

## THEORY 6

### Product Development and User Centric Design

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#### **The change of paradigm in product development: from closed innovation to open innovation in product development**

Some cases from previous classes:

The case of Nokia - how it started?

The case of Phones/landlines vs mobile phones

The case of CEO

The case of shared economy

Discuss: How would products will be developed, what do you see from product development, what drives them, it is a push or pull, it is a closed innovation or open innovation?

Mobiles phones focus more users and customers than landlines.

Q: What is shared economy? What is the driver for them? A: The users.

**The problems from customers are the drivers in user centric design which is the main difference with traditional development.**

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#### **Product development in the industrial age**

Consolidated and structured process

- Concept development
- Process development
- Testing and tooling
- Manufacturing and launch

#### **STEP 1: Concept development**

1. Market analysis and marketing brief
2. Technology selection

3. Functional prototyping based on: performances; preliminary design, tech feasibility
4. Styling prototype through focus groups.

Concept development begins with market analysis. We will be more likely to take functional prototypes from ships, cars while to take styling prototypes from fashions, fast moving foods for focus groups.

Discusses question: Assume that you are a member of a flight company, can you use open innovation to design a more comfortable seat or an engine or not and if you can, what you can do?

Open innovation means a new approach to develop product. It is a B2B structure and a B2C structure too. The boundary can be company and other institutions.

### **STEP 2: Concept Approval**

1. Approval of the R&D plan
2. Approving schedule
3. Approving HR
4. Approving Sales, volumes, prices, fixed costs, variable costs, investment.

### **STEP 3: Detailed product design, supplier selection**

1. Drawings
2. Testing and quality specifications
3. Supplier selection
4. Final prototyping goal:
5. To prepare the deliverables that are needed to manufacture and sell the product.

### **STEP 4: Testing and tooling**

1. Functional and endurance testing
2. Beta testing
3. Mold manufacturing
4. Process optimization
5. Field test

Final goal: guarantee the product/service is reliably performing through life according to specifications.

### **STEP 5: Manufacturing and launch**

1. Marketing: launch communication campaign and refine pricing policy
2. Manufacturing: activate supply chain and plant
3. Sales: recruit salesforce; train salesforce; activate distribution network; manage sell-out

Final goal: Make your product or service available to your customer.

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## **The Shift to the Customer**

User centered approach in product development through several methods:

Validated learning: validation board

Design thinking and systems design

Lean startup; MVP and Prototyping.

**A topic: design thinking.** Design Thinking focuses on **viability, feasibility and desirability** along the innovation process. The optimal solution to a problem is at the heart of the three. The design thinking steps are understand the need of customer, observe and point out, define point-of-view, ideate, prototype and finally test.

**Product management framework: evolves product from an initial idea through iteration.**

Begins with concept and through identify the market go to validation. By sing technology and business validation through questions go to step three design and development. Based on user experience and customers needs, we go to market planing. This framework is simplified and specially for technology.

Work time: group 1 watch the video of “expliseat pitch”, group 2 is “improving airline passenger experience”, group 3 is “Prototyping” and for group 4 is “certification”.

Group1: give us a free format textual description or use cases.

Group2: Tell us what are Business drives for that case, what is the market type, customer requirements, values proposals for end-users/service/operators/ developer/system integrators. And what are revenue drivers, key competitors here?

Group3: Are there any technology enablers and availability, what are the solution architecture and IPR solution?

Group4: What is schedule and timelines, resource requirements why would you support this project(..or not)?