Technology and Business Innovation

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University of Michigan
TO/STRAT 630: The New Age of Innovation
Course Information and Syllabus
Fall B 2017

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Course Materials

Required Reading: Coursepack, articles and other links posted on the Canvas site of the course, course discussion board and class handouts.

https://www.amazon.com/New-Age-Innovation-Co-created-Networks/dp/1260031160
Students may buy either the 2008 original edition or the 2017 business classic edition. The business classic edition has an additional Foreword that will be posted on Canvas.

Connectivity  
Digitization  
Convergence  
Social Networks

A New Approach To Innovation & Value Creation
The New Approach to Value Creation Process as in:

One Consumer Experience at a Time (N=1);
Leverage Global Resources (R=G)

...and many more!
The Case of Apple iPod

N = 1

Co-creation of personalized experiences

Playlists

- Wide Selection of songs
- Personal Preferences
- Favorites based on time of day/moods

Global Content Providers

Display: TOSHIBA

Memory (RAM): SAMSUNG

Assembly: Inventec

Transformation of the Music Industry

R = G
Traditional View of a Firm:
Focus on Transactions

Focus on
Market Research and Product Capabilities
Shift from transaction and internal resource based approach to personalized experience in ecosystems of internal and external resources in a digitally enabled platform
New Business Models: Ecosystem Innovation

Focus on Personalized Experience and Global Resources
P&G's smart toothbrush keeps tabs on tooth care

BY PAUL SANDLE
LONDON Thu 20 Feb 2014 5:42am EST

(Reuters) - Procter & Gamble Co is bringing the dentist into the bathroom with the world's first smartphone-connected toothbrush, a device that gives personalized advice to help people improve their brushing.

The toothbrush, to be sold under P&G's Oral-B brand and which will be widely available from June, has a Bluetooth 4.0 link to a smartphone app that can be programmed with the help of a dentist, for example to pay more attention to any areas of the mouth being neglected, P&G said.

The New House of Innovation

The Technical Architecture of the Firm:
(Information and Communication Technology –ICT-
Backbone of the Firm)

The Social Architecture of the Firm:
(Values, Skills, Attitudes,
Decision Processes,
Performance Metrics in the firm)

Personalized Co Created Experiences:
N=1

Flexible and Resilient Business Processes and Focused Analytics

Global Access to Resources and Talent:
R=G
Course Organization Modules

- Transformation of Business Models & Dominant Logic
- The New Face of Traditional Businesses
- The New Age of Innovation: Competing in Ecosystems
- Business Processes & Analytics:
- Emerging Technology and Business Impacts
- Dynamic Reconfiguration of Talent
- Technology Embracing Culture
- Managing the Transformation
- ICT Architecture: The Foundation for Execution
Digital Transformation Execution

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Digital Transformation Case Discussion

• Digital Transformation Business Case

• Digital Transformation Case Studies
  – Madras Cements
  – LEGO
  – Domino’s Pizza
  – American Express

• Digital Transformation Execution
  – Skills, Culture and Capabilities
  – Frictions in Execution
Digital Transformation Business Case

Industry Transformations
New Ecosystems and New Age Business Models

Smart Sensor Networks
AR & VR

Social Networks

AI & ML
Big Data Analytics

Ubiquitous Connectivity

Pervasive Digitization

(joint work with Dr. Prasad Ram)
Digital Transformation Business Case

New Demands

Customer Requirements
Customer Pain
Business Needs

New Solutions

New Technology Capabilities
Emerging Trends (HexaTech)
Outcome of Experiments
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Domino’s Case Questions

• Is Pizza Tracker from Domino’s a mere marketing gimmick? Why or Why not?
• Discuss the competitive dynamics in the fast food industry in terms of the unique challenges and critical success factors.
• Management at Domino’s Pizza has succeeded in building a customer centric organization. Discuss how they achieved this. Identify in what ways they can further improve in their customer centricity?
• What is the role of digitization and information architecture in enabling the customer centric success at Domino’s Pizza? What was their approach to IT strategy?
• Over the years Domino’s Pizza has managed to transform their culture within the organization. What challenges did they face and how did they counter these challenges with social architecture changes?
• Domino’s CEO was quoted saying “We are a Technology company and we happen to be in the Pizza business.” Do you agree?
DOMINO’S PIZZA BUSINESS CASE

Business Challenges

• Poor Product Quality
• Decrease in Customer Satisfaction
• PR Crisis
• Franchisees losing money
• Employees Under Stress

What actions will you take?
Where will you start?
The Emotional Roller Coaster of Pizza Ordering
Managing Customer Anxiety

CHOOSE PIZZA
CONSIDERATION
MAKE DECISION
PLACE ORDER
WAIT
SET TABLE
DELIVERY
EAT
CLEAN UP

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Pizza Tracker – Why?

• Better customer experience
  – Fill the communication void between ordering & delivery.
  – Flattens the emotional roller coaster

• Positive differentiator vs. PJ’s or PH
  – Attracts their online customer base
  – Tracking by phone number is hard & will be expensive to copy
  – Intellectual property protection possible

• Forces operational focus on OTD times
  – Customer-enforced service, similar to the 30-minute guarantee
  – Puts operations in a virtual fishbowl. At-home customers will have visibility into Domino’s Pizza stores & operations.

• Leverages investment in Domino’s Pulse
Real-Time – How it works

Customers

Tracker Web

LiveData

Refresh Agents

- Store OTD<15: 65.3%
- Group OTD<15: 65.8%
- Lates: 0 / 0.0%
- Average Order Load: 1:43
Tracker feedback process

Process flow

Tracker

Feedback

Pulse Alert

You have customer feedback. Follow Up immediately!

Timely FollowUp

Scorecard Portal
Intranet portal – Real-time Tracking

Built on open source portal technology
Portal enables:
- Web 2.0 interactive communication & collaboration
  - Blogs, wiki, discussion boards, ratings
- Online communities
- Best practice sharing
- User personalization
- More video

Chart: Unique Store Accesses (Weekly)
New Ordering Channels

You can now order Domino's pizza through a chatbot on Facebook Messenger

- SamsungTV
- Amazon Echo
- Ford Sync
- Apple Watch
- FB Chatbot
- ...

$4.7B in Digital Sales Across Brands
Domino’s Delivery Options

“We’ve always said that it doesn’t make sense to have a 2-ton machine delivering a 2-kilogram order,” Domino’s Group CEO Don Meij
Global Market Response

Why 500 Domino's stores in India are turning vegetarian next month


India is their largest market outside USA
Domino’s CEO Video

- https://youtu.be/ruTDixTjQYM
- https://youtu.be/1_Zy_gbjyM
New Experiments at Dominos since 2011

- Dom Voice App
- 18 Channels and Pizza emoji
- Rapid experimentation on routes
- Kiosks in the store+
- Autonomous vehicles
- Camera on Pizza oven?
- Global customization
- ….
### Product to Customer Experience Business

#### Social Change

<table>
<thead>
<tr>
<th>Traditional</th>
<th>New</th>
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</thead>
<tbody>
<tr>
<td>Management Control</td>
<td>Empowerment and Facilitation</td>
</tr>
<tr>
<td>Product Quality Concern</td>
<td>Transparency of Process</td>
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<tr>
<td>Performance linked on-time delivery</td>
<td>Transparency of Performance</td>
</tr>
<tr>
<td>Independent Store Optimization</td>
<td>Collaborative Learning Platform</td>
</tr>
<tr>
<td>8-10% increase in Customer Spending</td>
<td>Proactive Risk Mitigation</td>
</tr>
<tr>
<td>Improvement in Customer Satisfaction and Efficiency</td>
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#### Technology Change

<table>
<thead>
<tr>
<th>Traditional</th>
<th>New</th>
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<tbody>
<tr>
<td>Phone Based Interaction</td>
<td>Integrated Screens with Insights</td>
</tr>
<tr>
<td>Silo Performance Systems</td>
<td>Contextual Customer Information</td>
</tr>
<tr>
<td>Lack of Real-time Customer and Store Visibility</td>
<td>Live N=1 Customer Analytics with Demand and Performance Context</td>
</tr>
<tr>
<td>Ex-Post Analytics (Month-end)</td>
<td>N=1 Visibility to Drivers and Stores</td>
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Madras Cements Case Questions

• What was the business case for the first implementation of ERP at Madras Cements?
• What went wrong with the first implementation of ERP at Madras Cements?
• What were the critical successes in the second implementation of ERP?
• How did the leadership at Madras Cements manage the social transformation to an evidence based management culture?
• What bridged the gap between business and technology groups at Madras Cements? Is this a common practice across organizations?
• What kind of growth strategy will you suggest to the senior management at Madras Cements going forward?
Madras Cements

https://www.youtube.com/watch?v=bD4tog5WRQA

Visibility
https://www.youtube.com/watch?v=YKQ5oHUYF0s

Google Platform
https://www.youtube.com/watch?v=UMc_fWJL4-A

Expert System
https://www.youtube.com/watch?v=tgJXYLYURzQ
Cost control, high demand in south to benefit Ramco Cements

By Rajesh Naidu, ET Bureau | Jul 01, 2016, 06.19 AM IST

READ MORE ON » Telangana | Ramco Cements | EBITDA | Demand | Andhra Pradesh

Chennai-based cement company, The Ramco Cements has been able to run operations efficiently compared with peers. In FY16, the company generated operating profit before depreciation (Ebitda) per tonne of cement at Rs 1,400 while it was Rs 800-850 per tonne for the peers.
Innovation Platform at Madras Cements

Madras Cements Visibility Platform

SOCIAL ARCHITECTURE
- Senior Management Commitment and Leadership
- Evidence based change
- Real-time visibility & managing behavior
- Decisions and Insights based on Analytics

BUSINESS PROCESS TRANSFORMATION

ICT ARCHITECTURE
- Speed of Implementation
- Component based architecture
- Legacy management
- Flexibility in reports
- Mobility & Big Data Analytics
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Digital Transformation Execution Challenges

Firms still operate on their yearly and multi year strategy and have not adapted to agile methods and speed of experimentation

Myopic and narrow view of digital implications. Traditional IT and CIO view of digital

Underestimation of both the economic effect and the unbundling of both products and services with locus of power moving to customers.

Traditional market share comparison with competition drives the myopic view. Digital creates almost new markets with increasing returns to scale.