Week 10 Summary and learning

Team Leader: Aryan Langhanoja (92200133030)
Team member: Krirtan Makawana(92200133031) Team member: Dhruviben Patel (92200133029)
Team member: Malhar Shah (92200130016)   Team member: Aryan Mahida (92200133011)

VIDEO-3 Ideo, an innovative design company_ David Kelly

This discussion with David Kelly highlights the power of design thinking—an approach that merges empathy, creativity, and collaboration to solve real-world problems. Key learnings and motivations include:

- Empathy-Driven Design: Kelly emphasizes understanding human needs deeply, as seen in IDEO's products like the first Apple mouse and classroom furniture tailored for kids. Observing users allows designers to create solutions that genuinely improve experiences.
- Value of Collaboration and Diversity: IDEO's success comes from assembling diverse teams, where professionals from different fields brainstorm together. This collaborative culture encourages innovative ideas that a single perspective might miss.
- Encouraging Creativity in Everyone: Kelly's teaching at Stanford's d.school empowers students from all disciplines to adopt design thinking, emphasizing that creativity isn't just for designers but is a tool for everyone.
- Prototyping and Optimism: IDEO's process involves creating and testing prototypes quickly, combined with a hopeful outlook—focusing on how things can work rather than why they might not.
- Finding Purpose Through Challenges: Kelly's own cancer journey and dedication to his daughter motivated him to pursue meaningful projects, like establishing the d.school. His philosophy reflects that life's challenges can bring out our best.

This talk inspires action by showing how empathy, collaboration, and an openness to creativity can lead to impactful solutions and a fulfilling life.

VIDEO-4a Stanford d school 2010 Open Office Hours d.school

This discussion by George Kemell provides insight into the Stanford d.school's approach to fostering innovation through design thinking. The talk include these points,

- Cross-Disciplinary Collaboration: The d.school brings together students and faculty from various fields (e.g., business, engineering, social sciences) to tackle real-world challenges, demonstrating how diverse perspectives enhance creativity
- Human-Centered Design: By emphasizing empathy and observing real needs, students learn to design solutions that genuinely impact people's lives. Projects range from redesigning daily experiences (e.g., banking or waiting lines) to creating affordable incubators for low-income countries.
- Prototyping and Experimentation: Innovation is encouraged through constant prototyping and iteration. Students actively test their ideas, learning through trial and error rather than solely theoretical approaches.
- Early Education and Unlearning: The d.school also works with younger students to foster creativity early, addressing the decline in creative confidence that often comes with traditional education. This initiative promotes collaboration, risk-taking, and maintaining imagination.
- Empowering Confidence in Creativity: The ultimate goal is for students to leave the program confident in their creative skills and able to collaborate across fields. This sense of empowerment prepares them to innovate in any career path they choose.

The discussion inspires a commitment to empathy, diverse teamwork, and continuous experimentation, reinforcing the belief that creativity and collaboration can drive meaningful change.

VIDEO-4c Stanford d.school-case study 2010

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This video from the Stanford d.school illustrates the importance of design thinking in creating a flexible, student-centered learning environment. The talk includes these points,

- Empathy-Driven Design: The d.school uses empathy to shape its space, understanding the needs of its community to foster collaboration and creativity. This includes designing adaptable classrooms that support diverse learning activities and behavior patterns.
- Student-Led Learning: Instructors act as guides rather than traditional lecturers, encouraging students to generate knowledge and take ownership of their learning. This constructivist approach shifts the focus from rote learning to active creation and discovery.
- Flexible, Evolving Spaces: The school's environment emphasizes adaptability, with mobile furniture, writable surfaces, and digital tools that allow students to manifest and share ideas instantly. This flexibility empowers students to work collaboratively and take on leadership roles.
- Celebrating Failures: The d.school views failure as a learning step, iterating on space design and teaching methods to continuously improve. This mindset teaches students resilience and the importance of experimenting without fear.
- Learning Through Environment: The physical space is intentionally designed to promote "innovation behaviors," encouraging students and faculty to interact dynamically and embrace collaborative problem-solving.

VIDEO-5 Design Thinking Solving Life's Problems Suresh Jayakar TEDxCrenshaw

This talk by Suresh Jayakar emphasizes the power of design thinking in addressing community issues, specifically food deserts in urban areas. The talk includes these points,

- Think Divergently to Solve Real-World Problems: Design thinking encourages looking at issues from a holistic perspective rather than focusing narrowly. By empathizing with users and understanding their needs, designers can create solutions that truly address community challenges.
- Empathy as a Starting Point: He shares his personal experience with food deserts, illustrating how empathy is essential to understanding and addressing systemic issues. This approach helps design solutions that directly benefit those in need
- Collaborative Innovation: His hackathon experience demonstrates the value of collaboration across different disciplines (designers, developers, etc.) to create impactful solutions. Diverse teams can develop ideas like the produce truck, a mobile solution to provide fresh food in underserved neighborhoods.
- Testing Proven Ideas in New Contexts: The success of a similar produce truck initiative in Boston shows that good ideas can be adapted to various locations, offering hope that small, localized interventions can lead to significant impact.

This talk motivates by highlighting that anyone, regardless of background, can contribute to solutions through empathy, collaboration, and creative problem-solving—demonstrating how design thinking can create real change in communities.

VIDEO-6 Electric Vehicle Prof Juhnjuhnwala

This talk by Professor Ashok Jhunjhunwala highlights the transformative potential of electric vehicles (EVs) in India, underscoring the importance of innovation and local production in the EV sector. Key takeaways include:

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- Energy Efficiency and Reliability of EVs: Professor Jhunjhunwala explains that EVs are highly energy-efficient, with efficiencies over 90%, compared to 17-25% for traditional internal combustion engines. This shift reduces fuel costs and dependence on imported oil.
- Economic and Environmental Benefits: Embracing EVs in India can significantly reduce pollution, especially in congested cities, and provide opportunities for economic growth by creating a new supply chain for EV parts like batteries, motors, and chargers. Local production could help India become self-reliant in this sector.
- Focus on Local Innovation and Manufacturing: Jhunjhunwala emphasizes the need for India to innovate and manufacture EV components domestically rather than relying on imports. This approach supports economic independence, employment growth, and technology development suited to India's unique needs.

- Government Initiatives and Incentives: Key strategies include government support for public charging infrastructure, tax incentives, and adoption of EVs for public and government transport. Reducing costs without long-term reliance on subsidies is crucial to make EVs accessible for all.

Vision for a Connected, Electric Future: By 2030, Professor Jhunjhunwala envisions all vehicles in India being electric and connected, creating a multi-billion-dollar industry for batteries, telemetry, and EV infrastructure.

VIDEO-6A Myth vs Facts - Electric Vehicles

In this video people give review about electric vehicle, Where they say it's for short distance travel and it will not work in India.

Here Prof. Ashok Jhunjhunwala tackles some public problem raised upon EVs.

- Replacing the batteries: As the first person talks about that EVs can't drive on the longer route and it can run out of power any time which might create problem on the roads. Where professor tell that batteries are drain performance by some time and but these EVs do not incur regular servicing costs. We can replace the batteries when one is out of charge by other battery by making batteries replaceable. Also making the faster battery chargers for it.
- Special feature: A man talks about that EVs have nothing special in it. The Prof. talks about it as that EVs are silent compare to costly cars and also impressive design of the EVs makes faster acceleration to reach top speed at ease and it comes with range of multiple options.
- Reduce pollution: A man debates that Making EVs electric doesn't reduce pollution but that makes the pollution by energy power plant while producing more energy. Where Prof. talks about Solar as the second source of the energy which doesn't pollute. Also wind power isn't polluting anywhere. After some time we might just replace petrol & diesel with batteries.
- Recycling: A man tell about battery that they are not recyclable. Then Prof. talks that Li-Iion battery are completely recyclable.
- Expensive: People tells about the EVs that it is too expensive. The prof. talks about it that new technology are expensive but after replacing it with the petrol, In future it will reduce the cost compared to petrol refills. As per km running of EV is cheap than petrol vehicles.

VIDEO-6B Tesla vs NIO Battle for the World's Largest EV Market WSJ.

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The comparison between Tesla and NIO reveals important strategic insights and lessons in the electric vehicle (EV) market:

- Innovative Business Models: NIO's approach of separating the battery from the car's initial purchase offers a lower upfront cost, making EVs more accessible. This battery-as-a-service (BaaS) model allows customers to pay for battery swaps and upgrades, a unique approach that differentiates it from Tesla's all-in-one purchase model.
- Battery Swapping vs. Charging Infrastructure: While Tesla focuses on a widespread supercharging network, NIO emphasizes battery swapping for quick "refueling." Battery swapping is faster than charging, but requires a standardized battery design and significant infrastructure. The success of these models may hinge on consumer preferences for speed versus convenience.
- Government Support and Policy Influence: In China, government subsidies and policy support for battery-swapping technology favor companies like NIO. This policy-driven support contrasts with Tesla's approach, which has more autonomy but faces challenges meeting subsidy criteria in China. It shows the importance of aligning with government policy, especially in highly regulated or emerging markets.
- Localization and Competitive Advantage: NIO's local knowledge and infrastructure in China give it an edge in the domestic market. In contrast, Tesla's global approach and gigafactories help scale internationally. Companies must balance localization with scalability depending on the market.
- Consumer Experience and Flexibility: NIO enhances customer experience by offering multiple charging options, including battery swapping, home charging, and on-demand charging trucks. This range of options adds convenience and flexibility, aiming to build customer loyalty and differentiate its brand.