INNOVATION and DESIGN THINKING (4th Module)

Subject Code	21IDT19/29	IA Marks	50
Number of Lecture Hours/Week	01	Exam Marks	50
Total Number of Lecture Hours	25	Exam Hours	01

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Course Objectives

This course will enable students to

1. To explain the concept of design thinking for product and service development

2. To explain the fundamental concept of innovation and design thinking

3. To discuss the methods of implementing design thinking in the real world.

References

Text Books:

1. Idris Mootee, "Design Thinking for Strategic Innovation: What They Can't Teach You at Business or Design School", John Wiley & Sons 2013.

Reference Books:

1. Trevor Hastie, Robert Tibshirani, Jerome Friedman, h The Elements of Statistical Learning, 2nd edition, springer series in statistics.

2. Ethem Alpaydın, Introduction to machine learning, second edition, MIT press.

3. References:

4. 5. Yousef Haik and Tamer M.Shahin, "Engineering Design Process", CengageLearning, Second

5. Edition, 2011.

6. 6. Book - Solving Problems with Design Thinking - Ten Stories of What Works (Columbia Business

7. School Publishing) Hardcover – 20 Sep 2013 by Jeanne Liedtka (Author), Andrew King (Author),

8. Kevin Bennett (Author).

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Content

DT For strategic innovations

Growth – Story telling representation – Strategic Foresight - Change – Sense Making – Maintenance Relevance – Value redefinition - Extreme Competition – experience design - Standardization – Humanization - Creative Culture – Rapid prototyping, Strategy and Organization – Business Model design.

Growth

- Growth is at the forefront of every business leader's mind.
- Most tend to utilize classic growth strategies to get there: new strategic partnerships, horizontal market expansion, vertical integration, product extension, and franchising.
- Ultimate goal of most companies is profit, other financial data may be used as indications of growth.
- Some business leaders use revenue, EBITDA (earnings before interest, taxes, depreciation, and amortization), product line expansion, employees, or other criteria to evaluate organizational growth.

- Growth is also the very essence of entrepreneurship

- Growth comes with the questions where a company's leadership, culture, systems, management, and business model can hold itself together

- Growth depends on increased economic activity, which requires preconditions, including consumer confidence and demographic shifts.

- The 1980s and 1990s were an unprecedented period of economic expansion in the United States driven by increasing demand for cars, housing, home appliances, and other products.

- Today, the danger lies in applying theories and practices based on outdated models of two or three decades ago.
- Growth can't continue unchallenged forever; our Earth's resources are finite.
- Unless we can reimagine and reinvent new industries, we cannot rely on economic growth to power our growth plan.
- Growth means creating a clear and compelling vision of the future.
- Your vision needs to be very clear in terms of what you want from your business.

Story Telling Representation

- People who most successfully practice design thinking are curious, imaginative, and filled with wonder.

- They are people who love stories and people who love to tell stories.

- The story of a company is what truly determines its purpose and value.

- Good storytelling is a technique where a leader is tasked with reframing an organization's past, present, future, problems.

- Stories add an emotional dimension to business logic, foster empathy and connectedness, and prioritize information and objectives

- Design thinking approach believes that stories are uniquely useful in their ability to bring people onto the same page, organize information, and present it in an efficient and accessible manner.

<u>How to tell a great story that will inspire</u>

❖ Make it collaborative:

- It's important to ensure that elements of what you are about to tell resonate with the audience.

- No matter how fantastic, every great story has the familiar embedded within its structure.

❖ **Make it engaging:**

• The medium can make or break the message.

• What kind of media, experience, or event is right for audience?

• Consider the simple power of videos, the tangibility of beautiful print, or out-of-office immersions in spaces

❖ **Make it structured:**

• Humans, are familiar with beginnings, middles, and ends.

• When content flows, a good storyteller can communicate challenges and complex information in a format that is more clear and familiar

• The key content is the ending—what a company wants to be, where it wants to go, the future

❖ **Make it performative:**

- An effective storyteller does not simply speak the words rather brings them to life by leveraging dramatic techniques such as body language, tone, tempo, and timing.

- Storytellers like Steve Jobs capture attention, suspend disbelief, and bring people deep into the emotional dimensions of a strategic narrative through their compelling performance and delivery

❖ **Make it tangible:**

- People like stuff they can see and touch

- To help illustrate intentions and what the future might look like, consider how technology demonstrations, prototypes, and other seeable and touchable artifacts can signal the strategic intentions

❖ Make it fun:

- Build interactive narratives in the form of games or simulations that enable the audience to encounter stories in a holistic, self-guided, interactive way.

- These serious games allow people to explore and experience the roles, tasks, and relationships within a clearly defined system of rules and understandable context.

❖ Make it real(ish):

- Aim for a narrative that includes a vision of the future and possible growth that is just out of reach but that is grounded in a possible and plausible way.

❖ BUILDING EMPATHY AND EMPOWERING TRANSFORMATION

- Stories can place an organization's existing culture within new contexts, highlight strengths and weaknesses, establish the purpose surrounding a vision for growth

- By hearing and engaging in growth-oriented stories, individual employees can recognize which new skills and capacities they will have to acquire, develop, or improve

Strategic Foresight

- The ability to manage the uncertainties of the future is critical to planning for growth or survival.

- Strategic planning needs to consider a multitude of factors in the present competitive and operational environment

- Then extrapolate the data into a possible future that is based on a rigorous reading of weak signals.

- It encourages the deliberate and systematic exploration of uncertainties and their potential impact on behaviors and relationships.

WHY DOES BUSINESS NEED STRATEGIC FORESIGHT?

❖ To help to prevent or prepare for surprises

• Within dynamic and discontinuous environments, foresight helps organizations better understand the variables influencing the pace, nature, and possible impacts of change.

• It addresses and confronts the need to continuously orient, reorient, plan, and act within volatile, complex, and uncertain business landscapes.

❖ To help to establish and maintain competitive advantage.

- Practicing foresight helps an organization gain a more robust understanding of competitive dynamics, change, gaps and opportunities.

- This, in turn, helps enrich an organization's latent innovation potential, resources, and maneuverability

❖ To positively influence and support innovation.

- Foresight draws on trends - but it is not about trends today but rather what they might evolve into tomorrow

- It can be used at the front end as a guide, as fuel, filter, or catalyst.

WHAT ARE WEAK SIGNALS?

• In the 1970s, Igor Ansoff an applied mathematician, developed the weak signal theory.

• For him, weak signals represented change or the potential for it.

• These signals are not facts or trends, rather signs of new and emerging capabilities that could disrupt or transform existing norms

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❖ To empower and engage.

- Practicing foresight helps individuals and organizations develop and improve their ability to identify future opportunities and transform them into meaningful outcomes.

DESIGN THINKING AND STRATEGIC FORESIGHT

- Foresight is an iterative and cumulative learning process that employs the design thinking tool kit, which includes environmental scanning, context mapping, archetype creation, and scenario development.

❖ Weak Signal Processing

- Questioning signals helps decision makers and planners review long-standing assumptions, critique cultural logic, and question strategic rigidity.

- Signals are used to create an initial analysis and translation of the road ahead.

- Ultimately, this is an insight organization stage where signals are subject to discussion and analysis based on identification of structures, patterns, themes, and trends

❖ Weak Signal Amplification

- Determine which signals, insights, and drivers are most critical to include in future contexts

- In this activity, practitioners consider which signals are more relevant to specific business objectives, organizational capacities

- Ultimately, this is an insight organization stage where signals are subject to discussion and analysis based on identification of structures, patterns, themes, and trends

- Here, outputs from the previous steps are used to create and expand upon forward facing views. Scenario, visioning, and normative methods are applied.

❖ Context Mapping

- Context mapping is a sense-making process that involves establishing and illustrating the conditions and rules that frame future-oriented scenarios.

- This process seeks to prioritize, organize, amplify, and visualize the significance of the signals collected through scanning.

❖ Scenario Development

- Scenarios are storytelling tools that present choices and dramatize the impacts of decisions and strategies.

- They are also highly effective prototyping tools that mobilize the imagination and place human experience, behaviors, and motivations
- Scenarios typically emerge from context mapping exercises that have established very clear frameworks, lenses, and systems of rules.
- Ultimately, this process aims to create tangible outputs that give organizations a range of strategic options for dealing with possible futures.

Change

- All companies must endure change to survive or grow.

- Organizations need to plan for change.

- At a minimum, they should be able to effectively react to problems as they arise.

- At a maximum, they should know how to anticipate change and capitalize on opportunities that emerge from it.

- Work environments that nurture the ability to change and encourage employees to develop new and creative ideas will almost always outlast their competitors.

- Organizational change ultimately comes down to dealing with three components:

1/ Discrepancy

"We have a strong case for change."

2/ Appropriateness

"We have the right strategy and stakeholders are on board."

3/ Efficacy

"We can handle it and are committed and confident we will survive."

- To help guard against the chaos of change, a company can use sense making as a means to remain strategically agile

Sense Making

- The design thinking approach to sense making is both agile and adaptive unto itself.

- It employs a broad range of "senses" and various techniques to identify, collect, question, and interpret the meaning of increasingly complex situations.

- Sense making is a required capability for developing change competency.

- Design thinking employs sense-making techniques to understand, question, and confront change so that businesses can actively construct

FROM SENSING TO SENSE MAKING

- Design thinking uses sensing techniques to look for explanations and answers in terms of how people see things and their interrelationships.

- Externally, sensing means understanding consumers and culture, not data-driven markets, so that even the minutest of signals of change can be evaluated

- Internally, sensing involves qualitative, people-centered inquiry: understanding the meanings surrounding the rules, practices, relationships, technologies.

- Sense making is the process by which design thinkers understand experience.

- Through sense making, organizations can get a better sense of the timing required to design and launch a new product or service.

- How does an organization redesign itself in order to incorporate an internal sense making capability?
  1/ Improve the senses to increase agility.

- Design thinking promotes a more dedicated effort to adapt and acquire the tools, methods and resources needed to sense changing behaviors.

2/ Collect the real data.

Sense making requires robust inputs: deep consumer insights, weak signal scanning, competitive analysis, soft and hard leading indicators and business performance metrics against which everything else will be measured.

3/ Building sensing capabilities.

Empower individuals or teams in your company to become sensors.

Encourage all members of your organization to collect and share signals regularly.

4/ Cultivate sensing networks.

Encourage cross-functional, cross-market, cross-industry, and cross-cultural connections within professional or social networks outside of your existing department, division, organization, market and industry context to discover what's going on in adjacent worlds.

5/ Leverage social media.

Build a broader automated sensor network through conversational platforms.

Identify the critical nodes and monitor them regularly

Maintaining Relevance

- All brands need to establish visibility, purpose, meaning, and credibility to be considered relevant in a category

- Innovating in a white space category or subcategory is imperative for market success today

- Meaningful changes in sales almost always relate to an offering that is created through substantial or transformational innovation

- Customers are becoming more demanding of companies to stay relevant to their ever-changing lifestyles

- Over time, brands must rethink and redefine the value that they bring to consumers.

Value Redefinition

- Design thinking seeks relevance by promoting harmony with the identities, aspirations, attitudes, beliefs, needs, and desires that shape the ways people perceive and define value.

- The design thinking approach to redefining value begins with people, not products.

- It seeks to locate the functional, emotional, social, and cultural values that already exist within or can be designed into a brand's DNA and align those with the current and emerging values of consumers

- On the brand side of the equation, being honest and authentic is the best policy.
- On the consumer side of the equation, rigorous and empathetic human-centric research is the best practice.
- We associate value with the satisfaction or fulfillment of a need.
- That is, value is associated with a product, service, system, artifact or relationship that provides a means to a desired end.
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Here's a starting point to clarify how customers perceive and define the value of brand or business:

- 01/ Identify the functional, social, cultural, and historical reasons that have driven value for your brand, product, or business.

- 02/ Determine how your key customers rate you versus competitors on these value drivers. Represent these value drivers through visual mapping to illustrate the differences between key segments.

- 03/Define and articulate each of these value drivers in the context of the users.

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- 04/ Identify the rate of change on each of these dimensions and look for signals to confirm which ones are slowing down and which ones are accelerating.
- 05/ Conduct a workshop to identify opportunities to redefine value ahead of the game.
- 06/ Design and conduct a participative design session in which you invite customers to talk about and cocreate new value combinations.
- 07/Analyze the results and conduct a value-mapping workshop to explore how to redefine value to change the competitive landscape

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