fare. And the driver has that information and responds to that ride and shows up. And every time it connects a driver and a passenger, there is a ride, and the ride is a transaction. And when the passenger pays for the ride, Uber collects a commission and passes on the rest of the payment to the driver.

### Advantages of Platform Model

- Greater access to sellers
- Better value to consumers
- Rapid market growth
- Asset-light, so it's much more flexible
- Rapid scalability
- Greater opportunities for innovation

## Managing the Digital Innovation Portfolio

In addition to being an innovation catalyst, one crucial aspect of a Chief Technology Officer's (CTO) role lies in effectively managing the digital innovation portfolio. This entails addressing the underlying challenge of numerous sources of ideas for digital innovation, each with distinct reasons for project development. Therefore, it becomes imperative to identify the common thread that connects these ideas and ensure that the right ideas are given due attention and consideration. Moreover, since financial resources are limited within an organisation, it is crucial to invest them wisely. This

article delves into the origins of these ideas and explores the significance of mapping various sources of innovation.

### Sources of Innovation Ideas

Digital innovation, by its nature, thrives on open innovation. Ideas originate from both internal and external sources, thereby broadening the scope for potential breakthroughs.

- Ideas emerge from technology-focused individuals responsible for managing information technology infrastructures encompassing social, mobile, analytics, and cloud technologies within the organisation.
- Business users, who directly engage with customers, employees and suppliers, also contribute valuable insights.
- Vendors and strategic partners who assist in building the organisation's technology infrastructure are another significant source of innovative ideas.

So, an important implication here is to map different sources of innovation ideas and assess periodically how much you are listening to those different voices. Managing the idea flow is an important challenge and responsibility of the CTO as an innovation catalyst.

### Assessment of Value of Individual Innovation Projects

Every project takes time, costs money and demands attention from people in the organisation and these valuable skills and resources must be spent wisely.

So, while CTOs have to be receptive and open to all innovation ideas, they also have to manage the portfolio in such a way that time, money and energy is allocated to the right projects. To categorise the investments and identify the right way to justify those investments there are six different ways of thinking about the digital innovation portfolio:

<b>Mandatory</b>	<ul style="list-style-type: none"> <li>• Driven by government or regulator</li> <li>• Less expensive</li> <li>• Calls for immediate action</li> </ul>
<b>Technology Renewal</b>	<ul style="list-style-type: none"> <li>• Driven by periodic software updates</li> <li>• Less expensive if timed correctly</li> <li>• Non-urgent carries postponement cost</li> </ul>
<b>Incremental Process Improvement</b>	<ul style="list-style-type: none"> <li>• Driven by a need to deliver improved customer experience</li> <li>• Less expensive and less time-consuming</li> <li>• Incremental gains</li> </ul>
<b>Competitive Necessity</b>	<ul style="list-style-type: none"> <li>• Driven by market competition</li> <li>• Less expensive but delays can be costly</li> <li>• Calls for immediate action</li> </ul>
<b>Competitive Advantage</b>	<ul style="list-style-type: none"> <li>• Driven by need to stay ahead of competition</li> <li>• Calls for high investment</li> <li>• Time-consuming but not urgent</li> </ul>
<b>Digital Infrastructure</b>	<ul style="list-style-type: none"> <li>• Driven by future business opportunities</li> <li>• Calls for large scale investments</li> <li>• Time consuming but not urgent</li> <li>• Complex but unavoidable</li> </ul>

## Key Reflections

- There are different digital innovation sweet spots available today,
  - Enrich and enhance customer relationships
  - Synchronise operations
  - Launch digital products and services
  - Innovate new digital business models
- What does it take to execute any one of these digital innovation sweet spots?
- Ideas for digital innovation occur anywhere within enterprise and outside of the enterprise. So, how to nurture open innovation?
- Motivation or ideas for digital innovation occur for different reasons and CTOs must be aware of them and balance attention.
- CTOs as innovation catalysts must ensure that their organisation is capitalising on these ideas, opportunities, and sources.