Principles and Practices of Global Innovation

About this iPodia Course and the iLearning Paradigm:

This iPodia course on "Principles and Practices of Global Innovation" addresses important socio-technical features of technology innovation in competitive global market. Specifically, it focuses on how customer needs and market trends are shaped by various social and cultural contexts, which, in turns, drive different strategies of technology innovation to win market competition. With this socio-technical perspective, the course presents a systematic framework for understanding the dynamic lifecycle of technology innovations in the early, mainstream, and late markets, and explains innovation and competition strategies at each stage. Many real-world examples and case studies from consumer product industries are included to illustrate important global innovation principles. Students have ample opportunities to engage in collaborative peer learning and are required to participate in team projects with global classmates to apply these basic principles in actual practices.

Students enrolled in this global iPodia course are to engage in "peer-to-peer-learning" with classmates across temporal, physical, institutional, and cultural boundaries. They follow the 24/7 learning cycle, shown below to experience the new iLearning paradigm made possible by iPodia’s unique pedagogy, platform, and program.

The iPodia pedagogy employs a smart algorithm which analyzes feedbacks of students’ pre-class content study to assemble cohorts with the most diverse viewpoints. It also includes a token system to incentivize peer learning and uses a coin grading scheme to promote learning-as-earning. This “learning-from-diversity” pedagogy enables students to develop contextual knowledge of course contents, which is important for learning socio-technical subjects. The iPodia platform uses the Internet to interconnect physical classrooms so that students can work with distant classmates as local peers on their home campus directly. This “classrooms-without-borders” platform maximizes student diversity, broadly interpreted, in a cyber-physical environment far beyond what’s available on an individual campus. Finally, the iPodia program allows students of different universities to take the same course concurrently so that learner diversities can be utilized as learning resources and cultural varieties can be leveraged to inspire global innovations. This multi-institutional cooperative education program enables iPodia students to gain mutual understanding of, and develop personal networks with, global classmates, which will be an important asset for them to become global innovation leaders in the future.
CLASS INFORMATION:

- **Class Time**
  
  NOTE: This course has two identical sessions to accommodate time differences between multiple campuses. Participating schools must choose a session whose live class time (Pacific Standard Time, PST) can reasonably correspond to their local hours.
  
  - **Session A:** live class on Thursdays, 08:00 – 10:00 (PST)
  - **Session B:** live class on Thursdays, 19:00 – 21:00 (PST)

- **Class Location:** RTH217 @ USC with live video/audio connections to other campuses

- **The first class begins:** Thursday, September 3, 2020.

- **Team Project:** Innovative Technology Solutions for the Coronavirus Pandemic

- **(Optional) Overseas Camps Visit:** a week of December 2020 (specific time and host university to be determined)

LEARNING SUBJECTS:

*Course Introduction – iPodia and its new iLearning paradigm*

- The iPodia pedagogy, platform, and program (i.e., the iPodia Alliance)
- Effective iLearning with global peers in a joint iPodia class
- Explanation of the course syllabus and learning requirements
- A tutorial of the iPodia P2P (peer-to-peer) iLearning System

**PART I: Introduction of Technology Innovation and Market Competition**

**Module 1: The Truth and Myths of Innovation – what is, and what isn’t, technology innovation**

- A. The definition and scope of innovation vs. invention
- B. The origin of creativity (where do good ideas come from?)
- C. Innovation opportunities are uncovered from insights of customers’ emerging lifestyle meanings
- D. Make things, distribute goods, aggregate distributions, collect data to evolve to new business

**Module 2: S-Curves – the dynamic lifecycle of technology innovations with market competitions**

- A. The socio-technical paradigm of technology innovations
- B. The S-curve, and S-Curves of technology innovations
- C. Understand the lifecycle of technology innovations with S-curves
- D. Demand → function → performance → price (or zero → one, one → many, many → too many)

**PART II: Technology Innovation in the Early Market (Demand and Function Competition)**

**Module 3: Initiate Blue-ocean Market – rapid development and deployment of brand-new products**

- A. Strategies of creating a blue-ocean market quickly by brand-new products
- B. The Kano Model of Customer Satisfaction to select excitement features strategically
- C. The Minimal Viable Product Model to deliver only what’s absolute essential quickly
- D. The Hooked Model to entice initial customers and solicit their feedbacks ubiquitously
Module 4: Cross the Market Chasm – battling a dominant design of technology innovations
A. Battles in an early market when multiple innovators swiftly introduce different new products
B. The dominant design of technology innovations and its important roles in an early market
C. Successfully crossing the market chasm with a dominant design of technology innovations
D. Entering a mainstream market after a technology innovation crosses the market chasm

PART III: Technology Innovation in the Mainstream Market (Performance and Price Competition)

Module 5: Rapidly Growing Market – market segmentation and the Segment-Zero Principle
A. Segmentation and how it changes the nature of competitions in a mainstream market
B. The definition and pre-conditions of the Segment-Zero Principle of competitions
C. The Segment-Zero Principle explains the change from rational to irrational market competitions
D. Real-world cases of the Segment-Zero Principle: automobile industry examples

Module 6: Over-Expanding Market – product modularization and technology commoditization
A. The strategic inflection point (SIP) of a mainstream market and the Segment-Zero dilemma
B. How Segment-Zero strategic inflection point (SIP) change the nature of market competitions?
C. How to modularize products for cost competitions after Segment-Zero SIP?
D. Different ways to engage in cost competitions after technology commoditization

PART IV: Technology Innovation in the Late Market (Price-Only Competition)

Module 7: Survive an Aging Market – outsourcing and offshoring to endure price competitions
A. Globalization and innovation – opportunities and crises
B. Global outsourcing and offshoring strategies, and why they become popular in recent decades
C. Positive consequences of the current global outsourcing models in different world regions
D. Negative consequences of the current global outsourcing models in different world regions

Module 8: Current Reversal Trends of Globalization – impact on global industry and world economy
A. Technology (civilization) vs. society (humanity)
B. Increasing social and economic divides caused by globalization and technology innovations
C. Recent reversal trends of outsourcing strategies and their implications on global innovation
D. The changing new order of technology innovations and models of future global productions

PART V: Emerging Innovation Paradigms (Escape the Mass Production Curse)

Module 9: Internet-Era Innovations – create blue-ocean markets with speed, scope, and data
A. The complete spectrum of technology innovation strategies
B. Some real-world examples of disruptive innovation strategies and their market impacts
C. Some real-world examples of platform innovation strategies and their market impacts
D. What are more sustainable technology innovation strategies in the future?

Module 10: The Internet of Things (IoT) and Industry 4.0 – significance, challenge, and impact
A. The history of industrial revolutions and how they impact on the humanity and the society
B. Industry 4.0 and how it is different from the current mass production paradigm
C. A cloud-based, integrated production, distribution, and consumption ecosystems in the future
D. Innovations of highly personalized products (targeted smart customization)