CHAPTER 5

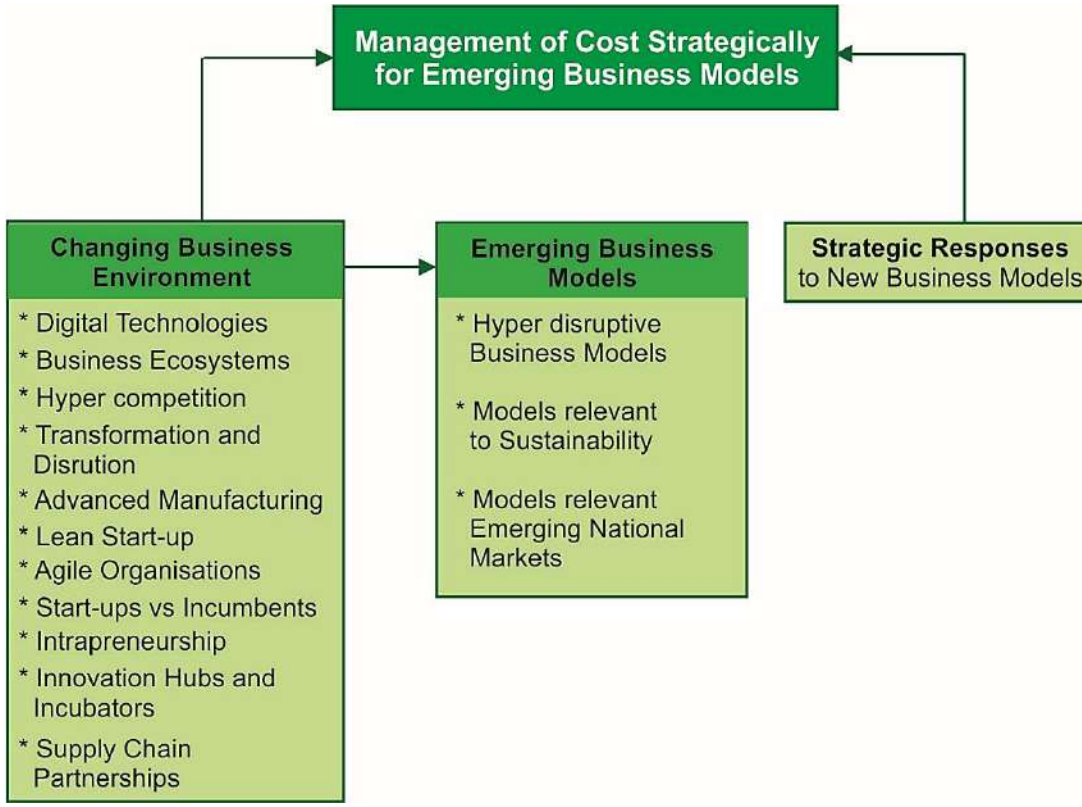
# MANAGEMENT OF COST STRATEGICALLY FOR EMERGING BUSINESS MODELS

## LEARNING OUTCOMES

**After studying this chapter, you will be able to:**

- EVALUATE and ANALYSE, the factors that are acting a key driver of change in business environment that are also referred as to change drivers.
- UNDERSTAND and EVALUATE, how the dynamic business environment is giving rise to new business models.
- UNDERSTAND and APPRAISE the emerging business models relevant to Hyper Disruptive Environment, Sustainability, Emerging markets.
- EVALUATE and APPLY strategies (drafting and implementation) in response to change drivers that results in emerging business models.

## CHAPTER OVERVIEW




The business environment is, by definition, dynamic and ever-changing. This chapter will focus on the underlying elements driving the change. The chapter then highlights how a rapidly changing business environment is giving rise to new business models and how organisations are gearing up for such emerging models. The chapter also discusses the various business models relevant to the hyper-disruptive business environment, sustainability, and emerging markets. Towards the end, it suggests strategic responses to such emerging business models.

## A. CHANGING BUSINESS ENVIRONMENT

In the first chapter, we acknowledged the need for environmental analysis in crafting strategy to better address the opportunities and counter the threats that an organisation faces; using its strengths while recovering from its weaknesses, in order to attain its objectives. But the business environment is dynamic; it has become inevitable for business leaders to assess the changes and respond to them timely, in adherence to the principle of survival of the fittest. They need to modify their operations in response to technological advances, stakeholder expectations, increased competition, and other pressures. Therefore, one may conclude that a changing business environment may force business organisations to adopt new business models.

Prior to adapt the change, it is essential for business leaders (including management accountants) to understand the change and the drivers thereof. This helps in the effective analysis of the business environment. The **change drivers** include a wide range of key elements, including hyper competition, advancements in technologies (especially in the digital space), disruptions due to an increasing focus on sustainability, stakeholders, innovation, incubation of ideas, etc. The quantum and force of change drivers collectively determine the degree of environmental dynamism. Some of these change drivers are causes, whereas others are effects.

**To illustrate,** digital technologies are cause of the driver, while advanced manufacturing is the effect of the driver. Ecosystem is the root cause, but agile organisations and lean start-ups are effects. Let's go-through the prominent change drivers that revamped the business environment in the last decade or so.

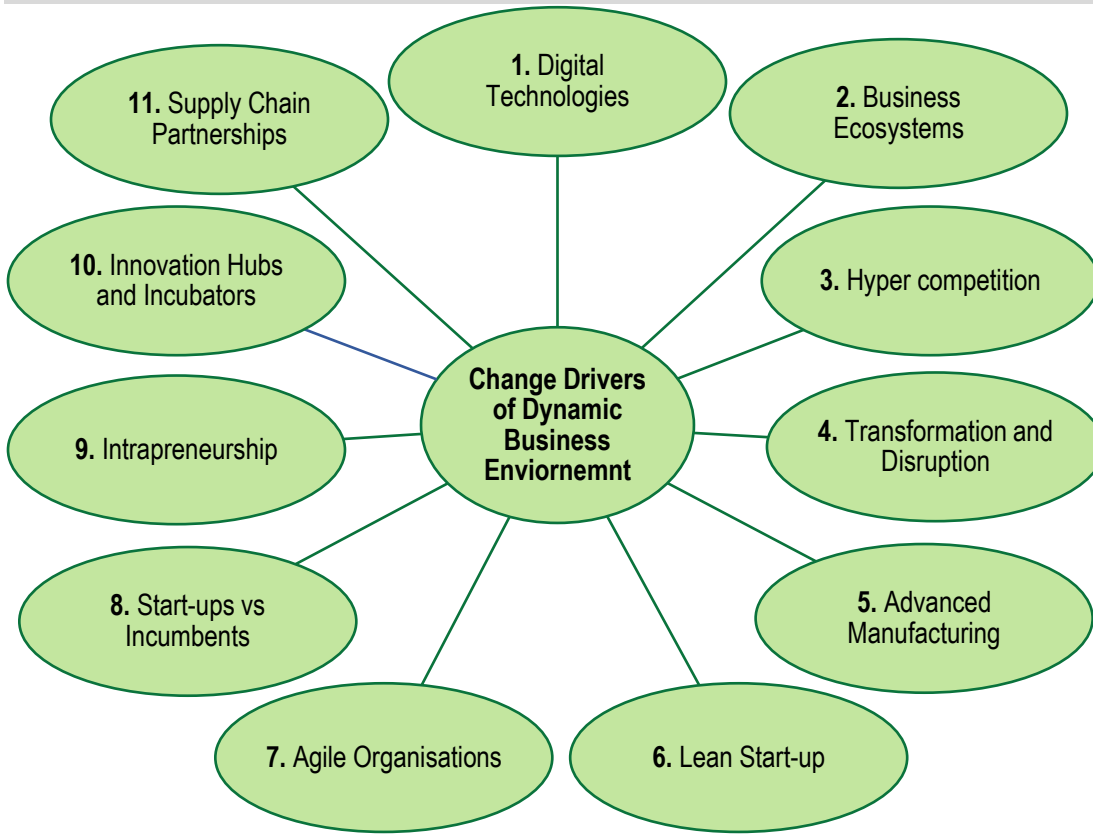



*Figure A.1 – Change Drivers of Dynamic Business Environment*

## 1. Digital Technologies

Digital technologies are electronic or automated tools, systems, devices, and resources that generate, store, or process data. Well known examples include multimedia, smart phones or devices, the cloud, the internet of things (IoT), blockchain, etc. Network or Internet is the underlying basis of all digital technologies' advancements.

The last two decades have remained revolutionary from the perspective of rapidly transforming digital technologies. **To illustrate,** we witness gizmo devices such as mobile phones becoming smarter through technological advancement, which bring shopping, banking, marketing, and many more to your figure-tip when connected to other technologies such as cloud-based apps or the internet. Further, AI-enabled frontier technologies in the health sector are assisting in the saving of lives, the diagnosis of illnesses, and the extension of life expectancy.

**Do You Know?**

*What is the UN observation on the advancement of digital technologies[1]?*

Digital technologies have advanced more rapidly than any innovation in our history, reaching around 50 percent of the developing world's population in only two decades and transforming societies. By enhancing connectivity, financial inclusion, and access to trade and public services, technology can be a great equalizer.

Eleven key technologies for Digital Transformation are enumerated below with brief insight that created buzz in the last decade and are expected to continue to dominate in times to come.

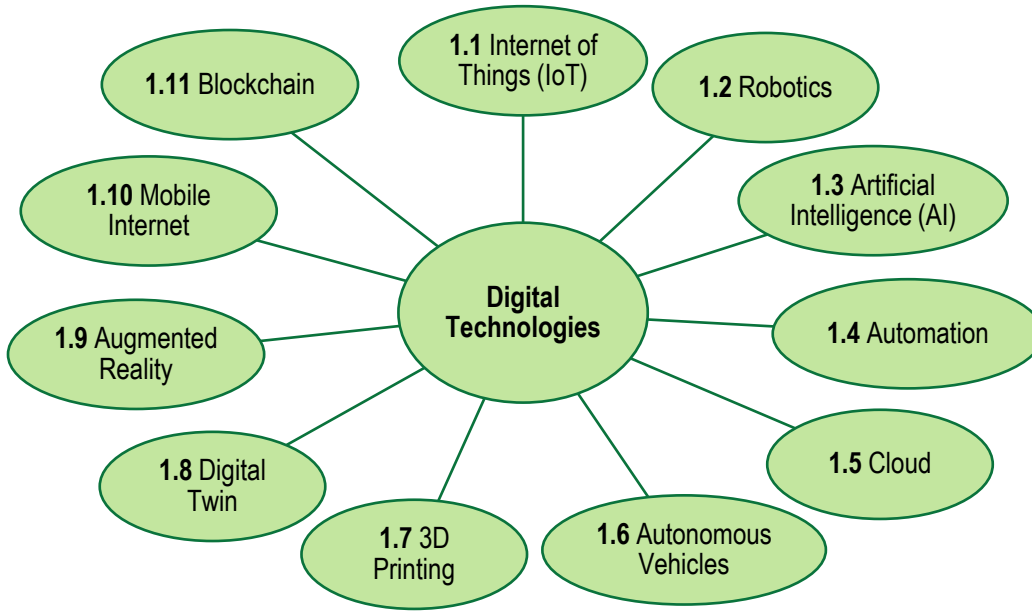



***Figure A.2** – Digital Technologies*

## 1.1 Internet of Things (IoT)

The continuous connectivity of smart devices and sensors is made possible by IoT. The Internet of Things is giving manufacturers access to their products and processes like never before. These large-scale companies are utilizing industrial IoT technology to better understand their operations, both globally and within their factories.

[1] https://www.un.org/en/un75/impact-digital-technologies

Manufacturers are achieving important digital transformation goals, such as increased efficiency, flexibility to respond more quickly to market and customer demands, and innovation across their products and services, with the help of the IoT's increased insights and analytics.

**Practical Insight**

IDC research suggests that by the end of 2019, 75% of large manufacturers updated their operations with the Internet of Things (IoT) and analytics-based situational awareness[2].

### 1.2 Robotics

Robotics refers to technologies that are able to sense input, apply rules or artificial intelligence, and react physically. Robotics is now being used for more analytically based tasks that are supported by IoT, sensors, and artificial intelligence, as well as for repetitive tasks. Robotics is an important component of digital transformation because it increases operational effectiveness and frees up human labor for higher-level tasks.

Robotics are found to be highly useful in sectors such as Health Care, Agriculture, Food Preparation, Military/Defense, and Manufacturing. Robotics are used in a variety of manufacturing processes to help boost output and efficiency while cutting costs. Similar to the healthcare sector, many robots in manufacturing work alongside humans to complete tedious, complex, or repetitive tasks under the direction and control of the worker. Precision and the capacity to be reprogrammed for tasks of different sizes and complexity are valued more highly with these machines than speed. The use of robotic manufacturing technology is also getting safer. Robots can detect and avoid (replace) humans in the workplace, thanks to cameras, sensors, and automatic shut-off features.

**Practical Insight**

The new World Robotics Report[3] shows an all-time high of 5,17,385 new industrial robots installed in 2021 in factories around the world. This represents a growth rate of 31% year-on-year and exceeds the pre-pandemic record of robot installation in 2018 by 22%. Today, the stock of operational robots around the globe hit a new record of about 3.5 million units. Asia remains the world's largest market for industrial robots. 74% of all newly deployed robots in 2021 were installed in Asia (2020: 70%).

### 1.3 Artificial intelligence (AI)

AI deals with technologies that can react to data in a way that resembles human thought. Artificial intelligence is releasing previously unattainable analytics and insights, driven by the exponential growth in data and access to data, as well as computer power and connectivity. New strategies for approaching and resolving issues are consequently emerging.

[2] https://manufacturingdigital.com/technology/jump-starting-digital-transformation-manufacturing
[3] https://ifr.org/ifr-press-releases/news/wr-report-all-time-high-with-half-a-million-robots-installed

For instance, generative design makes use of AI to quickly optimize designs based on a list of system design specifications. It generates answers that would require hours (and hours) of engineering work.

**Practical Insight**

A McKinsey survey from 2021 found that 56% of companies have adopted AI in at least one function within the organization, which is an increase from 50% the year prior[4].

**Concept Insight**

**Machine learning** is an **application of AI.** It is the process of using mathematical models of data to help a computer learn without direct instruction. This enables a computer system to continue learning and improving on its own, based on experience.

## 1.4 Automation

Automation, in a layman's sense, deals with technology that is able to perform work on its own, which was traditionally performed by humans.

Automation is a term for technology applications where human input is minimized. This includes business process automation (BPA), IT automation, and more. Types of Automation include–

**1.4.1 Basic automation** takes simple, rudimentary tasks and automates them. Business process management (BPM) and robotic process automation (RPA) are types of basic automation.

**1.4.2 Process automation** ensures the consistency and transparency of business processes. Dedicated software and business apps are typically used to manage it. Process automation includes workflow automation and process mining.

**1.4.3 Integration automation** is where machines can mimic human tasks and repeat the actions once humans define the machine rules.

**1.4.4 Artificial intelligence (AI) automation** is the most complex level of automation. With the addition of AI, machines can "learn" and make decisions based on previous situations encountered and analyzed.

## 1.5 Cloud

Cloud allows computer infrastructure and software services to be delivered over a network. The cloud is an important component of most digital transformation initiatives because it allows for greater flexibility and agility across an organization, as well as faster scalability in many cases.

[4] https://www.mckinsey.com/capabilities/quantumblack/our-insights/global-survey-the-state-of-ai-in-2021

Cloud computing is the act of using an interconnected network of Internet-hosted remote servers to manage, store, and process data.

*The five key terms that describe cloud computing are XaaS (Anything-as-a-Service), SaaS (Software-as-a-Service), PaaS (Platform-as-a-Service), IaaS (Infrastructure-as-a-Service), and BaaS (Backend-as-a-Service).*

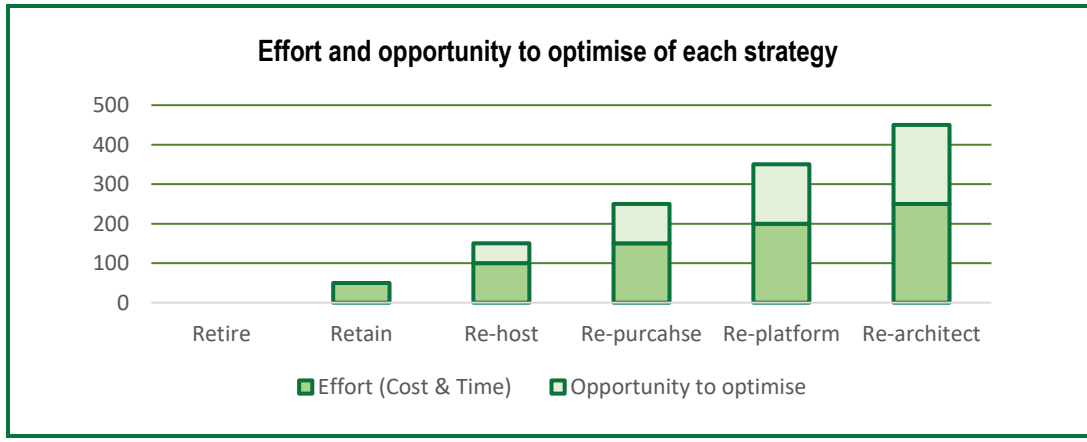
**Practical insight**

Migration strategies from specific application to the cloud – Efforts and Opportunities

"5 R's" model published by Gartner in 2010, which defined all the basic options to migrate a specific application to the cloud.

Amazon Web Services (AWS) adopted this model and extended it to the 6 R's: Re-host, Re-platform, Re-factor/Re-architect, Re-purchase, Retire and Retain[5].

The complexity, opportunity to optimize, and effort of these six strategies vary (Cost and time). The graph below should help you understand which strategy is the simplest and which is the most difficult.




## 1.6 Autonomous vehicles

It includes vehicles that can navigate and drive without a human operator. Tesla can be an apt example of this, but as an end use product, not a vehicle used for production or operations. For military operations, autonomous vehicles are highly popular.

## 1.7 3D printing

It is the printing of 3D objects from a design file. Additive manufacturing (sometimes called 3D printing) is the process of building an object's one thin layer at a time. Extrusion (also known as FDM for Fused Deposition Modelling or FFF for Fused Filament Fabrication) is the most common 3D printing technique.

[5] https://aws.amazon.com/blogs/enterprise-strategy/6-strategies-for-migrating-applications-to-the-cloud/

3D printing can cost anywhere from $3 up to thousands of dollars[6]. It's hard to get the exact cost of a 3D print without a 3D model. Factors such as material, model complexity, and labour affect the price of 3D printing. 3D printing services can sometimes cost more than an entry level 3D printer.

**Practical Insight**

According to McKinsey, the additive manufacturing market will grow to $250 billion by 2025[7].

### 1.8 Digital Twin

Digital twins, as one of the Strategic Technologies, play an important role in digital transformation. Digital twins are virtual representations of their physical counterparts. They can represent products, processes, or tasks and be used to comprehend and even predict their physical counterpart. With the increasing adoption of IoT, augmented reality, and digital thread, digital twins have become more powerful and impactful through the integration of product lifecycle and design/engineering CAD data. There is a growing number of digital twin use cases across the value chain, including engineering, operations, maintenance, and service.

### 1.9 Augmented Reality

Augmented Reality makes it possible to connect the physical, digital, and human worlds more seamlessly.

Augmented reality is "IoT for humans". When frontline workers wear Microsoft HoloLens, they can connect to their physical surroundings while also leveraging the cloud's data and analytics power[8]. This allows them to complete a task with real-time information in a highly visual format.

This is just one of the many emerging augmented reality use cases in the industrial market. Improved worker productivity and quality, differentiated products and next-generation human machine interfaces, knowledge transfer and training, and new customer support and services are all advantages of Enterprise Augmented Reality.

### 1.10 Mobile Internet

Mobile internet enables continuous connectivity of computing and smart devices. Mobile has irreversibly altered the world we live in over the last two decades. Mobile's influence pervades our daily lives, from increased connectivity to powerful technology at our fingertips. Mobile technologies present numerous opportunities for manufacturing and industrial companies, particularly with the upcoming capabilities of 5G. It's no surprise that 81% of manufacturing CEOs consider mobile technology to be strategically important[9].

In many ways, mobile is a foundational technology that enables other game-changing technologies. Shop floor workers, for example, are using smartphones to view machine data points in augmented reality (AR); field service technicians can get interactive, real-time guidance from experts at headquarters through AR to repair an industrial asset; engineers are using their phones to review CAD designs on-the-fly; and global sales teams are creating quotes for custom products based on current pricing and delivery dates.

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[6] https://prtwd.com/guides/how-much-does-3d-printing-cost/
[7] https://www.cio.com/article/217888/3d-printing-will-disrupt-manufacturing-industry.html
[8] https://www.ptc.com/en/blogs/corporate/digital-transformation-technologies
[9] https://www.forbes.com/sites/louiscolumbus/2019/04/10/how-securing-mobile-devices-is-defining-manufacturings-future/?sh=718fa9d72097

As mobile technology improves with 5G, ripple effects will be felt throughout the manufacturing industry. Improved connectivity for robotics and automation in the factory, as well as faster real-time analytics from field operations, will be available.

### 1.11 Blockchain

Blockchain technology is a system that records public transactions, or blocks, in multiple records known as "chains" in a system linked by peer-to-peer connections. This type of storage is also known as an electronic or digital ledger. Each block on the chain contains several transactions, and when a new transaction occurs on the blockchain, a record of that transaction is added to the ledger of each participant.

DLT (Distributed ledger technology) is a decentralized database with many members. Every transaction in this ledger is verified and protected by the holder's digital signature. As a result, the digital ledger's data is extremely secure.

Blockchain is a data storage method that makes it difficult or impossible to change, hack, or defraud the data. A blockchain is a digital transaction log that is replicated and distributed across a network of computer systems. A blockchain is a type of distributed ledger technology in which transactions are recorded using an immutable cryptographic signature known as a hash.

**Concept Insight**

A change in business model on account of technological advancements can be classified into the following categories–

- *Automation* is the mere replacement of humans with technology without impacting organisational culture or business processes. Installation of a passbook update kiosk in the bank lounge.
- *Extension* is using technology to perform extended (new) tasks or processes that enhance the functions or utility of product/ service. Mobile Banking is an extension of internet banking.
- *Transformation* is the use of technology that not only revamps the product or services that an organisation offers but also its process and culture. Installing ATMs across the towns and villages (Withdrawal of cash, print of the mini statement of transactions, balance enquiry, etc. can be done outside of banking hours as well), digital clearing system, etc.

## 2. Business Ecosystems

'Ecosystem' is a metaphor from the field of ecology, first used in 1930 in the context of organisms[10]. Business strategist James Moore in 1993[11] compared companies operating in the increasingly interconnected world of commerce to a community of organisms adapting and evolving to survive. He proposed that a company should be viewed as a member of a business ecosystem with participants from multiple industries rather than as a single firm.

[10] The term ecosystem was coined in the 1930s by British botanist Arthur Tansley to describe a community of organisms interacting with one another and their environments: air, water, earth, and so on

[11] In the 1993 Harvard Business Review article "Predators and Prey: A New Ecology of Competition"

A business ecosystem is a **network** of organizations (such as suppliers, distributors, customers, competitors, government agencies, and so on) that are involved in the delivery of a specific product or service through both competition and cooperation. Therefore, the business ecosystem is the coexistence and co-evolution of organizations as a result of their ongoing interactions.

**Do You Know?**

*How does a changing business eco-system impact strategies towards competitive advantage?*

Networks are rapidly replacing traditional markets. This shift necessitates new strategies, wherein the basis of competitive advantage shifts from what the organization 'does better' than its competitors to how its partnerships and alliances help all involved parties 'do better'.

Understanding business ecosystems is becoming increasingly important for keeping up with and staying ahead of the pace of change. Participants in business ecosystems collectively create more value than they could individually. Companies that do not embrace business ecosystems risk falling behind their competitors.

Ecosystem Strategy Framework involves answering of 8 descriptive questions–

- Should we engage in a business ecosystem?
- How can we identify viable ecosystem opportunities?
- Which role should we play in the ecosystem?
- How can we build our own ecosystem?
- How can we win against competing ecosystems?
- How can we capture value in our ecosystem?
- How can we benefit as an ecosystem contributor?
- How can our ecosystem strategy evolve over time?

Depending upon the purpose and modality of building ecosystem, it may be described in terms of innovation ecosystems (together striving for innovation), platform ecosystems (complementary products around a single product or service), and service ecosystems (exchange of value among the parties involved).

**Illustration** - Pharma companies coming together even across borders to share their resources and knowledge so that together they can develop, manufacture, and distribute the vaccines and medicines that can prevent from/ cure COVID-19 is an apt case of an innovative ecosystem wherein logistic and fund support (largely from government agencies and public bodies) were also involved in addition to pharmaceutical cooperations.

**To illustrate** further, Covishield has been developed by the University of Oxford along with the British pharmaceutical major AstraZeneca. Pune-based Serum Institute of India, the world's largest vaccine manufacturer in terms of numbers, partnered with Oxford University to manufacture their Covid-19 vaccine in India[12]. The Serum Institute of India produced 5,000 doses of the vaccine per minute in their assembly lines[13]. Funding (as an advance for the order) and logistic support were assured by the Indian Government.

## Do You Know?

*How does the business ecosystem influence cost, value, and performance?*

While answering the question specified above, **how can we build our own ecosystem?** Every organisation must focus on the secret source in the design of business ecosystem: three mutually reinforcing flywheels that are **data flywheel** (learning effect from more and richer data that provide deeper and better insight), **growth flywheel** (network effects from more users and partners by offering them an improved value proposition), and finally the **cost flywheel** (scale effects by spreading the fixed cost that results in lowering the unit costs; which in turn improves the value proposition).

Organizations must understand their external environment in terms of business ecosystems, in which various organizations collaborate and cooperate to create value while also seeking to capture value for themselves.

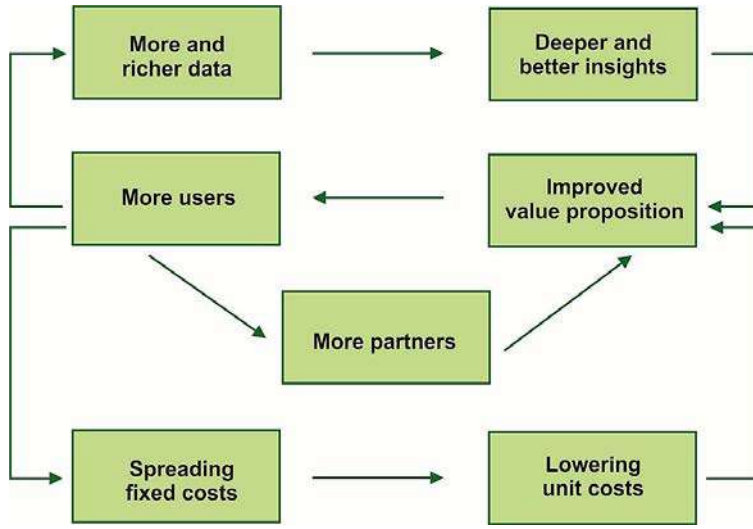



*Figure A.3 – Three Flywheels -Fuel Business Eco-System Success*[14]

[12] https://www.cnbc.com/2021/03/19/india-covid-19-vaccination-drive-serum-institute-director-weighs-in.html

[13] https://www.livemint.com/news/india/5000-doses-of-covishield-minute-a-look-at-serum-institutes-s-vaccine-journey-11610809058833.html

[14] BCG Henderson Institute Analysis

## 3. Hyper Competition

Hyper-competition is a condition when the competition is so intense that it creates instability in the market. The bargaining power of buyers is also getting stronger, putting more pressure on producers. Consumers can easily switch to competing products when unsatisfied with a product. That, in turn, drives them to want not only higher quality products but also cheaper ones. Because of these conditions, any competitive advantage an organisation establishes cannot be sustained for a long time; therefore, businesses must constantly change their strategies.

### 3.1 The Characteristics of the Hypercompetitive Market are listed below–

- High level of rivalry among the players.
- Strategic maneuvers occur at a quick, intense, and unexpected pace.
- Rapid technological and structural changes.
- Adoption of flexible strategies is common because the competitive landscape is changing rapidly.
- Low entry barriers, allowing new players to enter and challenge existing companies.
- The diminishing of geographic and industrial barriers due to globalization.
- Significant global alliances among competitors with deep pockets.
- Strong bargaining power of the buyer (with fragmented preferences).
- The competitive advantage is temporary. The new strategic competitiveness would immediately appear, destroy, and replace the old ones.

**Do You Know?**

*How does hyper-competition influence cost, value, and performance and reflect in strategies?*

In a hyper competitive market, companies often aggressively challenge their competitors not to sustain competitive advantage but to sustain value creation. Organizations strive for a series of short-term advantages relying upon market disruption; when such disruption matures, such organizations will move to another disruption; basically, they have to be too innovative. An example of certain cellular phone manufacturers can be considered here: they keep on launching new editions of phones to stay ahead of rivals, who undoubtedly deal in the low-price category but are perfect substitutes due to features or functions.

### 3.2 Response (Strategy) for Hyper-competition

D'Aveni's 7S framework is an approach to directing an organization in high velocity or hypercompetitive markets. D'Aveni's 7S framework (Stakeholder's satisfaction; Strategic soothsaying; Speed; Surprise; Signals; Shifting the rules of a market; and Simultaneous and sequential thrust) was created by strategy expert Richard A. D'Aveni. The framework was designed to enable a business to remain competitive through a series of initiatives delivering temporary advantages. According to D'Aveni, this strategy is preferable to restructuring the business to maintain equilibrium.

## 3. Transformations and Disruptions

Generally, industries, products, and services, as well as business models, evolve gradually through continuous improvement as industries and organizations pass through a life cycle. Such as the journey from analog watches to digital, even now smart watches. TV picture tubes were replaced with LCD panels, then advanced to LED-lit LCDs, and now smart TVs.

However, innovations introduced may change the competitive landscape in a market, resulting in an industry **transformation** or **disruption**.

### 4.1 Transformation

Transformation occurs when an innovation shifts the basis of competition in the industry. It includes realignment of, or new investment in, technology and business models to more effectively engage customers at every touchpoint in the customer experience lifecycle.

**To illustrate**, launch of platforms like UPI transforms the scenario for small merchant payments. Through this the customers' experience improves multifold.

There are four types of transformation, i.e., transformation of business processes, business models, domain (like Amazon, an online platform that expanded into a new market domain with the launch of Amazon Web Services), and cultural (or organisational) transformation[15].

### 4.2 Disruption

Disruption occurs when an existing industry player faces a challenger that offers greater value to the customer in a way that existing firms cannot compete with directly.

**To illustrate**, App (riding/ cab booking applications) based passenger transport companies. The taxi services have been disrupted because these app-based companies offer greater value to customers (passengers). Fundamentally, their business models are different, which makes it even more difficult for average performing taxi service companies to replicate them.

Such organisations which introduce disruptions are referred to as disruptive organisations. Disruptive organisations tend to innovate in unexplored or unattractive segments of the market to generate value through simpler, cheaper, convenient products or services. Hence, **Disruptive Innovation** refers to the process of transforming an expensive or highly sophisticated product, offering, or service into one that is simpler, more affordable, and accessible to a broader population.

**Concept Insight**

Disruptive Innovation is a bit different from Sustaining Innovation

All innovations are not disruptive. While disruptive innovation expands the market, sometimes displacing long-standing incumbents; sustaining innovation is incremental and targets existing customers who used a previous iteration of the product or service. Smartphone companies are examples of sustaining innovation because they continuously innovate and use new technologies to improve their existing products in order to increase profitability.

[15] https://www.globaldata.com/company-profile/amazoncom-inc/

Clayton Christensen[16] identifies two main types of disruptive innovation, i.e.,

**Low-end disruption** - Low-end disruption occurs when a company uses a low-cost business model to enter at the bottom of an existing market and claim a segment. As the entrant company claims the lowest market segment, i.e., a lower profit-making segment for the incumbents, the other existing companies typically retreat upmarket, which means that they move further "upstream" where profit margins are higher. Therefore, it creates a situation where the other players in the industry are actually motivated to flee rather than fight you.

Online booksellers are an apt **example** of this, as they targeted the bottom of the market, offering books at lower prices to customers who cared more about the low cost than the luxury of browsing in a bookstore to see available options. They were eventually able to target high-end customers as well, which resulted in higher profits.

**New-market disruption** - New-market disruption occurs when a new entrant expands the market by targeting customers who have never used a similar product before. The disruptive company ***creates a new market*** by making its products more accessible or less expensive.

**To illustrate**, the early computers (i.e., mainframes) were large, expensive, and challenging to operate. The first providers of personal computers (i.e., minicomputers) noticed the untapped potential and capitalized on it.

*Christensen says low-end disruption doesn't create new markets; a new entrant tries to gain market share from (or at loss of) the existing players (incumbents), whereas in new-market disruption, the new entrants go after new customers that aren't interested in existing offerings and offer a simple and better product to such new customers. Hence, the main difference between the two is that low-end disruption focuses on overserved customers, while new-market disruption focuses on underserved customers.*

**Do You Know?**

*What are the components of Disruptive Innovation?*

There are three main components of disruptive innovation:

- Enabling Technology - Innovation requires the ability to create a better product. The transistor radio, for example, used the broadcast network to create a low-cost portable radio.
- Disruptive or Innovative Business Model - For a disruptive business to succeed, it must use a new business model that targets new or low-end customers within a given industry. This is what distinguishes a disruptive innovation from a standard innovation. Even if they are unique, not all innovations are disruptive.
- Coherent Value Network - For a disruptive innovation to succeed, it must be accepted across a coherent value network, which includes suppliers.

[16] Professor at Harvard Business School

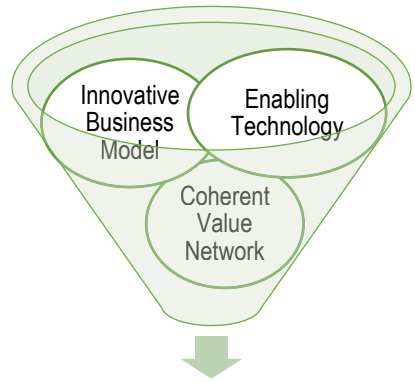



*Figure A.4 – Components of Disruptive Innovation*

## 5. Advanced Manufacturing

Advanced manufacturing is the use of innovative technologies and methodologies for improved competitiveness in the manufacturing sector. Critical thinking, problem-solving, and an agile mindset are skill sets that manufacturers will need more and more to support advanced manufacturing.

**Do You Know?**

*What is the aim of advanced manufacturing, and how does it impact the cost and value of the product that an organisation offers?* The aim of advanced manufacturing is to–

- Enhance output.
- Increase added value, quality, responsiveness to the market, and flexibility.
- Reduce time to market, unit quantities, material content, and material inventory.
- Remove the scenario of underutilized capital plant.

While attaining the above objectives, advanced manufacturing controls the cost and enhances the value.

Meredith and Hill[17] have classified advanced manufacturing technologies based on their level of integration, as shown below in table–

| Level | Integration | Advanced manufacturing technologies |
|---|---|---|
| 1 | **Stand-alone** (or unitary) | Equipment such as robots or numeric controlled (NC) machine tools. |
| 2 | **Cells** | Consisting of groups of equipment and materials for the production of parts, typically utilizing group technology (GT) and computer-aided manufacturing (CAM). At its highest level of integration, a cell might form a flexible manufacturing system (FIMS). |

[17] J.R. Meredith, M.M. Hill. Justifying New Manufacturing Systems: A Managerial Approach. Sloan Management Review, 28 (1987), pp. 49-61.

| | | |
|---|---|---|
| 3 | **Linked islands** | Involving cells from level 2 being linked together into larger production systems which typically utilize CAD/CAM, automated storage and retrieval systems, JIT, and MRP II. |
| 4 | **Full integration** | Providing linkage of the entire manufacturing function and all its interfaces through an extensive information network. This level of integration is commonly known as computer integrated manufacturing (CIM). |

**Explanation of techniques for advanced manufacturing**

- Group technology/ cellular manufacturing (GT/CM) is a form of production based on a coding system for parts that allows families of parts to be assigned to manufacturing cells for production.
- Numerically controlled (NC) machines are preprogrammed through magnetic tape or microcomputers to perform a cycle of operations repeatedly.
- Flexible Manufacturing System (FIMS) is a system in which groups of production machines are sequentially connected by automated materials handling and transferring machines and integrated into a computer system.
- Computer Aided Design (CAD) is a computerized process for designing new products or modifying existing ones.
- Computer Aided Manufacturing (CAM) involves the use of computers to plan and program production equipment in the production of manufactured items.
- Computer Integrated Manufacturing (CIM) is the total integration of all business functions associated with production through computer systems. The components of CIM are shown in the figure.

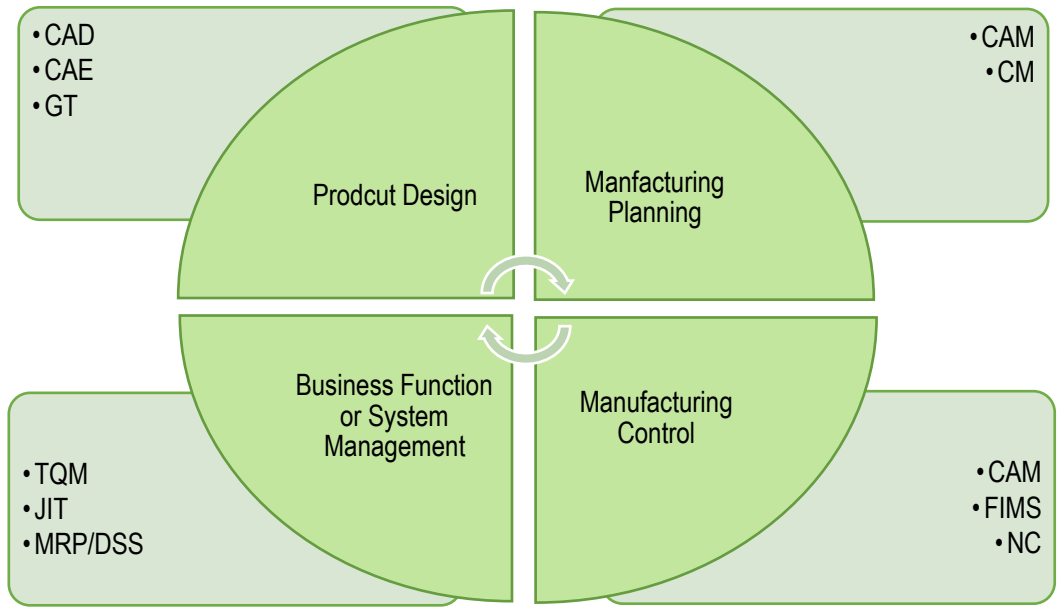



*Figure A.5 – Components of Computer Integrated Manufacturing*

## 6. Lean Start-up

One must acknowledge that putting up (or committing) too many resources upfront may make any business vulnerable to hostile and undesired changes, especially if their strategy doesn't work-out as a result of the incorrectness (either completely or partially) of assumptions made due to the irreversibility involved. Here, it is worth noting that around 70 to 80 percent of the product cost is committed during the design phase only.

Hence, instead of creating elaborative business plans, Lean Startup offers a framework for startups to test, learn, and adjust their strategy through a cycle of continuous improvement. Alternatively, one can say that lean startup is an approach to build new businesses based on the belief that entrepreneurs must investigate, experiment, test and iterate as they develop products.

Therefore, the founders of lean start-ups don't begin with a business plan, rather they begin with the search for a business model. Only after quick rounds of experimentation and feedback, reveal a model that works. Lean start-ups help the organisation to take advantage of discovery-driven planning, additive manufacturing, design thinking, etc.

The concept of lean startup originated in the early 2000s and evolved into a methodology around 2010. Eric Ries[18] explains how lean start-ups help entrepreneurs to navigate extreme uncertainties by testing scientific hypotheses (statistical assumptions based upon which strategic options are driven) with a minimal viable product (MVP).

**To illustrate**; Dropbox is one of the best-known examples of a business that has grown using lean startup principles. Dropbox started as a minimally viable product in the form of a 3-minute screencast showing consumers what Dropbox could do[19]. Today, Dropbox has more than 700 million registered users at the end of 2021, generated $2.32 billion in revenue in 2022, and employed 3,118 people at the end of 2022[20].

### 6.1 Traditional vs. Lean Start-up[21]

In many ways, Lean Start-up is different from Traditional set-up; the major basis are listed below–

| Basis | Traditional | Lean Start-up |
|---|---|---|
| Strategy | Business Plan and Implementation driven | Business Model and Hypothesis driven |
| New-Product process | Product Management | Customer Development |
| Engineering | Either of Agile or Waterfall development can be used | Agile development (build the product iteratively and incrementally) |
| Organisation | Department by function (people are hired for their experience and ability to execute) | Customer and agile development teams |
| Reporting | Accounting (Financial Reporting using Income Statement, Balance Sheet, Cash Flow Statement) | Metrics that matters (Customer acquisition cost, Lifetime customer value, etc.) |

[18] In his book called 'The Lean Start-up' published (2011) by Crown Business, New York (USA)

[19] https://www.areusdev.com/types-of-minimum-viable-product-simple-explanation-with-examples/

[20] https://en.wikipedia.org/wiki/Dropbox

[21] Why the Lean Start-Up Changes Everything; HBR (May 2013)

| | | |
|---|---|---|
| Failure | Exception | Expected (fix by iterating on ideas and pivoting away from ones that don't work) |
| Speed | Measured - operates on complete data | Rapid - operates on good enough data |

## 6.2 Lean Start-up Methodology

The build-measure-learn feedback loop is a key component of the Lean Startup methodology. The first step is to identify the problem that needs to be solved and then create a minimum viable product (MVP) to begin the learning process as soon as possible. Once the MVP is in place, a startup can focus on fine-tuning the engine. This will require measurement and learning, as well as actionable metrics that can demonstrate cause and effect.

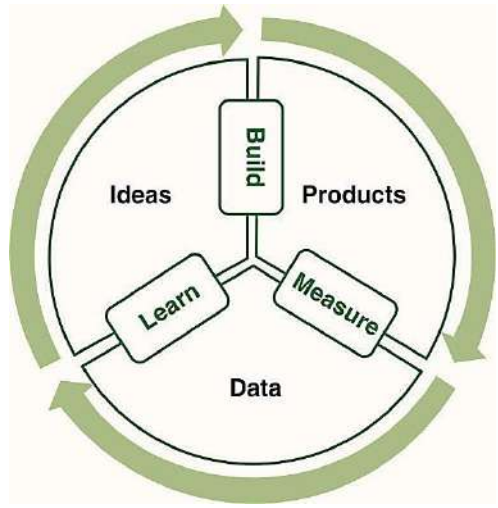



***Figure A.6*** *– Lean Start-up Methodology. The target is to spin at the maximum possible speed.*

The startup will also employ an investigative development method known as the "Five Whys," which entails asking simple questions to study and solve problems as they arise. When this process of measuring and learning is carried out correctly, it will be clear whether or not a company is moving the drivers of the business model.

If not, it's time to pivot or make a structural course correction to test a new fundamental hypothesis about the product, strategy, and growth engine.

**Do You Know?**

Influence of Lean start-up on Cost and Efficiency

Implementing Lean Start-up in the correct way will allow an organisation to save money on waste. Since this aims at increasing efficiency rather than lowering costs, a direct and visible reduction in cost may not be present, but increasing efficiency would result in cost savings. Furthermore, implementing the method may occasionally result in the emergence of some additional costs (e.g., the budget for experimentation).

## 7. Agile Organisations

An agile organization is one whose structure, policies, and capabilities are designed to allow employees to respond quickly to changing environments. This organizational approach's primary focus is on adapting to changing customer needs and changes in the business environment.

### 7.1 Traditional vs. Agile Organisation

Power flows vertically in a **traditional hierarchical organizational** structure, and employees are departmentalized (in silos). Therefore, rigid bureaucracy does exist, and detailed instructions need to be observed.

In other words, in traditional organisations, each employee has a distinct role and position, and there is a strict chain of command.

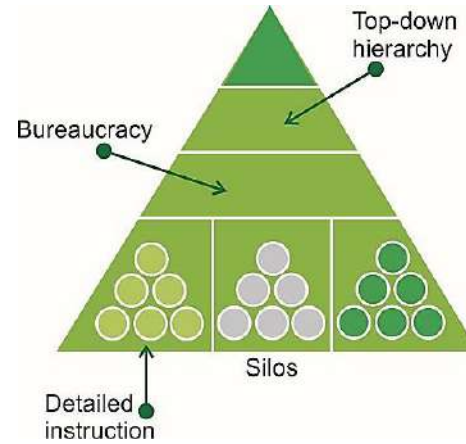
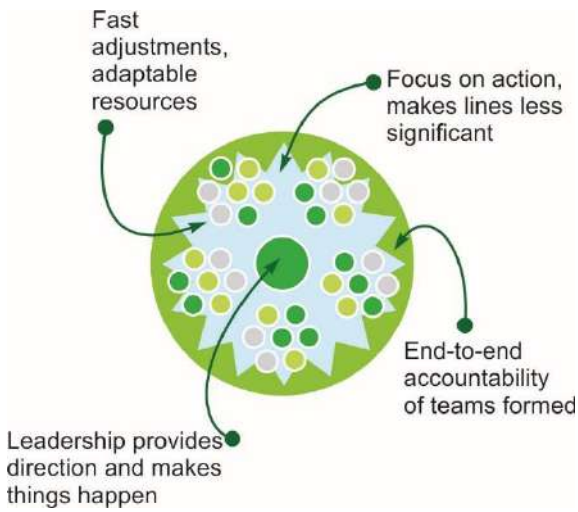



*Figure A.7 – Traditional Hierarchical Organisations*




**Agile organizations**, on the other hand, are built on a network of empowered teams that adhere to high standards of alignment, accountability, expertise, transparency, and collaboration. This allows them to respond to the emergence of new competitors, rapid technological advancements, and sudden shifts in overall market conditions.

*The Agile organisation is dawning as a new organisational paradigm. Rather than organisation as a machine, agile organisation is a living organism.*

*Figure A.8 – Agile Organizations*

*Source – Adapted from Exhibit 1 from the five trademarks of agile organizations*[22]

[22] Wouter Aghina *et al.* (Jan. 2018) https://www.mckinsey.com/capabilities/people-and-organizational-performance/our-insights/the-five-trademarks-of-agile-organizations

## 7.2 Characteristics of an Agile Organization

Here are some of the typical characteristics of an agile organization:

- There is no traditional command structure or top-down hierarchy. An empowered agile team structure promotes active collaboration and open communication.
- A customer-centric approach centered on understanding the needs, wants, and desires of customers.
- A shared goal and vision. All individuals, teams, and departments use an open communication style based on collaboration and sharing to understand how they fit into the overall purpose and vision.
- Employees are comfortable sharing best practices and looking for ways to continuously improve. They are open to new experiences and make quick decisions.
- In the workplace, proactive employee development and emotional intelligence are highly valued.
- Agile organizations are always looking for ways to improve the efficiency and impact of their operations. The corporate culture is based on a strong growth mindset.

**Concept Insight**

Innovation is the Core of the Design Thinking, Lean Start-up and Agile

Innovation happens when creative solutions and technical capabilities come together. Combining these three methodologies really drives the innovative process by involving the technical team as early as possible.

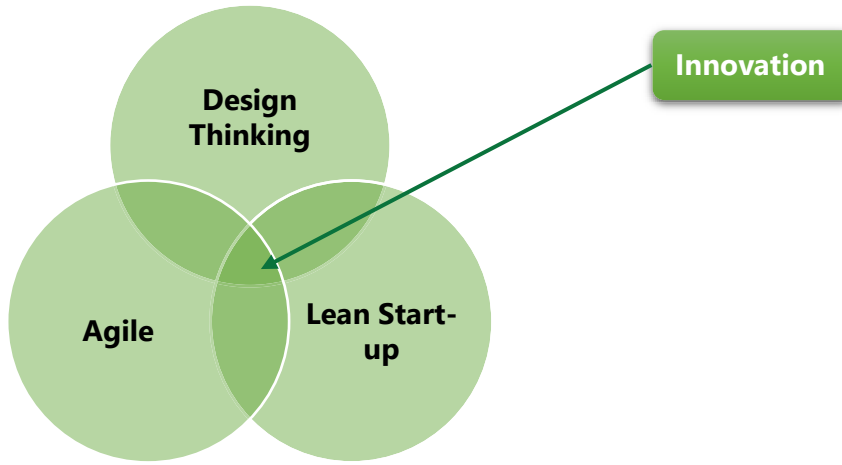



*Figure A.9 – Innovations as the Core of Design Thinking, Lean Startup and Agile*

**Concept Insight**

Comparing Design Thinking vis-à-vis Lean Start-up, Agile, and Six Sigma

| | | | |
|---|---|---|---|
| Empathy Based | Hypothesis Driven | Development Efficiency Driven | Quality & Process Driven |
| Concept | Business Model | Product | Process |
| Minimum Viable Product or Service | Tested MVP / Agile Story Map | | Mature Product or service |
| **Design Thinking** | **Lean Start-up** | **Agile** | **Six Sigma** |

You may appreciate that over the life of a product or service that an organisation renders, each one of these methodologies becomes helpful to focus on concept, model, product, and process, respectively.

Students are advised to take note-

Lean Start-up and Agile were already discussed in the previous two headings. The concept of Six-Sigma has been discussed in detail in Chapter 3. Whereas Design thinking is essentially a problem-solving approach that has the intention to improve products. Design thinking is an iterative process in which you seek to understand your users, challenge assumptions, redefine problems, and create innovative solutions which you can prototype and test. The overall goal is to identify alternative strategies and solutions that are not instantly apparent with your initial level of understanding.

## 8. Start-ups vs. Incumbents

Startups have captured the spotlight in recent years with innovative concepts that have resulted in enormous success. You've probably heard of Netflix, Uber, Paytm, and Byju's. They are all businesses that have used technology to establish business model/ (s), completely disrupting long-standing and traditional established businesses through an innovative approach.

*The battle between every startup and the incumbent comes down to whether the startup gets distribution before the incumbent gets innovation.*

A startup is "a temporary organization designed to look for a business model that is repeatable and scalable." Alternatively, it can be described as a company that is just getting started, trying out different models, and isn't well-established in its niche. However, because they are new and more willing to take risks, they have the potential to cause significant disruption.

While an incumbent is "a permanent organization designed to execute a business model that is repeatable and scalable". Alternatively, one can say that incumbent companies are the businesses that lead the market and have an established brand and audience. Incumbent companies are also big enough to have thousands of employees and see billions in revenue each year.

Established companies, or incumbents, have many assets that start-ups do not have. When large corporations try to imitate or foster the mindset of start-ups, they must remember that they have something that most start-ups do not have i.e., customers. They also have a company, people, brand value, supporters, loyalty, investors, stakeholders, shareholders, and boards. There is a system. What incumbents lack are the fluidity, flexibility, speed, and agility that start-ups have, as well as the talent and digital mindset. Differences are detailed in the heading 8.2.

| Basis of difference | Incumbents | Start-ups |
|---|---|---|
| Focus of research efforts | New technologies that require significantly more money and resources to develop. | Innovations supported by tech behemoths or angel investors. |
| Object is to | Drive true sense technological change by exploiting it at the commercial level. | Driving the change through disruptive innovations. |
| Strive for | Take new technologies to profitable levels. | Bring Innovation with the potential to cause disruption. |

## 8.1 Stages a start-up goes through while transforming into Unicorn (and then into Incumbent)

There are three main stages that start-ups go through:

**8.1.1 Pre-start-up stage-** This is the **problem-solution FIT** stage. Vision and idea are conceptualised, while considering–

- Who will be the customers?
- Which of their problems to be solved and
- How these will be solved?

**8.1.2 Start-up stage-** This is the **product-market FIT** stage. It starts showing commitment. It is intended to have customer validation that the product offered is a market valuable product. Testing is also performed to get feedback from clients and iterate the process accordingly.

**8.1.3 Scale-up-** This is the **scale-FIT** stage. It starts establishing growth, trying to get to profitable cash flow. They are creating bigger customer bases and aim to come close to unicorns.

## 8.2 Difference between Start-Up vis-à-vis Incumbents

The differences between start-up and incumbents can be understood from each business area perspective.

### 8.2.1 Organization structure

| Start-up | Incumbents |
|---|---|
| Lean structure with small and cross-functional teams. | Hierarchical structure with large and functional departments. |
| End-to-end visibility is there, with shared responsibility. | Silo working prevails with limited responsibility. |
| Empowered teams for quick decision making. | Handcuffed local teams, leading to slow decision making. |

### 8.2.2 Culture and people

| Start-up | Incumbents |
|---|---|
| Risk taking, no fear of reputation loss. | Risk averse, fear of reputation loss. |
| Aim to capture market share. | Aim to defend market share. |
| Dynamic, individualistic, entrepreneurial culture. | Bureaucratic; consensus and process driven culture. |
| Young, entrepreneurial leadership, and fresh thinking – globally average CEO age is around 40, 20% are women; in India average CEO age is less than 30. | Long-tenured, organically grown leadership, and a legacy mind set – globally average CEO age is 58, only 5% are women. |
| No strong second line of management; only 25% of start- ups have a strong second line of management, which limits their ability to delegate and, in turn, impacts scalability. | Established strong second line of management; 75% of CEOs come from the second line of management. |
| No formal system for rewards and recognition. | Set processes for rewards and recognition. |

### 8.2.3 Operating model

| Start-up | Incumbents |
|---|---|
| Production can start in small, without an expectation of a minimum viable market size. | Production starts only if the estimated market is of a minimum viable size. |
| Most sales are done through the online channel, leveraging a third-party distribution network. | Majority of sales (90%+) through offline stores and leveraging their own distribution network. |
| No set processes for operations and risk management. | Stable processes for operations and risk management. |
| Majority communication using less expensive digital media channels accounts for 2-3% of sales. | Majority communication using expensive, traditional media channels accounts for +10% of sales. |
| Tight monitoring of effective media spend- ROI. | Inefficient monitoring of effective media spend- ROI. |

### 8.2.4 Consumer and innovation

| Start-up | Incumbents |
|---|---|
| Offer what consumers want. | Offer what they are good at. |
| Carve out new, niche categories to address unmet demand. | Extend into adjacent categories to offer product variation; 60% of new launches are variations of existing products. |
| New product turnaround time is 6-8 months. | New product turnaround time is 12-18 months. |
| Tech-enabled companies spend +10% of sales on R&D and 2-3% on marketing. | R&D investment is less than 4% of sales, while 6 times more is the budget for marketing. |

### 8.2.5 Financing

| Start-up | Incumbents |
|---|---|
| Seldom profitable in the initial years. | Strong established financial position. |
| Limited internal capability to handle transactions; only 20% of start-ups have the capability to handle strategic investments. | High internal capability to handle transactions. |
| Answerable to investors. | Answerable to shareholders. |

## 9. Intrapreneurship

Intrapreneurship is one of the emerging ways to counter stagnation in growth, apart from fostering and promoting the organisational culture that strives for innovative ways to attain cost efficiency, either through cost rationalisation or management thereof.

**Intrapreneurship** can be defined as entrepreneurship within an existing business. As per **Stevenson and Jarillo** (1990; pg.23), **intrapreneurship** is a process that allows individuals (who called intrapreneurs) from inside organizations to pursue opportunities that are independent of the resources they currently control.

Intrapreneurship, apart from causing risks to the capital of the organisation, also diverts the attention of the organisation away from its existing products because it is an internal corporate venture wherein intrapreneur puts new ideas into action within established business.

As a result, it is sometimes referred to as **organisational entrepreneurship**.

It is worth noting that an intrapreneur does not have ownership of the new venture created, nor is he/ she completely independent, which is the opposite of entrepreneurship. Intrapreneur carries **high vision as well as high involvement in actions** (execution of innovation); hence, he is 'dreamers who do'

From the perspective of Strategic Cost & Performance Management, following interpretations can be constructed regarding Intrapreneurship–

*Intrapreneuring is a Revolutionary system of speeding up innovations within large companies by making better use of available or allocated resources (with use of entrepreneurial talent of intrapreneur). Hence, Intrapreneurship is a restorative action taken to counter stagnation within a large organisation.*

**Do You Know?**

How does intrapreneurship influence the management of Cost Strategically?

The organisation and its management must have a clear understanding of the internal value, which intrapreneurs have (or able to create/unlock) in terms of enhanced revenue, either by cutting costs and/or creating new processes, products, and services.

Though idea generation and incubation lab possess the features of cost and investment centres; intrapreneurial teams are usually considered as cost centres, but organisation striving for sustainability (& cost efficiency) should consider these as profit-centres.

## 10. Innovation Hubs and Incubators

An innovation hub is a physical space that brings together researchers, creators, and innovators to nurture ideas into industry-changing products and services.

Incubators focus on early-stage startups that do not have a business model in place. They help nurture a startup by developing its strong idea into a viable product and are commonly referred to as a school for startups. Incubators typically work on a fee-basis as opposed to taking an equity stake in the startup.

**Do You Know?**

Incubator is same as startup hub but different from accelerator.

Incubators are also referred to as startup hubs, i.e., the places that aim to provide the 'ideal' conditions for founders to quickly grow their young businesses; through a structured, collaborative program. Primary Identifiers are-

- Guide to form a product or service.
- Seed funding and angel investor.
- Venture capital.
- Presentation skills and business etiquette.
- Training program.
- Networking opportunities.

Whereas accelerators accelerate growth by removing some of the risk and uncertainty involved through a short-term program, usually for start-ups that already have a Market Viable Product (MVP). Primary Identifier are-

- Focus on rapid growth.
- Set the time frame from weeks to months.
- Mentorship and guidance.
- Business profitability.
- Industry connections.

A clear differentiator between incubators and hubs is the direct contribution they make to startup creation and success. Incubators make startup creation and development their immediate goal. It's therefore unsurprising that the contribution that incubators make directly to startups is typically much higher than for hubs, at least if they avoid typical pitfalls.

## 11. Supply Chain Partnerships

**Supply chain partnership** or **collaboration** is about coordinating with internal departments and external partners to sustain an optimized flow through the supply chain in order to efficiently meet demand and ensure on-time, in-full delivery. Seamless supply chain collaboration is a necessary component of effective supply chain management and business resilience. Supply chain collaboration entails various entities collaborating to achieve common goals. It increases agility, reduces bullwhip effects, and allows businesses to better orchestrate their supply chains; moreover, it ensures the free flow of information because customers' purchasing decisions have been aided by greater access to information in the digital age.

### 11.1 Approaches to Supply Chain Innovations

Three broad approaches to supply chain innovation have evolved in response to customer needs and desires, namely-

- **Rapid** supply chains that prioritize **speed and efficiency.**
- **Agile** supply chains that emphasise a company's ability to **respond to changes** in demand (volume and variety).
- **Lean** supply chains that prioritize **waste elimination** (including time).

**Practical Insight**

As per a 2017 chainalytics (https://www.chainalytics.com/) report, nearly 70% of organizations have supply chain innovation as part of their strategy, but only 20% believe their supply chains are innovative. Those demonstrated innovative supply chain, tended to work with partners across the entire supply chain.

Above industry insight posed a question: Why, despite making an attempt at supply chain innovation, certain organisations are not able to demonstrate innovation? Answer is also specified thereto: either the collaboration doesn't exist or is not properly worked for them. But it leads to another question: What is essential for a successful supply chain partnership? This question is answered in the upcoming heading of this section.

**Do You Know?**

*Where to collaborate?*

- Collaborate in an area where you have strong footing.
- Turn win-loss situations into win-win opportunities with the right benefit-sharing model.
- Select partners based on capability and strategic alignment, not just size.

*How to collaborate?*

- Invest in the right infrastructure and people.
- Jointly manage performance and measure impact.
- Collaborate for the long term.

***Source** – Six steps to successful supply chain collaboration*[23]

## 11.2 Essentials of seamless Supply Chain Collaboration

Irrespective of fact that whether business firm is leveraging supply chain collaboration for just one segment of its supply chain process or for end-to-end management, the essentials to ensure supply chain collaboration operates in a seamless manner are-

### 11.2.1 Real-time data sharing

All parties must have access to the most recent data for collaboration to be effective. By connecting disparate data sources, supply chains can ensure they have the best foundation for making decisions about planning, execution, and exception management.

### 11.2.2 Configurable workflows

Because every business is unique, aligning systems and workflows allows supply chain teams to better coordinate with partners.

### 11.2.3 AI and Machine Learning that goes beyond data analytics

Next-generation AI can identify threats faster and make recommendations on how to deal with them, allowing users to make better, faster decisions in collaboration with supply chain partners.

### 11.2.4 In-Context Messaging

A user-friendly interface puts relevant information at the user's fingertips. By allowing users to communicate in real time without switching between systems, in-context messaging promotes collaboration.

### 11.2.5 End-to-end visibility

Because it is critical for understanding what's going on at any given time, including where a company's inventory is located, any issues their suppliers are experiencing, and any potential capacity or forecasting mismatches. Visibility into the supply chain enables a company to identify potential problems and respond to them before they escalate.

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[23] Luis Benavides et al. (July 2012) https://www.mckinsey.com/capabilities/operations/our-insights/six-steps-to-successful-supply-chain-collaboration

*Based upon the approaches and essentials listed above in headings 11.1 and 11.2, respectively, one thing is clear that these rely on information technology to improve processes along the entire supply chain, namely electronic data interchange (EDI), bar coding and scanning, radio frequency identification tags (RFIDs), point-of-sale (POS) terminals, and electronic funds transfer (EFT).*

**Test Your Understanding**

*Can you list the benefits that the use of Supply Chain Partnership Software brings to an organisation?*

- Improve their agility in responding to demand changes and disruptions, resulting in better and faster decisions.
- Improve forecasting and capacity planning accuracy by incorporating real-time data and bi-directional input from suppliers.
- Reduce bullwhip effects throughout the supply chain by better coordinating responses.
- Establish a single source of truth as the foundation for supply chain orchestration.
- Strengthen relationships with suppliers and partners.

*How do supply chain management and partnerships influence the cost?*

Cost reduction is one of the most frequently mentioned goals in supply chain management. Furthermore, in order to reduce costs, companies are increasingly focusing on their supply chain partners, causing both suppliers and customers to strive for new levels of competitiveness and profitability.[24]

## B. BUSINESS MODELS

A business model explains how a business works and the economic logic behind it. It is a way of representing and communicating how an organisation creates values for itself while delivering products or services for customers.

*Margretta, proposed that a business model should include all the activities associated with two key components, i.e., producing or making something and selling something. But in 2008, Johnson, along with Christensen & Kaggerman[25] extended the scope and proposed that a business model also needs a value proposition; therefore, a business model should contain three components, namely customer* ***value proposition, profit formula, and key resources and processes****; hence, it carries strategic importance from aspects of cost and performance.*

In a disruptive business environment, where everyone is striving for sustainability and focusing on emerging markets, the generic business model may fail to impress; as a result, a new business model emerges.

[24] Seuring, S. (2002), Cost Management in Supply Chains - Different Research Approaches; In: Seuring, S., Goldbach, M. (eds.): Cost Management in Supply Chains, Physica, Heidelberg.

[25] Johnson M., Christensen C., & Kaggerman H (2008), 'Reinventing your business model', *Harvard Business Review*, December, www.innosight.com/insight/reinventing-your-business-model-form.

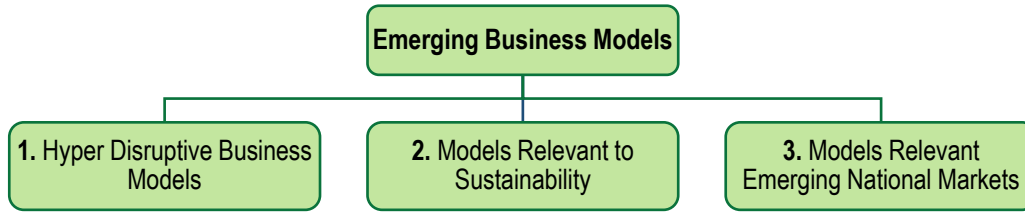


*Figure B.1 – Emerging Business Models*

## 1. Hyper Disruptive Business Models

Disruptive business models are those that create, disintermediate, refine, reengineer, or optimize a product or service, role, function, or practice, category, market, sector, or industry.

Companies, large and small, set growth targets with the goal of achieving positive, profitable growth. The equity markets' demand for rapid growth will put pressure on businesses. Disruptive business models will prioritize the creation, disintermediation, refinement, or re-engineering of a product or service. Companies that use disruptive business models have a distinct competitive advantage. They use the models to crush all of their competitors and stay on top of the industry.

There are numerous business models to consider, but the most prominent are listed below–

### 1.1 The Free Model

This is a business model in which the core product is distributed for free to a large number of users. The premium products are then sold to a smaller subset of users who desire premium features. The key to success with this business model is to ensure that the product or service you are providing is of high value to the customer. In this case, they will spread the word about the service or product. This results in a large user base. Users can network for free, but advertisers must pay to advertise on the platform.

**Illustration -** This business model has been adopted by many social media platforms. The business model of a freely accessible social media platform may look like this –

<table>
<tr><td rowspan="2">Key Partners<br>TV Shows, Music, News, Movies<br>(As a media partner)</td><td>Key Activities<br>Platform development and Data centre management</td><td rowspan="2">Value Proposition<br>Connect with your friends, discover, learn, and express.<br>Reach and Social Context.<br>Digital Payments</td><td>Customer Relationship<br>Same side and cross side network effect</td><td rowspan="2">Customer Segment<br>Web Users. Advertiser and Marketer</td></tr>
<tr><td>Key Resources<br>Platform and Technology infrastructure</td><td>Channels<br>Website, Mobile App, Ads and Pages</td></tr>
<tr><td colspan="3">Cost Structure<br>Research and Development, Data Centre, General Administration, and Marketing</td><td colspan="2">Revenue Streams<br>Free, Ad Revenue, Payment App (using social media app)</td></tr>
</table>

Free models can be sub-categories based upon their revenue streams and value proposition, namely–

### 1.1.1 Advertising (also known as the Hidden Revenue Model)

The organisation seeks to attract users so that they may be presented with advertising messages. Users do not pay for the product or service (more commonly) they receive; rather, the advertiser pays the organisation for access to its audience.

Companies do not have to ask users to pay for their products or services. Therefore, the customer base is large (wide reach), and secondly, quality is not a major concern (in the absence of enforcing power with the customer because they didn't pay any consideration).

**Illustration** – Most search engines are free to use for everyone. But these make the most money from Ads. That is, it charges businesses to reach the target audience. Businesses have to pay for the Ads., they put up on the platform.

### 1.1.2 Cross-subsidisation (also known as the razorblade business model)

An organization provides a free (or very low-cost) product or service to customers in order to drive high-margin sales of a complementary product. Since a product is sold at a much lower price to make the consumer buy higher-priced items later, it is called razorblade. It is one of the tried-and-true methods of acquiring customers for high-priced products. Companies earn high revenue on a consistent basis as more and more customers become loyal.

*Prevailing in the case of consumer goods in addition to IT/ ITeS industries. It is a pricing business strategy that is also known as a bait-and-hook model.*

**Illustration** - Printers are sold cheaply to build demand for high-margin printer cartridges.

### 1.1.3 Open Source (also referred to as the Free Access or Gift Model)

When a product or service is provided for free, the seller or provider either derives satisfaction or some other benefits; but the buyer or user has nothing to pay. The difference between this model and the hidden revenue model is that support and other services are not provided under the open-source model. There is no incremental service cost for each added user, even if there is little or no customer acquisition cost involved; hence, the product or service is free for anyone to use. It becomes easier to create a community of users who can improve on the technology.

*Knowledge Management, Tech and software companies use this model.*

**Illustration** - Wikipedia[26] is the example of open-source services (as a free encyclopaedia). Open office[27] from Apache can be another example.

### 1.1.4 Promotion

A low-cost product or service is provided in exchange for the purchase of another product or service.

**Illustration** - Supermarkets offer free gift when customers spend a threshold amount. Free Air, Water, and Toilet facilities at petrol pumps can be another example. Some of sweetshops and gift centres offer free packaging. Waiting in lounge at stations or airports.

[26] https://www.wikipedia.org/
[27] https://www.openoffice.org/why/why_free.html

### 1.2 The Subscription Model

In this business model, a company takes a service or product that consumers could have easily accessed in the past and locks it in. As a result, the only way for the consumer to gain access to the service is to pay a subscription fee. Some of the products are sold on a monthly basis, generating recurring and sustainable revenue for the company.

**Illustration** - Newspapers and magazines pioneered the model, which is now used by other businesses, such as OTT platforms.

*70% of business leaders believe the subscription model will improve commercial growth, according to the Global Banking and Finance Review. It offers a steady revenue model. According to SEI, subscription businesses grow 5 to 8 times faster than traditional ones.*

### 1.3 Freemium Model

By offering digital sampling, this business model will disrupt. Users will pay for the basic services with their data (basis information or customer profile) rather than money. The company will then charge them a fee to upgrade to a more comprehensive offer. To gain access to additional features or an upgraded version, users must pay a set fee to the company. This model will only work for products where the marginal cost of additional units and distribution is less than the cost of selling personal data. This model disrupts businesses that could formerly charge for even the basic service.

**Illustration** - This business model has been successfully implemented by professional community platforms or online utility service providers, especially SaaS (Software as a service).

It lowers customer acquisition costs. Customers are not compelled to try out the freemium product and use it with limited features for as long as they want. It aids many businesses in understanding consumer behaviour; therefore, it assists businesses in generating long-term revenue.

**Concept Insight**

Free business model may convert into freemium and then into subscription based model. Free model can be used for any type of product, whereas Freemium and Subscription models are most prominently used for services that are rendered only using some app or digital platform.

### 1.4 The Digital Platform Model (E-Commerce Model)

A company that follows this model will provide a digital marketplace where both buyers and sellers of a given item can transact. This has provided both flexibility and convenience.

In exchange for any transaction, the buyer and seller in the business receive a fee or commission. The commission is calculated as a percentage of the buyer's purchase price. Among various subcategories of E-Commerce models, the major ones are –

**1.4.1 Business to Business (B2B)** - B2B e-commerce involves transactions between a manufacturer and wholesaler, or a wholesaler and a retailer, through an online sales portal. B2B e-commerce is one of the fastest-growing sales models.

**To Illustrate**, Indian Mart, Trade India, Alibaba, etc.

*Some estimates value the global B2B e-commerce market at over $12 trillion, taking up 13% of total B2B sales in the US.*

**1.4.2 Business to Customer (B2C)** - B2C e-commerce, also called retail ecommerce, is a business model that involves sales between online businesses and consumers.

**To Illustrate**, Flipkart, Zomato, Amazon, etc.

**1.4.3 Customer to Customer (C2C)** - C2C e-commerce, is a business model that fosters commerce between private individuals.

**To Illustrate**, OLX, Quikr, etc.

**1.4.4 Customer to Business (C2B)** - C2B is a type of e-commerce where a consumer or end user offers something to an organization. C2B businesses focus on generating value from their customer base by crowdsourcing ideas, soliciting feedback, and more.

## 1.5 The Hypermarket Model

There is no better way to disrupt than to provide a product or service at a lower cost price. Larger companies with a large market share will use economies of scale to crush all of their competitors.

When they offer services at a lower cost, competitors will drop out because they cannot match the price. If they try to match the set price, they will incur losses that will eventually drive them out of the market. The hypermarket model can operate both in the brick-mortar model (a physical store) or the click model (digitally), or even a hybrid of these two, as illustrated below-

| Sr. No. | Model | Example |
|---|---|---|
| 1 | brick mortar | D-Mart (https://www.dmartindia.com/) |
| 2 | click | Amazon (https://www.amazon.in/) |
| 3 | Hybrid brick mortar & click model | Reliance Retails (https://relianceretail.com/) |

## 1.6 The Access-Over-Ownership Model

For decades, consumers could rent primarily apartments, hotel rooms, automobiles, and recreational equipment. The internet upended this status quo by allowing us to gain access to almost any tool, item, or service without having to own it. Because the internet helps to reduce the friction of financial transactions by matching consumers who want to borrow (rather than own) assets with owners who are willing to share as part of a collaborative consumption or sharing economy, internet-enabled sharing and renting are efficient and economical.

The access-over-ownership model provides temporary access to goods and services traditionally only available through purchase.

**Illustration** – Apps/ Shops offering vehicle on rental service are perfect example of the access over ownership model, i.e., having/ accessing the car without owning it, access to a waiting lounge.

### 1.7 The Service Ecosystem Model

By implementing this model, the company will offer different products, but they will be integrated, and customers will become accustomed to using one facet. This is a lock system in which the company limits customers' options and thus eliminates competition.

**To illustrate**, Premium brands that offer products with differentiation employ this business model, in which they draw customers into their ecosystem and keep them there.

### 1.8 The Experience Model

This is a business model in which a company offers unique, stylish, new, and innovative products to those who can afford to pay for them. To maintain its market leadership, the company must continually improve its existing products and introduce new ones to ensure that no competitor can match the products it provides to its customers.

This model disrupts by adding an experience component to a product or service that elevates its value to the customer. This makes it difficult for their customers to switch to competitors after using their products.

**Illustration** – When a luxury car manufacturer flies its buyers (of exclusive models) to a plant (manufacturing site) to have a personal fitting that ensures all internal parts are all positioned to absolutely match the buyers' body. Luxury airline lounges are another illustration that adds a level of experience beyond.

### 1.9 On Demand Model

By monetizing time, this model will disrupt. They will charge a premium for instant access to the company's products or services. They provide new value to customers by making service access easier and more convenient.

This adaptability creates a significant advantage for the organization. By utilizing digital technologies, the company is able to provide new services and products to their customers.

**Illustration** – App based (riding and cab booking) transport businesses have caused disruption in the transportation sector using this business model. Similarly, online grocery and food ordering apps offer third-party products with time and place convenience.

## 2. Models Relevant to Sustainability

It is important for every business to be sustainable apart from being profitable; hence, the business model adopted must be sustainable one.

In a generic sense, a business model that addresses the social and environmental perspectives in addition to the economic perspective is sustainable. Moreover, if the value propositions of any business model possess gain creators and pain relievers with positive social and environmental offerings, then the business model is sustainable one.

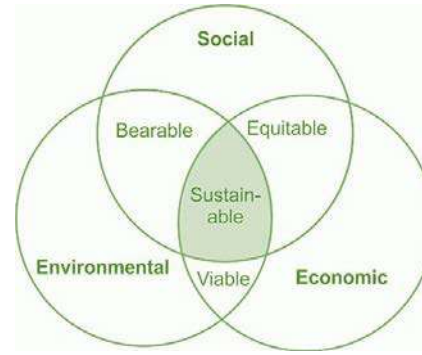


*Figure B.2 – Sustainability*[28]

### 2.1 Sustainability Aspects and Business Model

There are numerous aspects pertaining to these three broad dimensions (Environmental, Social, and Economic) of sustainability that a sustainable business model may or must contain.

**To illustrate** philanthropy, ethics, inclusion (diversity), etc. are aspects relevant to the social dimension; revenue, and profitability, etc. are aspects of the economic dimension; whereas carbon footprint, depletion of natural resources, etc. are aspects of the environmental dimension.

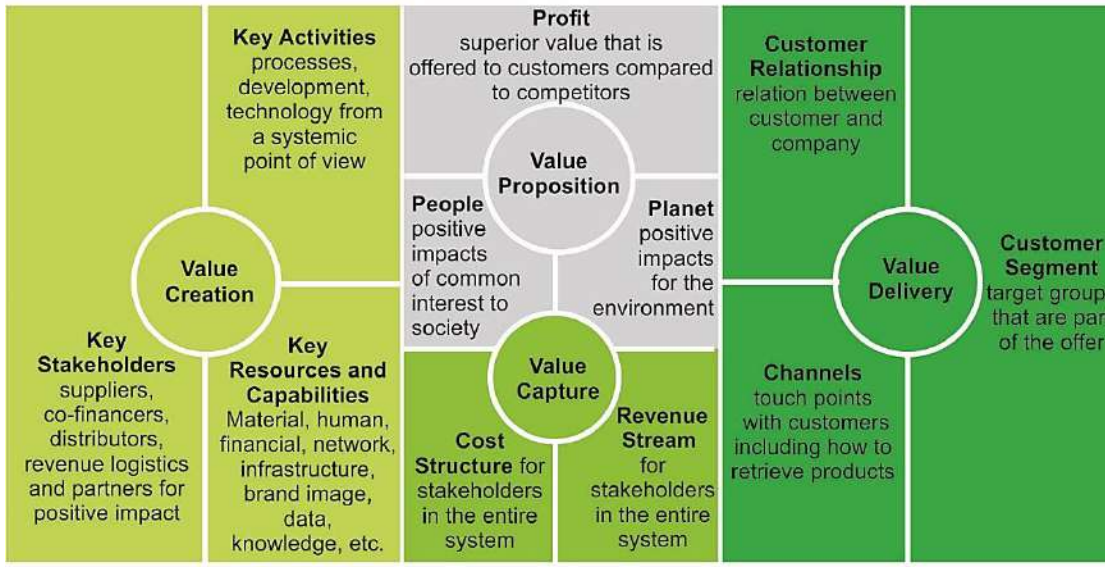


*Figure B.3 – Connecting the business canvas model and the sustainability business model*

[28] https://www.researchgate.net/figure/Triple-bottom-line-Elkington-1997_fig1_291938273

**Concept Insight**

The Sustainable Development Goals, adopted by all UN member states in 2015, state that all countries should promote prosperity while protecting the environment, social needs, equality, and employment opportunities, combating climate change, and preserving nature. Thus, long-term sustainable business models incorporate the creation of monetary and nonmonetary value for a diverse range of stakeholders.

Sustainable business models are extremely beneficial to Industry 4.0, a new stage of industrial maturity for product firms based on the connectivity provided by the industrial Internet of Things, in which company products and processes are interconnected and integrated to provide greater value to customers and internal company processes.

Tima Bansal[29] suggests systems theory identifies 5 elements for a sustainable business model, namely–

- Diversity of resources, people, and investment,
- Modularity of functional operations,
- Openness to ideas outside firm boundaries,
- Slack resources in capabilities and resources and
- Matching the cycles and rhythms of business and environment.

## 2.2 Approaches for Developing A Sustainable Business Model

Idil Gaziulusory and Twomey[30] (2014) present nine different approaches used in developing business models that are relevant for creating greater sustainability. These are:

**2.2.1 Product service systems** are those in which the consumer pays for the services provided by a product rather than purchasing the product itself. As a result, companies are responsible for the entire product lifecycle, including repair, replacement, and disposal.

*Authors also highlight eight PSS categories: 1. Product-related service, 2. Advice and consultancy, 3. Product lease, 4. Product renting or sharing, 5. Product pooling, 6. Activity management/ outsourcing, 7. Pay per service unit, and 8. Provision of functional results, as suggested by Tukker in 2004.*

**2.2.2 Open innovation** is when a company collaborates with other organizations, groups of people, or individuals to generate and commercialize new ideas. This type of collaboration is especially suited to dealing with the complex interdependencies that characterize the transition to a more sustainable built environment.

*Open Innovation is innovating in partnership with those outside your company by sharing the risks and rewards of the outcome and process.*

[29] Tima Bansal (2011), 5 Principles of a Sustainable Business Model; https://nbs.net/five-principles-of-a-sustainable-business-model/

[30] Gaziulusoy Idil, & Twomey Paul (2014); Emerging Approaches in Business Model Innovation Relevant to Sustainability and Low-carbon Transitions

**2.2.3 Peer-to-peer innovation** is innovation that results from the collaboration of loosely connected, widely dispersed individuals (i.e., peer-to-peer networks) by sharing open-source resources and distributed production capabilities without relying on market signals or top-down commands in hierarchical firm structures.

**2.2.4 Closed-loop production** is when the materials used to make a product are recycled throughout the manufacturing process. The premise of circular models is minimizing or eliminating waste and maximising resource efficiency in production–consumption systems. It is frequently referred to as 'cradle to cradle' production or 'industrial symbiosis'.

**2.2.5 Crowdfunding** is a new source of funding for niche innovation and attracting social media attention. It frequently addresses issues of social and community development. Crowdfunding is typically facilitated via online platforms.

*Crowdfunding (also known as crowd financing and crowd investing) is the process by which a party requests and obtains financial or other resources from a large number of people in order to complete a specific project.*

**2.2.6 Sharing economy** - Participatory sharing schemes provide timely access to resources, allowing for more efficient use of otherwise idle resources. As an emerging social movement facilitated by information and communication technologies and online social media, the sharing economy offers some new business models with the potential for disruptive innovation.

**2.2.7 Social enterprises and benefit corporations** - Through participation in certification schemes or under new corporate forms, social enterprises and benefit corporations become legally obligated to pursue social and environmental value in addition to financial (shareholder) value.

*The concept of shared value extends beyond traditional CSR, in which a company monitors and ensures active compliance with ethical standards and positive social norms.*

**2.2.8** The **gift economy** makes use of voluntary donations, such as 'pay what you want,' and capitalizes on social sustainability concerns. A gift economy is opposed to the commodification of resources and labour exchange through monetary transactions, arguing that it creates alienation and the illusion of separation from nature and other humans.

*A Gift economy is an extreme form of sharing economy.*

**2.2.9 New manufacturing paradigm** is driven by new capabilities associated with additive manufacturing (i.e., 3-D printing) and business models that aim to increase production efficiency, enable rapid prototyping, and thus allow for faster development and diffusion of new offerings and services.

**Concept Insight-** *Caution regarding the sustainable business model*

Moving the economy as a whole towards sustainability necessitates other considerations, and firms should be guided by a long-term economic vision. Another issue is that 'business success' is still frequently measured against performance benchmarks set without regard for sustainability and based on assumptions like competition and shareholder wealth primacy.

## 3. Models Relevant to Emerging National Markets

Prior to considering Business Models that can be applied in the case of emerging markets, let's decode what are emerging nations or emerging economies.

### 3.1 Emerging Markets/ Economies

The term emerging market was originally coined in 1981 by then World Bank economist Antoine Van Agtmael. In 2009, Dr. Kvint defined an emerging market country as a society transitioning from a dictatorship to a free-market-oriented-economy with increasing economic freedom, gradual integration with the Global Marketplace and with other members of the GEM (Global Emerging Market), an expanding middle class, improving standards of living, social stability and tolerance, as well as an increase in cooperation with multilateral institutions.

In 2008, the Emerging Economy Report defined emerging economies as those "regions of the world that are experiencing rapid informationalisation under conditions of limited or partial industrialization".

Julien Vercueil in 2012 proposed a pragmatic definition of emerging economies as distinguished from emerging markets. An economy said to be an emerging economy displays the following characteristics–

- Income is intermediate, i.e., PPP per capita income ranges between 10% and 75% of the average EU per capita income.
- Catching-up growth i.e., it has experienced brisk economic growth for at least the last decade, narrowing the income gap with advanced economies.
- Institutional transformations and economic opening i.e., during the same time period, it underwent profound institutional transformations that contributed to its deeper integration into the global economy. As a result, emerging economies appear to be an unintended consequence of current globalization.

### 3.2 Importance of Emerging Markets and Strings attached to it.

At the start of the 2010s, more than 50 countries met these criteria, accounting for 60% of the world's population and 45% of its GDP. India and China, that together account for more than 35% of the world's population, also fall into the category of emerging markets.

Since these emerging markets represent a substantial chunk of global consumption, there is a great marketing opportunity (potential market that is best suited for market extension strategy, as per the Ansoff matrix, i.e., a strategic planning tool that provides a framework to help managers and marketers devise strategies for future growth), especially in today's era of globalisation. Therefore, business models of organisation for their operation in such emerging markets must be customised according to the generic characteristics and specific traits of such emerging markets/ economies.

**To illustrate**, in order to sell in India (considered to be a price sensitive market), an international player needs to cut its costs substantially to make the product affordable. The pricelist of any retail food chain outlet in developed and emerging markets can be compared. Even a comparison of the pricing of the global edition and the edition to be sold in the Indian or South Asian subcontinent by any international publication house can be made.

*Simply saying, if a business firm desire to target emerging markets, they either have to accept very small profits or rethink their business models (build it from scratch) in order to create and capture value in new ways. They have to act as like start-ups, i.e., develop their business model from the very foundation to account for the pain and gains of their customer base in emerging markets.*

**Note** - Students are advised to refer to a case-let given at the back of the chapter as part of the exercise to develop an understanding of this concept and its application.

### 3.3 Characteristic of Emerging National Markets relevant to the Business Model

In emerging markets, global business models must evaluate and account for important market conditions such as the influence that business organisations can exercise in addition to the opportunities available to them in the host country (the emerging market), the non-availability of quality resources, the prevailing use of unbranded products, etc. Hence, the foremost need is to evaluate the characteristics of emerging markets that require customization (response) in the business model of a business firm.

The emerging market characteristics proposed by Jagdish N. Sheth[31] include –

- Sociopolitical governance,
- Market heterogeneity,
- Inadequate infrastructure,
- Chronic shortage of resources and
- Unbranded competition.

Adesegun Oyedele[32] extended the list and suggested that, apart from those stated earlier, the following are also important dimensions that characterize market conditions in emerging markets.

- Prevalence of clientelistic exchange,
- Informal institutional flux, and
- Channels of distribution challenges.

*Students must note that both the authors specified above are professors of marketing; they suggest characters of the emerging market brilliantly. Adesegun Oyedele[33] made a successful attempt at connecting characters of the emerging market to business model, but we (manager/ c-suite in the case of business) have to consider the relevance of these characters on our own while developing strategies, especially those related to cost and management thereof.*

[31] Sheth, J. N. (2011), "Impact of emerging markets on marketing: Rethinking existing perspectives and practices", Journal of Marketing, Vol. 75, pp. 166-182

[32] Oyedele, A. 2016, 'Emerging market global business model innovation', *Journal of Research in Marketing and Entrepreneurship*, vol. 18, no. 1, pp. 53–62.

[33] *ibid*

## C. STRATEGIC RESPONSES TO NEW BUSINESS MODELS

Creating a successful business model is essential for every business, irrespective of whether it is a new venture or a mature organisation that is expanding into a new market or product line. Though each emerging business model has some specific underlying concerns that need to be addressed strategically, there are some generic aspects that are common to all or most emerging business models, namely: value proposition, i.e., the core of the business model (basis of competition), market segment, i.e., the type of disruptions, value chain structure and position in the value system/ network i.e. value-based strategy (value capture model) in a business ecosystem, revenue generation & margins, and competitive strategy, etc.

To put it in a simpler way, at least those change drivers (discussed under Section A of this chapter) that are root causes rather than effects need to be addressed strategically, because such cause drivers (either individually or in any combination thereof) lead to the evolution of new business models, whereas effect drivers are responses in themselves though having a circular effect (if cause is managed efficiently, then becomes virtues cycle, otherwise vicious cycle).

Though subjective judgement involves, generally, digital technologies, business ecosystems (including strategic partnerships and collaborations), hyper-competition, transformation and disruption are causes of drivers.

*Students are advised to note that at this point, the perspective of each business organisation towards change drivers is different from its peers due to differences in vision, values, culture, management style, availability of resources, age (life cycle phase), etc.; hence, an ideal strategic response in a particular scenario may not remain ideal throughout. Therefore, the strategic responses suggested below are only illustrative in nature.*

### 1. Strategies Pertaining to Digital Technologies and the Advancement Thereof

For start-ups, it is all about innovations and disruptions to create their place; hence, essence of their business model can be focal to digital technologies and advancement thereof; while for incumbents, it is about balancing the act between how to use and optimise existing products and services as well as markets while striving for innovation (using technological advancements) to ensure sustainable growth along with profitability. The life cycle phase through which an organisation is passing through is also a key consideration.

**To illustrate-** Razorpay Software Private Limited was established in 2014 and attained unicorn status later in 2020[34]. The core of its business model is innovation (i.e., fintech), that makes it *payment solutions* provider and allows businesses to accept, process, and disburse payments with its product suite.

One may take the example of the launch of 4G, and Volte based telecommunication technology, which is innovation in itself.

[34] https://razorpay.com/

## 2. Value-Based Strategy (Value Capture Model) in a Business Ecosystem

Under heading 2 of Section A of this book chapter, we already understood that a business ecosystem is a **network** of organizations (such as suppliers, distributors, customers, competitors, government agencies, and so on) that are involved in the delivery of a specific product or service through both competition and cooperation. We also acknowledge that networks are rapidly replacing traditional markets that shift the focus of strategies from what the organization 'does better' than its competitors to how its partnerships and alliances help all involved parties 'do better'. Therefore, an organisation's strategy is expected to dominate those aspects of the ecosystem that create significant customer value, generally referred to as 'value-based strategy' or a 'value-capture model'.

### 2.1 Strategies to Capture Value

The organisation's strategic decisions are substantially about investments in resources and capabilities that influence the value it can capture. The guidelines for organisations to capture value while striving for a value-based strategy are –

#### 2.1.1 Make the best out of customer needs, especially the changing ones.

**To illustrate,** A direct to home i.e., dish-based set-top TV box service provider may offer a recording feature (and advertise this) because it is common that viewers may prefer to record the TV show or match and watch the same at some later time at their comfort due to a change in lifestyle. FMCG industry also came-up with many ready to eat products considering the change in lifestyle of people.

**2.1.2 Be the locus of USP** i.e., be the reason for which customers buy the product. Irrespective of fact, wherein you fall on a large and wide value system, you must have reason (quality, brand, comfort, etc.) for sale to the end consumer.

**To illustrate,** the brand of processor manufacturer for laptops or gadgets is usually written on a prominent place/ part of the product, which impacts and creates difference in customers' opinion regarding the purchase.

**2.1.3 Be an indispensable integrator** (from your customers or end customers; or even system partners). To capture value, it is preferable to be system (value system) integrator, who is capable to redefine value chain/ system.

Play stores, from which users usually download the app, are apt example of a system integrator.

### 2.2 Strategic Aspects of Creating Ecosystem (entering into partnerships and alliances)

For creating and sustaining the competitive advantage for a longtime, it is essential to widen the scope of the value chain by entering into supply chain partnerships. But forming lasting business relation has certain strategic implications such as –

**2.2.1 Flexibility and co-operations** – It is crucial to develop and maintain relationships once established with customers, suppliers, and other partners; this requires flexibility and cooperation (which is positively correlated with the importance of common objectives and expected gain). Where cluster of companies that are coming together are from different regions or territories; regional (political) co-operation and harmony are critical factors. FTAs & Alliances at governmental or ministerial level can be game changer.

**2.2.2 Enhanced accountability** – Since external parties (who may exist outside the core business boundary) are involved, all those who collaborate with the business firm must be considered stakeholders. This requires the business to redefine its strategy.

**2.2.3 Free (seamless) flow of information** – The communications must take place in a seamless manner among all the parties in real-time and in a transparent manner. Some information may be confidential (trade secrets), which parties are hesitant to disclose; this is major reason why collaborations failed to deliver what they were capable of or expected to be. Clarity is essential.

**2.2.4 Shared economy (clustering of firms) → shared resources** – Collaborations lead to the contribution of resources to a common pool, which will be controlled collectively. Hence, the organisation has access to control over others' resources, whereas strategic partners may exercise control over the organisation's resources; hence, the organisation shall strategically decide which resources are essential for their own core capabilities (reserving them); the rest can be contributed to the common pool.

**2.2.5 Think of the economics of scope apart from scale** – Strategic alliances and collaborations can be vertical, horizontal, or otherwise; it is not only the economics of scale but also the scope that is of strategic consideration.

### 3. Focus on Series of Short-Term Advantages in the Case of Hyper-Competition

In a highly competitive market, companies frequently aggressively challenge their competitors not to maintain a competitive advantage but to maintain value creation. Organizations strive for a series of short-term advantages based on market disruption; once such disruption matures, the organization will shift to another disruption.

**To illustrate**, Pen manufacturers keep on launching new models with either better grip, tip (pinpoint or nib), design, material, or ink technology, etc., to maintain their market share because the market for pens witnesses hyper-competition. Most pen manufacturers first came with long writing pens, then focused on comfortable grip, then angular nibs, and finally rolling ball tips to liquid ink. New trends will replace this (liquid ink), as the market is hyper competitive, and advantage sustain for a short period only because competitors and rivals do copy.

Those companies that fail to innovate constantly or at short intervals may become irrelevant in the market. Hence, the company must foster a culture where–

- Budget make reasonable allocations for research and development activity.
- Lean start-up structure shall be promoted (each teamwork as a start-up, to drive common purpose).
- Collaborations for knowledge and resource sharing are encouraged.
- Everyone in an organisation, irrespective of position or hierarchy, strives for innovation.

Timing of shifting to the next disruption is critical to the commercial success of an organisation. Change is essential to remain competitive. Such competitive equilibrium can be attained through D'Aveni's 7S framework.

**Note** - Students are advised to take note of D'Aveni's 7S framework explained under para 3.2 of Section A earlier in this chapter.

## 4. Strategic Response to Transformations and Disruptions

We developed an understanding of transformation and disruptions, as well as the types thereof. Transformations and disruptive (be it new market or low-end) innovations need to be responded by every business in order to ensure survival and maintain the status quo (market share, brand equity, etc.). If established organisations continue to pursue the same strategy, following the path of continuous improvement, in the face of an industry disruption, then they become vulnerable and may lose their competitive advantage because market disruption changes the premise (basis of competition), based upon which value proposition is usually developed.

**To illustrate -** Those cellular mobile manufacturers who were market leaders at once but failed to respond to transformation and disruption caused by other smart phone manufacturers, not only lost their leadership but also lost market share and eventually disappeared from the market. This we witness in the case of television manufacturing companies as well as any technology based product.

So, in this section, we will discuss the available set of strategies and considerations in their selection.

### 4.1 Strategies

Organisations have the following strategies in the context of rolling-out disruptions, combat against or making response to such disruptions.

**4.1.1 Milking as cash cow –** Cash generation or harvest shall be a strategy regarding vulnerable businesses (due to disruptions caused by other or such businesses; failed to come-up with disruption in hyper-competition). Winding-up will be the last resort.

**To illustrate**, bottling business for soft/ cold drinks, DVD rental, Internet cafe, etc.

**4.1.2 Invest or counter invest –** Strive for disruption or respond to it with incremental investments in resources and capabilities.

**To illustrate**, the internet service providers which used fibre optical wires to offer volte for the very first time, obviously made huge investments in wire network, made it difficult for their competitors to imitate.

**4.1.3 Blocking the path or creating hurdle on the road –** Innovators block the path for others through reserving intellectual property rights to commercially exploit their disruption, while peers create hurdles in launching the disruption.

**To illustrate,** App based (riding and cab) passenger transport companies created a disruption in transportation sector, but in some of states/ cities, you will not find these apps operating effectively because local taxi unions are strong and united, they didn't allow drivers to enrol in these apps, resultantly these apps-based companies are not able to penetrate there.

**4.1.4 Counter disruption –** This is an aggressive strategy wherein the response to disruption is another disruption. Large players tend to have more resources than start-ups, that's why through this aggressive counter disruption, they rule-out the original innovator (disruption) from the market or crush them to lowest possible level or make their commercial value nil.

**4.1.5 Restrict presence and shift focus on core –** This includes rethinking about core capabilities and redefining the core strategy. Neither an aggressive response nor the concerned product line is completely closed (so that complete solution can be offered), but focus is definitely shifted from that product line to the core product line to make the most of core capabilities.

**To illustrate,** Some IT firms are dealing with all the segments i.e., hardware, software, and ITeS; but some are making more per head profit by focusing on any one of these or any combination of two of these.

**4.1.6 Withdraw –** The exit or surrender strategy, wherein rather than combating the disruption; business decides to withdraw from the relevant segment or completely. Rather than losing all the value, they prefer to liquidate the value out of assets they can realise. Divert the realised value to other profitable businesses (to keep their star products intact or convert question marks to stars).

### 4.2 Considerations while Selecting/ Crafting the Strategy

So, it is for sure that disruption needs to be responded (not necessarily fully combating against it) in all the cases without any exception, but response shouldn't cause risk or threat the capability of the organisation to meet the expectations of its existing customer base. Hence, an organisation while making a strategy to counter disruption, may witness a paradox that must be resolved after considering the–

- Availability of resources with the organisation or the sources upon which it depends for resources (may be customers and/ or investors) and their expectations.
- Rather than considering the size of the market/ segment to compete or not (because to a big firm, a small segment may not seem lucrative), the decision shall be taken based upon the importance of the segment to the product line in which the company is operating or intended to operate.
- Whether an organisation is good at process/ function wherein in disruption took place, because capabilities can not necessarily be inherited, these can be acquired.

  Above considerations are equally important for the organisation which is rolling out the disruption. In addition, they need to consider.
- Trade-off between first mover advantage and uncertainty (results into predictions rather than planning, discovery rather than forecasting).
- Disruption must be capable of exploiting commercial benefits.

## SUMMARY

- Changing business environment may force the business organisations to be adopt new business models. The quantum and force of change drivers, collectively determine the degree of environmental dynamism. Some of these change drivers are causes, whereas some other are effects.
- The change drivers include wide range of key elements including hyper competition, advancement in technologies (especially in digital space), disruptions due increasing focus on sustainability, stakeholders, innovation, incubation of ideas, etc.

- Digital technologies are electronic or automated tools, systems, devices, and resources that generate, store or process data. Network or Internet is underlying all digital technologies advancements.
- Technological advancement includes, Internet of Things (IoT), Robotics, Artificial intelligence (AI), Automation, Cloud, Autonomous vehicles, 3D printing, Digital Twin, Augmented Reality, Mobile Internet, Blockchain
- Changes in business model on account of technological advancements can be classified into automation, extension, or transformation.
- Networks (business ecosystem) are rapidly replacing traditional markets. This shift necessitates new strategies, wherein the basis of competitive advantage shifts from what the organization 'does better' than its competitors to how its partnerships and alliances help all involved parties 'do better'.
- Organizations must understand their external environment in terms of business ecosystems, in which various organizations collaborate and cooperate to create value while also seeking to capture value for themselves.
- In hyper competitive market, companies often aggressively challenge their competitors not to sustain competitive advantage, but to sustain value creation. Strategy is that organizations must strives for a series of short-term advantages relying upon market disruption, when such disruption matures, such organisation will move to another disruption.
- Innovations introduced may change the competitive landscape in a market, resulting in an industry transformation or disruption. Disruption can be low-end or new market disruptions.
- Lean start-ups help entrepreneurs to navigate extreme uncertainties by testing scientific hypotheses (statistical assumptions based upon which strategic options are driven) with a minimal viable product (MVP).
- Agile organizations are built on a network of empowered teams that adhere to high standards of alignment, accountability, expertise, transparency, and collaboration. This allows them to respond to the emergence of new competitors, rapid technological advancements, and sudden shifts in overall market conditions.
- The battle between every startup and the incumbent comes down to whether the startup gets distribution before the incumbent gets innovation.
- Intrapreneuring is a Revolutionary system of speeding up innovations within large companies by making better use of available or allocated resources (with use of entrepreneurial talent of Intrapreneur).

- A clear differentiator between incubators and hubs is the direct contribution they make to startup creation and success. Incubators make startup creation and development their immediate goal.
- Cost reduction is one of the most frequently mentioned goals in supply chain management. Furthermore, in order to reduce costs, companies are increasingly focusing on their supply chain partners, causing both suppliers and customers to strive for new levels of competitiveness and profitability.
- A business model explains how a business works and the economic logic behind it. It is a way of representing and communicating how an organisation creates values for itself while delivering products or services for customers.
- In disruptive business environment, where everyone striving for sustainability and focusing on emerging markets the generic business model may fail to impress as result new business model emerges. Free, Freemium, Subscription, Pyramid, Digital Platform, Ecosystem, Experience is leading among emerging business models.
- A business model that addresses the social and environmental perspective in addition to economic perspective is sustainable.
- Approaches to develop sustainable model includes Product Service Systems, Open innovation, Peer-to-peer innovation, Closed-loop production, Crowdfunding, Sharing Economy, Social enterprises and benefit corporations, the gift economy, and new manufacturing paradigm.
- Since these emerging markets represent substantial chunk of global consumption, hence a great marketing opportunity (potential market that is best suited for market extension strategy, as per Ansoff matrix i.e., a strategic planning tool that provides a framework to help managers and marketers devise strategies for future growth), especially in today's era of globalisation.
- The emerging market characteristics includes Sociopolitical governance, Market heterogeneity, Inadequate infrastructure, Chronic shortage of resources, Unbranded competition, Prevalence of clientelistic exchange, Informal institutional flux, and Channels of distribution challenges.
- At-least those change drivers of business environment dynamics, that are the root causes rather effects need to be addressed strategically; because such cause drivers (either individually or in any combination thereof) leads to evolution of new business models, whereas effect drivers are responses in themselves though they also have circular effect (if cause are managed efficiently, then become virtues cycle else vicious cycle).
- Digital technologies, business ecosystems (including strategic partnerships and collaborations), hyper-competition, and transformation and disruption are causing drivers.

## TEST YOUR KNOWLEDGE- MCQS

**MCQ 1**

Disruptive innovations can be classified in following categories:

**Options**

**a.** Low end disruption and new product disruption

**b.** Low end disruption and new market disruption

**c.** High end disruption and new product disruption

**d.** High end disruption and new market disruption

**Key** – b

**Reason** – Christensen explains that there are two types of disruptive innovation: low-end and new-market. Low-end disruption is when a company uses a low-cost business model to enter at the bottom of an existing market and claim a segment. New-market disruption is when a company creates a new segment in an existing market with a low-cost version of a product.

**MCQ 2**

Which of the following category of technological advancement best describe installing passbook update kiosk at bank.

**Options**

**a.** Automation

**b.** Extension

**c.** Transformation

**d.** Revolution

**Key** – a

**Reason** – Change in business model on account of technological advancements can be classified into automation, extension or transformation. Automation is the use of technologies for performing any function or process digitally which was earlier performed by humans. Installing passbook updation kiosk is mere automation, where installing ATM can be seen as transformation.

**MCQ 3**

Which of the following category of technological advancement best describe installing Automated Teller Machine (ATM) that allow the banks' customer to withdraw cash, print of mini statement of transactions and balance enquiry, etc. out of banking hours as well.

**Options**

**a.** Automation

**b.** Extension

**c.** Transformation

**d.** Revolution

**Key** – c

**Reason** – Change in business model on account of technological advancements can be classified into automation, extension or transformation. Transformation is the use of technology that not only revamps the product or services that an organisation offers but also its process and culture. Installing ATM can be seen as transformation.

**MCQ 4**

Identify the option with correct sequence out of given below-

**Options**

**a.** Design Thinking → Lean Start-up → Six Sigma → Agile

**b.** Design Thinking → Agile → Lean Start-up → Six Sigma

**c.** Design Thinking → Lean Start-up → Agile → Six Sigma

**d.** Agile → Lean Start-up → Six Sigma → Design Thinking

**Key –** c

**Reason** – Post-Ideation phase design-thinking is critical to check/ensure product viability. The journey from design thinking to lean start-up involves the development of minimum viable product (or service), while when MVP is tested to map agile story journey advances to agile and further shift to six-sigma wherein focus shifts from product to process as product become mature.

**MCQ 5**

Grammarly is an American cloud-based typing assistant. It reviews spelling, grammar, punctuation, clarity, engagement, and delivery mistakes in English texts, detects plagiarism, and suggests replacements for the identified errors. It also allows users to customize their style, tone, and context-specific language. It offers two plans for individuals.

Free for individuals, that offers basic writing suggestions and tone detection (Grammar, Spelling, Punctuation, Conciseness, and Tone detection)

Premium plan for individual that offers Clarity, vocabulary, and tone improvements (Everything in Free, Full-sentence rewrites, Word choice, Tone suggestions and Citations).

Grammarly business relying on which of following business models-

**Options**

**a.** Free

**b.** Premium

**c.** Subscription

**d.** None of these

**Key** – d

**Reason** – Model adopted by Grammarly is Freemium, wherein essential services or product is offered free and for premium services or more quantum you have to pay (yes, payment can be further based upon either subscription model or pay as per use model).

# NOTES