DRUCKER
SCHOOL OF MANAGEMENT
Claremont Graduate University

Course Description

MGT 317 Creating Smart Products – IoT Boot Camp

"The aim of marketing is to know and understand the customer so well the product or service fits him and sells itself."
Peter F. Drucker

The Management Problem

Most **innovation** and new products fail – and without a product, there is no business. At Procter & Gamble only 3% of new consumer-packaged goods were launched successfully (Schneider & Hall in *Harvard Business Review* 2011).

With the arrival of "smart" products, a bad management problem may turn ugly.

> 1smart (Merriam-Webster 2015)
> *adjective* \'smärt\
> : very good at learning or thinking about things
> : showing intelligence or good judgment

A smart product is one that learns and adapts to ***fit the customer and sell itself***. Smart products are the future; they embody the **Internet of Things (IoT)** (Porter & Heppelmann 2014). Early examples include *Google's Nest*, a "thinking" thermostat, and emerging *m-Health devices*, such as from Fitbit.

"Smart products will require a revolution on the part of incumbents [because] they will need to rethink their core competence" (*The Economist* 2015). Smart products require **connectivity**, **sensors** and **artificial intelligence** processing.

In this course you learn how to succeed in this new IoT world – as a **Team Leader**, **Marketing & Product Manager** or **Consultant**.

You will learn hands-on to link **customer journey science & analytics** with **design thinking** and **rapid prototyping**. You will learn HOW TO plan, manage, and execute the delivery of a smart product success story.

Some students have gained experience with **entrepreneurship** by evolving their course project to win at Drucker's **Kravis Competition**.

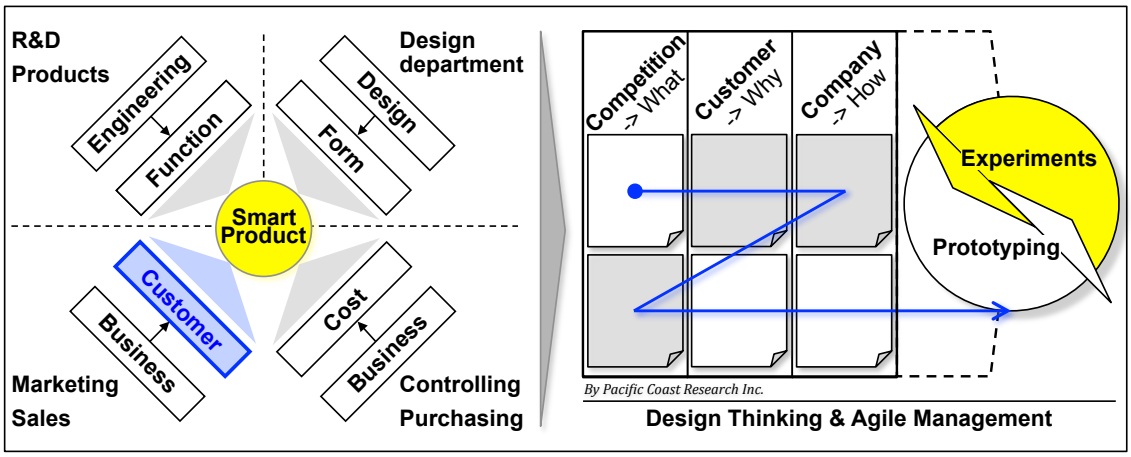

Figure: Smart Products Challenge & Solution – "3 Cs + 1 Sprint" Process (Langdon 2014)

Simple, Modular Course Design

The course is focused on: What are the steps to get smart products right. The Figure illustrates the coordination challenge across functions and a simple solution of managing smart product creation. It is based on proven product development and new "agile" innovation methods, such as prototyping "sprints."

This course interacts well with **MGT 349/505 Data Analytics** (no prerequisite), which is focused on: What are the steps to get analytics right, which has emerged as a critical new requirement for success in management across multiple functions, including Marketing, Products and R&D.

Learning Objectives – Your Resume Bullet Points

This course teaches you to:

- Prepare an executive-level **Smart Product Business Proposal** with (a) *[Value Curve Analysis]*, (b) *[Customer Journey Map]/[Behavioral Profile]*, (c) *[System Interaction Diagram]*, and (d) a first *[Prototype]* sketch.
- Utilize a next generation, cloud-based rapid prototyping tool-kit.
- Design an exploratory *[Pre-test]* and conduct a *[Hypothesis Test]* using your prototype and a convenience sample in a first **Agile Development Sprint** for concurrent trade-off resolution.

Boot Camp – Learning by doing: Your business proposal assignment is a team project, and you will start and evolve it during class. Therefore, each class session is split into a **Lecture** on new tools & tricks and a subsequent **Lab** so that you can immediately learn to apply them toward completion of your project deliverable.

Schedule – 4+1 Saturdays

4 meetings (10am - 4pm): Sat Oct 29, Nov 12, Nov 19, and Dec 3
1 "Shark Tank" presentation session/pitch of proposals (10am - Noon): Sat Dec 10

Faculty Bio

Professor Chris S. Langdon is a data scientist and his research is focused on quantifying IT-enabled strategies using AI and next generation analytical tools, such as computational simulation (chris.langdon@cgu.edu).

Chris serves as the President of Pacific Coast Research Inc., an award-winning predictive analytics specialist, and co-founder of the Special Interest Group on Agent-based Information Systems (SIGABIS) of the Association for Information Systems (AIS)/Wirtschaftsinformatik. He started his career as a consultant with Accenture und later joined the faculty of the University of Southern California (USC).

His research on next generation analytics has won grants from governments and software pioneers, such as from Microsoft, and results have appeared in leading publications, including *Communications of the ACM*, *Harvard Business Review*, *Information Systems Research* and Institute of Electrical and Electronics Engineers (IEEE) journals. Over the past two decades, Chris has become known for his success with analytics for *Fortune* Global 100 clients, primarily on digital transformation with global media companies and automakers, such as Sony and Mercedes-Benz.

Chris was educated at the Darmstadt University of Technology, Germany, and the University of Illinois at Urbana-Champaign and received graduate degrees in engineering and economics, and a Ph.D. in economics, all *summa cum laude*.