TechVenture India (INTL 918)
EMBA Global Elective – Winter 2020
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Course Syllabus

Overview
TechVenture India is an experiential learning course for that focuses on technology trends and entrepreneurship in emerging markets. The course is open as an elective to all Kellogg EMBA students on the Evanston and Miami campuses and all class sessions will be conducted during one weekend on the Evanston campus. The course combines classroom sessions, a week-long field study trip and a research project to provide students with the concepts as well as real-world experience with emerging technologies and entrepreneurship opportunities in emerging markets like India. The course begins with an overview of technology ecosystems and how they are developing differently in India versus Silicon Valley. The course will then dive deep into key technologies like Mobile Technologies, Cloud Computing, Blockchain, Artificial Intelligence (AI) and Machine Learning, with a special focus on how these technology trends and themes are playing out in emerging markets like India. The class sessions consist of a mix of lectures and guest sessions from practitioners and academics. The field trip will include visits to large Indian technology companies, multinational technology companies, technology startup companies and government organizations. Student teams will choose a research topic of their choice related to technology trends in emerging markets and will be required to produce a publishable-quality white paper on their chosen topic.

Course Objectives

• Provide students with a deep understanding of key technology trends and their impact on economic development in emerging markets.

• Expose students to first-hand experience with technology companies in India, which is the most dynamic emerging market for technology startups as well as large technology companies.
• Provide students with a “mind-expanding” perspective on entrepreneurial opportunities in emerging markets.

• Compel students to develop expertise in a specialized domain and provide them with the experience and skills of writing a publishing quality research paper.

• Enhance the presence of Kellogg in India through interactions with alumni, key technology business leaders and influencers.

**Design Features**
This course has several unique features:

- **Theory + Practice**: The class sessions are carefully designed to blend theory and conceptual frameworks with practical expertise from seasoned practitioners.

- **Publishable Research Output**: Students are expected to create a publishable quality research paper on a topic of their choice. Students will present their work to their colleagues in the course via a final webinar.

- **Action Learning Component**: The course combines concepts and theory with “action learning” during the field visit. This action learning will bring the theory and concepts to life, well beyond what could be accomplished through case studies.

**In-Country Advisor**
Throughout the course and the trip in India, you will be accompanied by an in-country advisor who is a staff member at Kellogg. The in-country advisor for this course is Colette Feldges. The in-country advisor is the faculty member’s representative while in-country and will be treated as such. Among other logistical roles during the trip, she will be assessing each student’s level of participation during the plenary meetings and providing feedback to the Professor.

**Course Structure**
The course is divided into three phases:

1. **Concepts**: This phase consists of one introductory webinar (January 22) and eight 90-minute class sessions (February 14-16) that focus on technology trends in emerging markets. Sessions will consist of lectures and guest sessions.

2. **Field Trip**: This phase consists of the field trip to India from March 19-25 (March 17-26 including travel). The field trip includes company visits, visits with government and NGO officials and some time for cultural visits.
3. **Project Teams**: Each student will be required to identify and join a project team. The teams are comprised of 4-6 students and organized around a project idea that the team proposes to Professor Sawhney and develops based on his feedback. This project will be researched throughout the course and while in India.

4. **Project Presentations**: In this final webinar (May 6) following the field trip, student teams will make brief presentations on their projects to their colleagues.

**Course Modules**
The concepts sessions will include the following modules:

1. **Technology Ecosystems**

   Much as biologists use the term ecosystem to describe a community of organisms interacting in their environment, a technology ecosystem refers to a cluster of individuals, institutions and organizations that dynamically interact with each other. Such interaction fosters the growth of an ecosystem. They talk, share, collaborate, team up, and grow together in a way that demonstrates the dependent nature of these relationships and how crucially they matter in the sustained development of a burgeoning ecosystem. A technology ecosystem comprises a number of ingredients, including entrepreneurs, venture capitalists, service providers, mentors, and incubators to name a few. The unique intellectual, entrepreneurial and financial inputs from the various players play a catalytic role in the growth and success of a technology ecosystem. In this module, we will begin by discussing the dynamic ingredients of an ecosystem, their relationships and the role of their inputs in fostering the growth of the ecosystem. We will then contrast the classic Silicon Valley ecosystem with newer ecosystems in emerging markets, with a special focus on Bangalore. We will analyze the factors that contribute to the formation of technology ecosystems and the role of various institutions in ecosystem formation. We will explore the critical success factors and criteria of innovation ecosystems. We will conclude with the role that governments can play in fostering the development of technology ecosystems.

2. **The Mobile Revolution**

   The explosive growth of mobile technology in both developed and emerging markets has laid the foundation for large-scale social transformations. A typical mobile device today is much more than just a cellular handset – it is a web browser, GPS navigation system, instant messenger, video-on-demand device, music player and video gaming system. A mobile device today also means a tablet computer, smartphone, web-connected reading device or a vast array of networked devices called the Internet of Things (IoT). In emerging markets, mobile technology is becoming an important channel for delivering services in banking, healthcare, agriculture and farming, banking and finance. In emerging markets, the surge of mobile technology is expected to improve job
opportunities, working conditions, and improved training and learning. In countries that have
witnessed a groundswell of grassroots technological innovation, mobile technology stands to
revolutionize the lives of people particularly those in dire need of economic development. In this
module, we will begin by discussing the mobile technology landscape, trends and key players and
influencers. We will examine the application areas of mobile technology such as m-health, m-
banking, m-agriculture, m-commerce and m-gaming. We will focus on the role that mobile
technology can play in emerging markets in sectors such as education, agriculture and financial
services. We will also discuss the rapid growth of mobile networks and digital services in India,
catalyzed by the entry of Reliance Jio Infocomm in September 2016.

3. Cloud Computing

Cloud computing or the cloud refers to software and services that run on the internet instead of
on computers. Examples of cloud services include Dropbox, Netflix, Apple iCloud, Google Drive,
Salesforce.com, Microsoft Office 365, Azure and Amazon Web Services. The cloud allows users to
access services without regard to location, on an on-demand basis and without owning any
infrastructure or software. While consumers were the initial users of cloud services, increasingly,
businesses are turning to the cloud instead of relying on their internal servers and software. While
the cloud is seen as a massive technology trend, it also comes with privacy and security concerns.
In emerging markets, the cloud is seen as disruptive and offers the potential for small and mid-
sized businesses to get access to world-class infrastructure and services at very low cost. In this
module, we will first evaluate the value proposition of the Cloud. Why is it (or not) a better service
for consumers and businesses? Next we discuss the key players in cloud services. We will examine
the different types of cloud such as public, private and hybrid cloud and what each brings to the
table. We will also review cloud business models – EaaS (Everything as a Service). We will examine
the critical issue of cloud security and privacy issues and the impact of data loss and breaches.
Finally, we will discuss the promise of cloud in emerging markets particularly for small and medium
businesses.

4. Artificial Intelligence

Although the concept of Artificial Intelligence (AI) has been around since 1956, AI has really come
into its own in the past few years, due to advances in algorithms, computing power and the
availability of massive amounts of data. Applications of AI are permeating many industries as well
as our daily lives. Commercial AI engines like IBM Watson can beat humans at answering general
trivia questions and even in diagnosing diseases. From virtual assistants like Google Assistant,
Alexa and Cortana to industrial applications of natural language processing and machine vision, AI
is truly a transformative set of technologies. In this module, we will discuss the history and current
state of development of AI. We will examine two sub-domains of AI – Machine Learning and Deep
Learning. We will see how AI, ML and Deep Learning are being used to analyze text, speech,
images and video data. We will also examine the applications of AI technologies in industries like health care, legal process automation, autonomous vehicles and smart infrastructure, to name a few. We will conclude with a discussion of the “darker side” of AI, including concerns around privacy, cybersecurity and the potential loss of jobs when robots take over intelligent decision making tasks from humans.
**Course Schedule**
The course sessions will be scheduled as follows:

<table>
<thead>
<tr>
<th>SESSION</th>
<th>DATE</th>
<th>TIME (ALL TIMES CST)</th>
<th>LOCATION</th>
<th>TOPIC</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Wednesday, 1/22</td>
<td>5:30 – 7:00 PM</td>
<td>Virtual Session</td>
<td><strong>Course Introduction</strong></td>
</tr>
<tr>
<td>2.</td>
<td>Friday, 2/14</td>
<td>1:00 PM – 2:30 PM</td>
<td>Allen Center</td>
<td><strong>Lecture</strong>: Technology Ecosystems and Entrepreneurship</td>
</tr>
<tr>
<td>3.</td>
<td>Friday, 2/14</td>
<td>2:45 PM – 4:15 PM</td>
<td>Allen Center</td>
<td><strong>Guest Session</strong>: The State of Entrepreneurship in India 2018</td>
</tr>
<tr>
<td></td>
<td>Friday, 2/14</td>
<td>4:30 – 7:00 PM</td>
<td>Allen Center</td>
<td><strong>Trip Logistics and Reserved Time for Project Team Meetings</strong></td>
</tr>
<tr>
<td>4.</td>
<td>Saturday, 2/15</td>
<td>8:30 AM – 10:00 AM</td>
<td>Allen Center</td>
<td><strong>Lecture</strong>: The Mobile Revolution</td>
</tr>
<tr>
<td>5.</td>
<td>Saturday, 2/15</td>
<td>10:15 AM – 11:45 AM</td>
<td>Allen Center</td>
<td><strong>Guest Session</strong>: Reliance Jio Infocomm – Leading the Mobile Revolution in India</td>
</tr>
<tr>
<td>6.</td>
<td>Saturday, 2/15</td>
<td>1:00 PM – 2:30 PM</td>
<td>Allen Center</td>
<td><strong>Lecture</strong>: Cloud Computing</td>
</tr>
<tr>
<td>7.</td>
<td>Saturday, 2/15</td>
<td>2:45 PM – 4:15 PM</td>
<td>Allen Center</td>
<td><strong>Guest Session</strong>: Blockchain and the Crypto Boom</td>
</tr>
<tr>
<td></td>
<td>Saturday, 2/15</td>
<td>4:30 PM – 7:00 PM</td>
<td>Allen Center</td>
<td><strong>Trip Logistics and Reserved Time for Project Team Meetings</strong></td>
</tr>
<tr>
<td>8.</td>
<td>Sunday, 2/16</td>
<td>8:30 AM – 10:00 AM</td>
<td>Allen Center</td>
<td><strong>Lecture</strong>: Artificial Intelligence</td>
</tr>
<tr>
<td>9.</td>
<td>Sunday, 2/16</td>
<td>10:15 AM – 11:45 AM</td>
<td>Allen Center</td>
<td><strong>Guest Session</strong>: Applications of Cognitive Science and Artificial Intelligence</td>
</tr>
<tr>
<td>10.</td>
<td>Wednesday, 5/6</td>
<td>5:30 PM – 7:30 PM</td>
<td>Virtual Session</td>
<td>Team Project Presentations and White Papers Due</td>
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</tbody>
</table>

**NOTE**: Guest Sessions and Topics are Subject to Change.
**Attendance Policy**

Attendance for all webinars and classes sessions for this course are mandatory, as is participation in the field trip. Students are also expected to participate in project team meetings and any other preparation in advance of and outside of the class sessions.

**Field Trip**

During the field trip, we will visit only two cities to minimize in-country travel and moving between hotels. We have chosen Bangalore and Hyderabad as the cities to visit. We have chosen Bangalore as it is the most influential technology ecosystem in India. We have chosen Hyderabad because it is a city that has been transformed into an IT Hub with the pioneering efforts of the state government.

The tentative itinerary for the field trip is as follows:

<table>
<thead>
<tr>
<th>DATE</th>
<th>TRAVEL DETAILS</th>
<th>LOCATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tuesday, March 17</td>
<td>Depart home for Hyderabad</td>
<td>Enroute to Hyderabad</td>
</tr>
<tr>
<td>Wednesday, March 18</td>
<td>Arrive Hyderabad</td>
<td>Hyderabad</td>
</tr>
<tr>
<td>Thursday, March 19</td>
<td>Class/Project Visits</td>
<td>Hyderabad</td>
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<tr>
<td>Friday, March 20</td>
<td>Class/Project Visits</td>
<td>Hyderabad</td>
</tr>
<tr>
<td>Saturday, March 21</td>
<td>Cultural Visit - Kheyti</td>
<td>Hyderabad</td>
</tr>
<tr>
<td>Sunday, March 22</td>
<td>Travel to Bangalore</td>
<td>Hyderabad/Bangalore</td>
</tr>
<tr>
<td>Monday, March 23</td>
<td>Class/Project Visits</td>
<td>Bangalore</td>
</tr>
<tr>
<td>Tuesday, March 24</td>
<td>Class/Project Visits</td>
<td>Bangalore</td>
</tr>
<tr>
<td>Wednesday, March 25</td>
<td>Class/Project Visits</td>
<td>Bangalore</td>
</tr>
<tr>
<td>Thursday, March 26</td>
<td>Depart Bangalore for Home</td>
<td>Bangalore</td>
</tr>
</tbody>
</table>

**Performance Evaluation**

Students will be evaluated on the following criteria:

1. Team research paper presentation 20%
2. Team research paper final report 50%
3. Class and Team participation 30%
Research Paper
The majority of each student’s grade will be based on the team research project (which consists of a white paper as well as in-class presentation). Students will form groups of 4 to 6 members and choose a topic of their interest.

Each team will be required to prepare a 20 to 30-page paper presenting their research and conclusions. The paper should clearly demonstrate how the group chose to define the issue, the approach used to analyze the issues, findings, and conclusions. The papers should include a detailed bibliography, including academic articles, trade press articles, books, and web-based resources. Each team will be required to make a 15-minute presentation of their research to the entire class in the final session on May 6. Presentations should provide a fundamental analysis of the issue at hand using the techniques developed in the concepts phase of the course. Students should also discuss the application of their research for academics and practitioners.

The deadlines for the white paper are as follows:

- Submit groups and topic preference: February 3
- One-page outline of the topic: February 21
- Final paper and Presentations: May 6
- Peer Evaluation Form Due: May 7

Trip Cost/Logistics
Our travel provider for this trip will be WorldStrides - an authorized NU travel provider who has extensive experience in India. Students will be required to pay a $500 nonrefundable fee directly to WorldStrides by October 31. Paying this deposit is done via the online registration portal (link to be sent by WorldStrides). During the trip, breakfast and lunch will be provided, but the students will be on their own for most dinners, as this time can also be used for project visits. Please note: the students are responsible for the cost of travel to and from India, as well as securing visas to visit India, however, the program will arrange and pay for the travel from Hyderabad to Bangalore.

Kellogg Honor Code
The students of the Kellogg School of Management regard honesty and integrity as qualities essential to the practice and profession of management. The purpose of the Kellogg Honor Code is to promote these qualities so that each student can fully develop his or her individual potential. Upon admission, each student makes an agreement with his or her fellow students to abide by the Kellogg Honor Code. Students who violate the Kellogg Honor Code violate this Agreement and must accept the sanction(s) imposed by the Kellogg community.
The Kellogg Honor Code is administered by students and is based on the concept of self-government. The efficacy of such a student-administered honor code is dependent upon a high degree of dedication to the ideals of honesty, integrity and equal opportunity reflected by the code. The Kellogg Honor Code requires that each student act with integrity in all Kellogg activities and that each student hold his or her peers to the same standard. In agreeing to abide by the code, the Kellogg students also agree to report suspected violations. By not tolerating lapses in honesty and integrity, the Kellogg community affirms the importance of these values.