

Technology, Change, and Innovations

IDST 3005 (4 Credits / 60 class hours)

Taught by Local Faculty

International Honors Program:

Social Innovation: Entrepreneurship, Design and Development

PLEASE NOTE: This syllabus is representative of a typical term. Because courses develop and change over time to take advantage of unique learning opportunities, actual course content varies from semester to semester.

Technology:

The use of science in industry, engineering, etc., to invent useful things to solve problems.

(Merriam Webster Dictionary)

“Technology is messy and complex. It is difficult to define and to understand. In its variety, it is full of contradictions, laden with human folly, saved by occasional benign deeds, and rich with unintended consequences.... Defining technology in its complexity is as difficult as grasping the essence of politics.”

Thomas Hughes (2004, pp. 1-2)

“Dare to Imagine”

https://www.youtube.com/watch?v=QYK_BCgxEK8

(video shown in 2013 at the 10th Anniversary of the Skoll World Forum)

Course Description

In this interdisciplinary course, students will learn about technologies (digital and non-digital) and innovations that are being developed, adapted and used in diverse contexts to bring about social change. Almost every day we read about a new gadget or some new technology that promises to change the world. Many of these products will certainly do that – but the impact will be greatest for those who can purchase it and already live comfortably. Meanwhile, at the bottom of the pyramid, many people are living with deadly diseases, highly polluted air and water, poor nutrition, widespread illiteracy, outdated tools, and unreliable electricity. *Who* is creating the gadgets or the new technology to change their world? *How*, *where* and *why* are these new products and solutions being developed? The technologies are made *for whom*?

This course will introduce students to sources of such innovation and technologies and to social entrepreneurs and organizations successfully using and disseminating these ideas and products. Through guest lectures and site visits, students will explore economic, social, historical, geographical, ethical and

environmental issues that have led to the creation, adoption and diffusion of certain technologies and the effects these can have on populations at the bottom of the pyramid (BOP) in urban and rural settings. The role of the government in supporting research and development of indigenous *as well as imported* technologies and innovations will also be analyzed. Additionally, students will examine the ethical and philosophical implications of technologies in the four different countries and explore the relationships between technology and emancipation, power relations, design, hybridization and benefit-sharing. Some of the questions to be explored include:

- What is understood by technology and innovation in the US, Uganda, India and Brazil?
- Which technologies are part of the global exchange? Which are not? What implications does this have for people and their economies in the Global South and Global North?
- What are some indigenous technologies and why, when and where did they emerge?
- How does technology and innovation play a role in furthering social change?
- How are digital and non-digital technologies addressing challenges in education, health, social and financial inclusion, environment and agriculture?
- What are some of the assumptions about obsolescence and waste in current global systems of production? How might the development of new technologies affect future systems of production, consumption and waste?
- What is the relationship between technology and design-thinking or human-centered design?

Learning Objectives

The *Technology, Change, and Innovations* course comprises 60 class hours of instruction and field experience (4 credits). Upon completion of the course, students will be able to:

- Comparatively examine *how* and *which* technologies help innovate for development at the bottom of the pyramid (BOP).
- Compare technologies and innovations and explain how these are being used, adapted, *imported* or exported.
- Identify which systems, power relations and social and contextual factors determine a technology's success or failure.
- Have knowledge on debates related to: whether the increase of access and lowering of barriers to entry and innovation has the potential to enable democratization and further social change; the ethical dilemmas around the development and dissemination of technologies; the role of the government and the private sector in technology and innovation.

Methodology

This course is organized into country modules. In San Francisco, USA, students will receive an introductory lecture that includes an overview of technology and innovation in the Bay Area and the US. The Uganda, India and Brazil modules will be taught by Local Faculty and students will have assignments given and graded by them. Each Local Faculty member has a unique local background in the scholarship and practice of technology, innovation and social change. The course is augmented by additional guest lectures, site visits, and field activities and is thereby wed to the experiential pedagogy of the program.

Readings

Students are expected to complete all readings specified in the course schedule before arriving to class.

Pre-Departure Readings

Gawande, A. (July 29, 2013) *Slow Ideas: Some innovations spread fast. How do you speed the ones that*

don't? *The New Yorker*. Access here: <https://www.newyorker.com/magazine/2013/07/29/slow-ideas>

Rotman, D. (Oct. 21, 2014). Technology and Inequality. *MIT Technology Review*. Access here: <https://www.technologyreview.com/s/531726/technology-and-inequality/>

Taylor, E. (1996). T302 Innovation Design Environment and Strategy. Section 1: Invention and Innovation. Block 1 An Introduction to Innovation, Milton Keynes. The Open University, pp. 4-38. Access here: <http://www.open.edu/openlearnworks/mod/oucontent/view.php?id=13633§ion=1>

Toyama, K. (2015). *Geek heresy: Rescuing social change from the cult of technology*. Public Affairs. Introduction (p. ix-xvi) and Chapter 1 (p.3-16).

Course Schedule

This course is organized into an introductory class in San Francisco, USA and three subsequent modules in Uganda, India, and Brazil. See the specific country's program calendar for corresponding dates of class sessions.

SAN FRANCISCO, USA

Guest Faculty: Dr. Morgan Ames

Session	Lecture Topic	Key Topics	Site Visits & Guest Lectures
TI 1	Changing the world <i>from</i> and <i>within</i> Silicon Valley	Technology Innovation	Coalition on Homelessness Imperfect Produce Tenderloin Walking Tour Delancey Street Techshop IDEO Mission Asset Fund

SESSION 1: Changing the World *from* and *within* Silicon Valley

Digital technologies now touch the lives of the majority of the world's population. The promises attached to these technologies – to 'disrupt' tradition, to 'flatten' social inequalities, to usher in a brave new technological world through 'big data' and 'design thinking' – circulate out of the Silicon Valley engineering firms that promote them around the world, retaining power even in the face of evidence that these promises cannot be fully realized.

One of the primary aims of social entrepreneurship is to attempt to make good on these promises – realistically, incrementally, and with an eye to social justice. In order to do so, we will begin by exploring several leading theories behind the success of Silicon Valley, heralded as the birthplace of the technology industry. This success is organizational, fostered by regional networks of cooperation that transcend the 'firm' as it is traditionally understood. At the same time, it is also ideological, elevating 'rugged individualism,' playfulness, and the conviction that technology is a natural force for good in the world. Understanding these theories will equip aspiring social entrepreneurs to better assess and harness the real organizational and rhetorical power of digital technologies.

Required Reading:

Mosco, Vincent. "Myth and Cyberspace" (excerpts from Chapter 2: pp.17-31). *The Digital Sublime*:

Myth, Power, and Cyberspace. MIT Press, 2005.

Saxenian, Annalee. "Institutions and the Growth of Silicon Valley" (excerpts pp. 36-46). Berkeley Planning Journal, 6(1), 1991.

Turner, Fred. "Introduction, pp. 1-9." From Counterculture to Cyberculture: Stewart Brand, the Whole Earth Network, and the Rise of Digital Utopianism. University of Chicago Press, 2006.

Cutler, Kim-Mai. "East of Palo Alto's Eden: Race and The Formation Of Silicon Valley." TechCrunch, January 10, 2015 (SKIM). Access here: <https://techcrunch.com/2015/01/10/east-of-palo-altos-eden/>

Suggested Readings:

- Barbrook, Richard and Andy Cameron. "The Californian Ideology." Science As Culture, 6(1), 1996.
- Matthews, Glenna. Silicon Valley, Women, and the California Dream: Gender, Class, and Opportunity in the Twentieth Century. Stanford University Press, 2002.
- Saxenian, Annalee. The New Argonauts: Regional Advantage in a Global Economy. Harvard University Press, 2007.
- Thomas, Douglas. Hacker Culture. University of Minnesota Press, 2003.
- Toyama, Kentaro. Geek Heresy: Rescuing Social Change from the Cult of Technology. Public Affairs Books, 2015.
- Winner, Langdon. Do Artifacts Have Politics?

KAMPALA, UGANDA

Local faculty: George Batte

SUMMARY

Sessions in Uganda

Session	Lecture Topic	Key Topics	Site Visit or Guest Lecture
1	Technology diffusion gaps and the Development Inertia of Sub-Saharan Africa	Food Security, Population Growth, Climatic change, Micro-Irrigation, technology diffusion, Appropriate technology, Smallholder farmers	NARI
2	Mobile Telephony Technologies for Financial Inclusion	Mobile telephony technologies, financial inclusion, rural entrepreneurship, technology diffusion.	Fundi Bots
3	Sustainable Energy Technologies for Rural Transformation.	Energy poverty, modern energy technologies, per capita energy consumption, global warming.	ANUEL Energy

SESSION 1: Technology diffusion gaps and the Development Inertia of Sub-Saharan Africa

Sub Saharan Africa (SSA) is the poorest region on earth, characterized by the acute lack of basic commodities and acute food insecurity as a result of low agricultural productivity and failure to invest in technological change in the face of a rapidly growing population. This is exacerbated by an abundance of macroeconomic shocks such as unstable international commodity prices and changing climatic conditions, which have a greater impact on rural SSA populations with minimal coping mechanisms due to the dysfunctional innovation and technology system. It is unfortunate to note that despite of the growing number and diversity of innovations, technologies, projects and policies aimed at increasing agricultural productivity

and controlling population growth in rural SSA; the rate of technology uptake has remained disappointingly low. Available and affordable interventions, widely used in other countries and successfully piloted in rural Africa have failed to achieve sustainable adoption rates in rural SSA.

In this class, we will explore innovation as an interactive process embedded within a broader institutional context by trying to piece together Uganda's National Agricultural Innovation System. We will visit and focus on the interactive process in which the National Agricultural Research Institute (NARI) in interaction with other institutions and organizations play a key role in bringing new agricultural innovations and technologies into economic use. We will try to understand the gaps in Uganda's Agricultural Innovation systems and how they impact on low agricultural productivity, food insecurity and poverty among people in rural SSA. We will also explore the efforts being made to address those gaps as Uganda tries to transform to middle income status by 2040.

Required Readings:

Draper, R. (December 2017). How Africa's Tech Generation is Changing the Continent. National Geographic Magazine. Access here:

https://www.nationalgeographic.com/magazine/2017/12/africa-technology-revolution/?mc_cid=a4582e8670&mc_eid=24a1d1c627

Innovation Platforms and Smallholder Farmers: Gaps and Opportunities - A Report on Interviews with Global Thought Leaders and Practitioners. Access here:

<https://milk.it.wikispaces.com/file/view/Gates+Innovation+Platforms+Report.pdf>

Suggested Readings:

WUNSCH-VINCENT, S. A. C. H. A. Enhancing Innovation in the Ugandan Agri-Food Sector: Progress, Constraints, and Possibilities. Access here:

http://www.wipo.int/edocs/pubdocs/en/wipo_pub_gii_2017-chapter11.pdf

SESSION 2: Mobile Telephony Technologies for Financial Inclusion

Lack of access to financial services remains a big hindrance to economic development in Uganda, especially in the marginalized rural areas (where 80% of the Ugandan population lives). With less than 3% of the rural population having accounts in formal banks, most rural Ugandans cannot deposit, save for long-term investments, transfer money or make payments in a safe and formal way. The focus of this class is to explore how technologies associated with mobile phones are giving rural Ugandans access to financial services that the traditional banking sector has failed to deliver in the past century. Mobile Telephony Technologies (MTT), which have been accepted and adopted by most adults in rural Uganda, are now venturing in the financial sector and are already providing great optimism for boosting financial inclusion in rural Uganda.

We will explore the empowering potential embedded in these technologies, MTT innovations and how MTT has lowered transaction costs for financial services, making them more affordable to populations in rural Uganda. We will visit a local village bank and experience how innovations in the Mobile Money sector have improved the village bank's ability to keep records of members' transactions, improved the security of the members' savings, eased the process of saving and generally improved the local people's attitudes to saving in general. We will also explore how the changing savings-culture is enabling people to acquire assets and improve their lives and the lives of their family members.

Required Readings:

Hughes, N. & Lonie, S. (2007). M-PESA: Mobile Money for the “Unbanked” Turning Cellphones into 24-Hour Tellers in Kenya. *Innovations*, pp. 63-81.
http://www.gsma.com/mobilefordevelopment/wp-content/uploads/2012/06/innovationsarticleonmpesa_0_d_14.pdf

Suggested Readings:

Donovan, K. (2012). Mobile Money for Financial Inclusion. *Information and Communications for Development*, 61-74. Access here:
<http://siteresources.worldbank.org/EXTINFORMATIONANDCOMMUNICATIONANDTECHNOLOGIES/Resources/IC4D-2012-Chapter-4.pdf>

The Financial Inclusion Tracker Surveys Project (2012). Mobile Money in Uganda: Use, Barriers and Opportunities. Intermedia. Access here:
<https://www.microfinancegateway.org/sites/default/files/mfg-en-paper-mobile-money-in-uganda-use-barriers-and-opportunities-oct-2012.pdf>

SESSION 3: Sustainable Energy Technologies for Rural Transformation

Electricity contributes a meager 1.4% of Uganda’s energy mix, and with just about 7% of its rural population having access to electricity, Uganda has one of the lowest per capita electricity consumption rates in the world. Rural Ugandans spend a significant proportion of household income on fueling kerosene lamps that provide low quality light expensively, are hazardous, and pollute the environment. The government became aware of this problem and working with various donor agencies initiated several programs to replace kerosene with solar lighting. Despite the increasing demand for solar, the abundant sunshine, a wide variety of solar technologies, together with many projects and policies aimed at increasing access to solar lighting in rural Uganda, the rate of uptake of solar had remained disappointingly low.

In the past 10 years, the social entrepreneurship approach – developing and working with rural entrepreneurs - has sold four times as much solar in rural Uganda as the government and donor agencies managed to provide in the past 35 years; at a fraction of the money invested. This class is concerned with the social entrepreneurship approach that develops entrepreneurial capacity within the targeted rural communities, as a strategy in the diffusion of new technologies. We will focus our attention to the liaison between vendors and rural entrepreneurs, and how it helps vendors realize the unique needs and application requirements of their technologies. We will also explore how digital technology helps this relationship to access and use local knowledge to: increase access to new innovations and technologies for, facilitate democratization of, and further social change within, Uganda’s rural communities.

Required Readings:

Da Silva, I., Batte, G. Ondraczek, J., Ronoh, G., & Ouma, C. (2014). Diffusion of Solar Energy Technologies in Rural Africa: Trends in Kenya and the Luav experience in Uganda. 1st Africa Photovoltaic Solar Energy Conference and Exhibition, Durban, South Africa.

Suggested Readings:

M-KOPA Solar Light up over 20,000 homes in Uganda. <http://solar.m-kopa.com/wp-content/uploads/sites/4/2015/02/M-KOPA-Solar-Lights-up-over-20000-homes-in-Uganda-24th-March-2015.pdf>

Elmer Hansen, U., Brix Pederson, M. & Nygaard, I. (2014). Review of Solar PV market development in East Africa. UNEP. Riso Centre Working Paper, Series #12. Access here:
http://orbit.dtu.dk/fedora/objects/orbit:131059/datastreams/file_5f8fb931-a128-4856-aaf8-

[6d623f4da3de/content](#)

Case Study Summary: Barefoot Power Ltd., Africa and Global. Access here:

<https://www.ashden.org/files/Barefoot%20full%20winner.pdf>

DELHI, INDIA

Taught by: Saloni Malhotra

SUMMARY Sessions in India

Session	Lecture Topic	Key Topics	Site Visits or Guest Lecturers
TI 5	Mobile payments, demonitization and Jan Dhan Yojna (bank accounts for the unbanked)	Demonitization and its impact; Mobile Payments scenario in India - Pvt and Govt approach; Live experience of using mobile payments in India	ZMQ Childline 1098 Dimagi
TI 6	Rural Livelihoods and knowledge based jobs in villages	Rural Livelihoods; Knowledge based livelihood; The story of Desicrew	Goonj Jaipur Foot Barefoot College Sulabh
TI 7	Capital makes more impact than a good intention does!	Large company impact (Jio in India, Uber globally); Social impacts of market acquisition strategy by these companies	

SESSION 5: Demonetization and Mobile Payments in India.

On November 8 2016, the Indian government effectively took 86% of cash out of circulation in an economy that is close to 90% cash-reliant. The Prime Minister came on the TV screen at 10 PM to inform the nation that in an effort to crack down on corruption and non-payment of taxes, INR 500 (\$7.50) and INR 1,000 (\$15) notes are no longer legal for transactions post mid night and must be exchanged by December 30, 2016 for new notes post identification and within a limit.

To share the context: Millions of honest people do not have bank accounts, several of whom are daily wage workers. The banks were informed along with the public and were not provided smaller notes or new-edition notes for replacement. Neither did they have the time to plan the process and strategy to face the public the next morning. The treasury had not been able to print enough small and new notes.

As Monishankar Prasad, a New Delhi-based author who traveled India researching the on-the-ground impact of the demonetization phenomenon said, “In the long run, this is nothing short of a revolutionary measure in moving a traditional cash centric economy to a fourth industrial revolution era. It’s audacious, brash, and a future-centered decision, which has changed India, its people, politics, and money game forever. India will be ‘before demonetization’ and ‘after demonetization,’ BD and AD.”

In this class, we will explore the pros and cons of such a bold policy move. The class will debate the impact of this drastic change on small medium business, politics and common citizen. Since most students do not have Indian credit cards and bank accounts, they can choose to experience the life of a citizen who does not have a bank account or proper documentation to open an eWallet account but is now forced into this system. Students will open a mobile eWallet and money will be deposited in the same for daily transactions for cabs, groceries, food etc providing them a first and experience of the post demonetization.

Students will learn about the National Payments Council of India (NPCI), Jan Dhan Yojana (One of the largest drives for financial inclusion, e-Wallets in India and the use of mobile money for practical living.

Required Readings:

The Prime Minister's speech declaring the rules of demonetization:

<https://blogs.wsj.com/indiarealtime/2016/11/08/full-text-of-indian-prime-minister-narendra-modis-speech-on-replacing-largest-rupee-notes/>

The copy rupee recall: Modi's attempt to crush the black economy is hurting the poor:

<http://www.economist.com/node/21711094/all-comments>

Rana Kapoor: 7 Reasons Why Demonetization Is A Masterstroke By Modi:

http://www.huffingtonpost.in/rana-kapoor/7-reasons-why-demonetization-is-a-masterstroke-by-modi_a_21603007/

There are too many e-wallets in India and most are near-empty:

<https://scroll.in/article/841511/there-are-too-many-e-wallets-in-india-and-most-are-near-empty>

Suggested Readings:

Wade Shepard: One Month In, What's The Impact Of India's Demonetization Fiasco?

<https://www.forbes.com/sites/wadeshepard/2016/12/12/one-month-in-whats-the-impact-of-indias-demonetization-fiasco/#31e21ef77ab1>

Was demonetization placed right in the sequence of strategy roll out?

<http://myvoice.opindia.com/2016/11/was-demonetization-placed-right-it-in-the-sequence-of-strategy-roll-out/>

Has Demonetization Actually Helped Counter The Menace Of Fake Currency?

http://www.huffingtonpost.in/factly/has-demonetization-actually-helped-counter-the-menace-of-fake-currency_a_23048398/

Reserve Bank of India: Macroeconomic Impact of Demonetisation A Preliminary Assessment:

<https://rbidocs.rbi.org.in/rdocs/Publications/PDFs/MID10031760E85BDAFEFD497193995BB1B6DBE602.PDF>

Are Jan Dhan accounts being misused? Unlikely, shows data:

<http://www.livemint.com/Industry/TILnOGbdfKDUw2qE5GsMZN/Are-Jan-Dhan-accounts-being-misused-Unlikely.html>

Rhea Karuturi: India's demonetization and the future:

<http://www.stanforddaily.com/2016/12/02/indias-demonetization-and-the-future-2/>

SESSION 6: Rural Livelihoods and Knowledge based jobs in villages

When we think of rural livelihood options, traditional role of agriculture, agri based food-processing industries and handicrafts come to mind. With the growth of industry, some manufacturing clusters can be found in such regions as well. However with the world moving to a more IT, knowledge based economy are we doing enough to prepare our rural workforce for some of these new age job? Or will automation and AI leave more people jobless than before?

In this class, we will explore a case study of DesiCrew, an organisation that is trying to take jobs to rural area in India for the last 10 years. The class will learn and debate about the marketing aspects of social enterprises, the success and challenges faced by the organisation and suggest a future course of action for growing this social enterprise. Students will provide definitive suggestions for Positioning & Marketing Strategy for DesiCrew for the international market, prioritize key segments to focus on and build marketing and sales strategy around it, including a. Key Customer Value Proposition b. Brand Positioning & Personality c. Choice and Role of Media vehicles - offline, digital, social media, influencers, etc. The founder of DesiCrew will be taking the class.

Required Readings:

Desicrew Case Study: <http://limeonline.org/wp-content/uploads/2016/08/LIME-8-case-Study-DESICREW.pdf>

Case Studies available at Desicrew: <http://www.desicrew.in/case-studies.html>

Suggested Readings:

Feature story on India's National Rural Livelihoods Mission:
<http://www.worldbank.org/en/news/feature/2011/07/05/the-national-rural-livelihoods-project>

Desicrew Sustainability Discussion Document:
<https://docs.google.com/file/d/0Byd5UKd4uHQFaWx4aGdpYzA1MmM/edit>

SESSION 7: Capital makes more impact than good intentions do!

This class is an academic debate on what makes more impact on society - good intentions or aggressive capital? Internationally we have seen how Uber has increased the earning capacity of cab drivers by 2—5x. Similarly, in India aggressive capital infusion by Reliance Jio has allowed the poor in India to access data free of cost for 3 months. These corporation did not think of the social impact they will create, it was a market acquisition strategy and the social impact was a by-product.

Before coming to the class students are expected to take one side and prepare for the debate. The class will be divided into 2 groups - a more capitalistic & aggressive society or that where we encourage impact investment.

Required Readings:

How Reliance Jio, Flipkart, Paytm are helping India in nation building:
<http://telecom.economictimes.indiatimes.com/news/how-reliance-jio-flipkart-paytm-are-helping-india-in-nation-building/60042676>

Study Explores The Impact Of Uber On The Taxi Industry:
<https://www.forbes.com/sites/adigaskell/2017/01/26/study-explores-the-impact-of-uber-on-the-taxi-industry/#7eab66fc16b0>

Suggested Readings:

Quora: Is Uber a social impact company: <https://www.quora.com/Is-Uber-a-social-impact-company>

Article: Social Enterprise Uber Alles: What Kind of Social Enterprise is Uber:
<https://nonprofitquarterly.org/2015/05/08/social-enterprise-uber-alles-what-kind-of-social-enterprise-is-uber/>

SÃO PAULO, BRAZIL

Local Faculty: Juliana Rodrigues

SUMMARY
SESSIONS in Brazil

Session	Lecture Topic	Key Concepts or Topics
TI 8	Introduction to Brazil: Technology for scaling social impact	Overview of Brazil and innovation systems, scaling social impact, dissemination
TI 9	A broader approach to Social Innovation: A tool for social impact	Key definitions: social innovation, social technologies, social impact
TI 10	The Environment Challenge: Innovative solutions for sustainability	Environmental impact and value; agroforestry systems

SESSION 8: Introduction to Brazil: Technology for Scaling Social Impact

Brazil is the seventh largest economy in the world, showing great economic and social progress between 2003 and 2014 by lifting 29 million people out of poverty and decreasing inequality rates (in that period the Gini coefficient fell by 6.6 percentage points from 58.1 to 51.5). Brazilians have also “come online” in a big way over the last decade. The percentage of people using the Web in Brazil leapt from 9% in 2002 to about 50% in 2012. Brazil is also the 5th world’s largest market of cell-phones. With 60 million Brazilians now using Facebook, due to increasing access to the Internet and the rise of social media, the country is undergoing a digital transformation — and with that comes a slew of exciting opportunities for startups.

However, since 2015, the rate of poverty reduction and inequality appears to have stagnated and Brazil still has one of the world’s highest levels of inequality. A large portion of the population lives in economic and social exclusion, earning very low wages. As pointed out at the Policy Report “The Brazilian Innovation system: a mission oriented policy proposal”, there are many examples promoting entrepreneurship that associate innovations with socio-economic inclusion, education initiatives and

environmental and energy policies. Despite this, there is still not a systemic design of innovation in the country. The democratization of access to the Internet and the development of new technologies have created a new paradigm for the social business sector.

This session will provide an overview of the scenario for social innovation in Brazil and explore the notions of scaling social impact by using technology and discussing the notions of larger-scale changes in more complex process. This new paradigm now focuses on scaling social impact without necessarily increasing the size of the organization behind it, supported by an ecosystem that also seeks to stimulate social innovation. This class will dive into analyzing ways to scale impact by using technology.

Required Readings:

Morais-Da-Silva, Rodrigo Luiz; Takahashi, Adriana Roseli Wünsch and Segatto, Andrea Paula. **Scaling up social innovation: a meta-synthesis**. RAM, Rev. Adm. Mackenzie [online]. 2016, vol.17, n.6, pp.134-163

Available at: <http://www.scielo.br/pdf/ram/v17n6/1678-6971-ram-17-06-0134.pdf>

Geekie

Video: <http://www.wired.co.uk/article/claudio-sasaki-wired-2015>

Article: <https://www.theguardian.com/technology/2016/jan/10/geekie-educational-software-brazil-machine-learning>

Cies

Aoqui, C.; Vaz, J. C.; Jayo, M. The quality of the relationship State-Social enterprise under the framework of governance and delegation: a case study about the program Hora Certa Móvel, São Paulo Municipality, from the perspective of CIES (Center of Integration for Education and Health). In: **5th EMES International Research Conference, 2015**, Helsinki. Available at: <http://programme.exordo.com/5emesconf/delegates/presentation/139/>

Complementary information at: <http://www.ciesglobal.org/medical-center-mobile>

Suggested Readings:

Social Entrepreneurship, and Innovation, and Scaling Impact

Riddell, D. & Morre, M. L. (2015) Scaling Out, Scaling Up, Scaling Deep: Advancing Systemic Social Innovation and the Learning Processes to Support it. The J. W. McConnell Family Foundation. 36p.

Available at: <http://www.mcconnellfoundation.ca/de/resources/report/scaling-out-scaling-up-scaling-deep>

McKinsey (2011) Social Innovation: a Matter of Scale

<http://voices.mckinseysociety.com/social-innovation-a-matter-of-scale/>

Waitzer, J. M., & Paul, R. (2011). Scaling social impact: When everybody contributes, everybody wins. *innovations*, 6(2), 143-155. View online:

http://www.ashokaglobalizer.org/files/INNOVATIONS_Mcphedran-Waitzer-Paul.pdf

Bradach, J. (2010). Scaling impact: How to get 100X the results with 2X the organization. View online:

http://ssir.org/articles/entry/scaling_impact

Please explore the following links and organizations:

<http://www.artemisia.org.br/>

<http://socialgoodbrasil.org.br/the-program>
<https://desafiosocial.withgoogle.com/brazil2016>

Overview of Brazil National Innovation System:

The Brazilian Innovation System: A Mission-Oriented Policy Proposal. Avaliação de Programas em CT&I. Apoio ao Programa Nacional de Ciência (Plataformas de conhecimento). Brasília, DF: Centro de Gestão e Estudos Estratégicos, 2015. Available at:

Summary: https://www.cgee.org.br/documents/10195/1774546/The_Brazilian_Innovation_System-CGEE-MazzucatoandPenna2-Executive_Summary.pdf

Full report: https://www.cgee.org.br/documents/10195/1774546/The_Brazilian_Innovation_System-CGEE-MazzucatoandPenna-FullReport.pdf

Opportunities in Technology for the Base of the Pyramid in Brazil
<https://www.ciaonet.org/attachments/27549/uploads>

SESSION 9: A broader approach to Social Innovation: A tool for social impact

In the last decades, social technologies faced a fast-paced evolution leading to profound impact in our daily lives. But the spectrum that covers the concept of technology is much broader, and the power of change of low-tech innovations in countries like Brazil is highly relevant and should be understood in more depth. It is important to understand the different approaches around social entrepreneurship and levels of social innovation that culminate in a variety of models and social initiatives. This session will provide an overview of the scenario of social entrepreneurship in Brazil from the perspective of social innovation.

The research project “Brasil 27” provides a broader view of social enterprise cases and innovation in the country. The Brazil 27 research was developed between March 2013 and May 2014. It was coordinated by the Center for Social Entrepreneurship and Administration in the Third Sector (CEATS), of the University of São Paulo. Its goals were to identify and describe existing social enterprises in the 27 Brazilian states that could be characterized as social enterprises providing a range of examples in different stages of social innovation initiatives. Five cases have been selected to further discuss and analyze in class.

Required Readings:

De Bruin, A.; Stangl, L. M. **The Social Innovation Continuum: Towards Addressing Definitional Ambiguity.** In: EMES-SOCENT Conference Selected Papers, Liege: EMES, 2013 Available at: http://www.emes.net/site/wp-content/uploads/de_Bruin_Stangl_ECSP-LG13-68.pdf.

Brazil 27 Cases’ videos and short cases:

Choose a case from the list provided (available in Drop Box under “ShortCases_Brazil”) and enter your choice in the following Doodle poll: <http://doodle.com/poll/c9dwh773ewpampnb>

NOTE: *No more than 3 participants can choose a specific case – so first come, first serve. This rule is important to generate sufficient variety of the cases to enrich the day’s discussion. It would be great if all 5 cases could be discussed in the class.*

In preparation for the session:

Watch the video, conduct your own internet research and reflect upon the case using the guiding

questions (Guiding questions - Brazil 27-Short cases). Also use the required reading to analyze the case. The videos are also available at: <http://www.projetobrasil27.com.br/negocios-sociais-estudados/>

*The website is in Portuguese language, but all videos have English subtitles.

Suggested Readings:

Vanni, Giulio; Barki, Edgard ; Comini, Graziella. *Growth Process in business and social entrepreneurship: the case of Brazil*. In: 5th EMES International research Conference, 2015, Helsinki. Available at: <http://programme.exordo.com/5emesconf/delegates/presentation/118/>

Moura, A.M.; Comini, G.; Teodósio, A.S.S. The international growth of a social business: a case study. **RAE-Revista de Administração de Empresas**, v. 55, n. 4, p. 444–460, 2015 Retrieved from: http://rae.fgv.br/sites/rae.fgv.br/files/the_international_growth_of_a_social_business_a_case_study_0.pdf

Portocarrero, F., & Delgado, Á. (2010). Market-Based Initiatives And Social Value Creation For Low Income Sectors. In *SEKN Socially Inclusive Business In Latin America*. (pp. 205–232). Washington - DC: IADB.

Means, Andrew. (2015). *Tech Is Not the (Only) Answer* Stanford Social Innovation Review. Retrieved from: http://ssir.org/book_reviews/entry/tech_is_not_the_only_answer

Pol, E.; Ville, S. Social innovation: Buzz word or enduring term? **Journal of Socio-Economics**, v. 38, n. 6, p. 878–885, 2009. Also available at: <http://ro.uow.edu.au/commwkpapers/194/>

SESSION 10: The Environment Challenge: Innovative solutions for sustainability

Brazil is the second country in the world with the largest forest area, it is one of the richest biodiversity's territories on planet Earth (being a member of a group comprising 17 megadiverse countries) and, at the same time, it is one of the major agriculture producers and exporters of primary products. Approximately 463.2 million hectares of the country's territory are covered by natural and planted forests, representing 54.4% of the national territory, distributed in the six Brazilian biomes (Amazonia, Caatinga, Cerrado, Mata Atlântica, Pampa and Pantanal). Of this amount, approximately 456.1 million hectares are composed of natural forests, and 7.2 million hectares have planted forests (according to the 2012 survey- SNIF, 2015).

Innovation is also applied to environmental issues in a country with a wide variety of landscapes and sustainability challenges. For example, successful experiences of agroforestry systems have brought together agriculture and forestry to create value, and low impact forestry economic activities encourage sustainable usage and preservation of the forest. The focus of this class is to explore Brazilian experiences in environmental innovative systems that support action on climate change and sustainability issues and discuss how innovation can create social and environmental value.

Required Readings/Videos:

Life in Syntropy: <https://www.youtube.com/watch?v=gSPNRu4ZPvE>
Agroforestry <https://vimeo.com/157223533>

Amata Brasil (2015). Annual Report. Retrieved from:
http://www.amatabrasil.com.br/arquivos/integratedannualreportamata2015_EN.pdf
For more information, explore the website: www.amatabrasil.com.br

<http://blog.conservation.org/2015/08/3-ways-brazils-environmental-decisions-impact-the-world/>

Suggested Readings:

TEEB. **TEEB - The Economics of Ecosystems and Biodiversity for International and National Policy Makers.** [s.l: s.n.].

MEA. **Ecosystems and human well-being: synthesis.** Washington, DC: Island Press, 2005.

Retrieved from: <http://www.millenniumassessment.org/documents/document.356.aspx.pdf>

MOSER, C. **The asset vulnerability framework: Reassessing urban poverty reduction strategies.** World Development, volume 26, Issue 1, Elsevier, p. 1-19, 1998.

Scaling Up Ecological Cultivation: An Interview with Richard Charity of Fazenda da Toca

Available at <https://foodtank.com/news/2014/11/scaling-up-ecological-cultivation-an-interview-with-richard-charity-of-faze/>

De Hoyos, A., Moura, C., & Dias, S. G. Beyond Green Innovation: The Next Step. **Journal on Innovation and Sustainability**, São Paulo, vol.02, n.01, p.13 – 22, 2011
<http://revistas.pucsp.br/index.php/risus/article/view/7255>

Gonçalves, A. L. R.; Vivian, J. L. **Agroforestry And Conservation Projects In Brazil: Carbon, Biodiversity, Climate, And People.** Centro Ecológico Ipê – Serra, 2012

Lapola, David M; Martinelli, Luiz A; Peres, Carlos A; Ometto, Jean P H B; Ferreira, Manuel E; et al. Pervasive transition of the Brazilian land-use system. **Nature Climate Change**; London4.1 (Jan 2014): 27-35.

<http://www.ppgca.ufpa.br/arquivos/repositorio/ingressodoutorado/referenciaseleodoutorado/2015-Pervasive%20transition%20of%20the%20Brazilian%20land-use%20system.pdf>

Rodrigues, J., Comini, G., Fischer, R. M., Dujardin, F., & Santos, A. P. S. dos. (2015). The B Corporation Movement in Brazil: A Portrait of Certified Companies. **Academy of Management Proceedings**, 2015(1). Available at: <http://academiab.org/wp-content/uploads/2015/09/12672-BCorp-Brazil-AOM-2015.pdf>

Please explore the following links and organizations:

<http://ipe.org.br/>

<http://www.imaflora.org>

<http://www.observatorioflorestal.org.br/view-publicacoes>

Evaluation and Grading Criteria

The components of student grades for the *Technology, Change and Innovation* course are:

Pre-Departure Assignment & Launch Participation	10%
Essay Uganda	25%
Essay India	25%
Essay Brazil	30%
Participation	10%

<i>Total:</i>	100%
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ASSIGNMENTS

For the IHP Social Innovation *Technology, Change & Innovations* course, students will write **individual analytical essays** at the end each country program in Uganda, India and Brazil to reflect on their learning.

Topics will vary in each country program and you will receive the corresponding assignment in the first week you arrive. The following are two of the assignments.

ESSAY TOPIC (India)

Living a digital and cashless life in India

Welcome to India! We have seen a tremendous change in the country over the last one year post demonitization. With 87% of our currency going out of circulation overnight, the citizens had to switch to digital payment options. Some of us were lucky that we had the basic infrastructure in place - a bank account, a registered Indian mobile number, a debit card, a Permanent Account Number or Aadhar Number (equivalent of a Social Security Number), a credit card and a smart phone.

It is interesting that most of you have neither of the above (except a smart phone) and that puts you in the same position as a majority of the Indian's faced on the morning of Nov 9, 2016. For your time in India, I would like you to download the most popular mobile payment option - Paytm. You will find this in the App Store or the Google Play Store.

Set up your account and keep track of any issues you may face at this stage. These need to be reported in your final assignments that you turn in at the end of your trip. The app is self-explanatory and has several uses cases - uber, payment to small food joints, at grocery stores and pharmacies, to book movie and air tickets, and even to buy Gold!

Abid will load Rs. 1000/- for the next few days. I would encourage you to use the app for most of your time in India and live a cashless life as much as possible. All the challenges as well as the events that delight you need to be recorded in your final assignment with recommendation to the Government as well as to the CEO of Paytm to improve the product.

This is a social experiment given your unique position of not having the infrastructure most of us take for granted but several million people in India may not have. Also, your experience of digital payments in the various countries and a comparative analysis would be unique.

A summary from the assignments will be shared with the CEO of Paytm as well as with the government department managing the mobile payments policy and you can have an influence in the way things shape up in this country.

If you have any question, do reach out to me on salonimalhotra@gmail.com

Looking forward to meeting all of you soon and discuss more about this in our first class.

ASSIGNMENT DETAILS

At the end of the time in India, students are expected to turn in an essay (5-6 pages) OR A 5-MINUTE

VIDEO REFLECTING ON their experience of using mobile payments in India (as assigned in session 5). The essay must cover experiences of each student in multiple cases of using money, successes, failures, human interactions they had and challenges they faced in this journey.

STUDENTS SHOULD PROVIDE 1 recommendation as a user to the eWallet companies as well as to the government to make THE PROCESS easier for the common citizen. Given that we are in the midst of change, new use cases are also welcome. The essay must cover the students take on policy level decisions to make eWallets the most sought after financial inclusion tool for India.

SOURCES

Essays/ Video should refer to and integrate:

- At least 1 of the readings assigned during the Tech class in India;
- At least 2 additional sources from research you do on your own (you can use other academic journals, field notes, interviews, etc.);
- At least 1 recommendation to the policy maker in the Government of India or to the management at Paytm

SHORT VIDEO FORMAT:

Please follow these prompts:

- Introduce yourself and your experience of using mobile money in India
- Interviews of users as well as business owners and their take on de-monitization as well as mobile money adoption
- 5-minute format to explain the current state of affairs in India with respect to de-monitization as well as mobile money adoption
- Sources must be included at the end of the video or credited at an appropriate time within the video

ESSAY FORMAT:

Please follow these prompts:

- Include your full name at the top of the assignment.
- Essays should be 5-6 pages in length (approx. 1500 words); double spaced, 12-point font, 1-inch margins.
- Use APA style for citations in text, such as (Smith, 2013), and include a bibliography. Primary sources such as guest lecturers and site visits should also be included in the bibliography.
- At least 1 picture or video.
- Please save the essays as a single document (.doc or .docx format, not .pdf). Pictures and videos should not be pasted in the essay, but sent as separate attachments in your file, and only referred to in the essay as appendix 1, 2, 3, 4, or 5. Be sure to label your file with the following naming convention:

FirstName LastName TECH India (*i.e. Katy Delagarza TECH India.docx*)

DELIVERY INSTRUCTIONS:

Please submit your analytical essays to your local faculty Saloni Malhotra at salonimalhotra@gmail.com or the videos on a pen drive to Abid. Pen drives will be returned to the students.

ESSAY TOPIC (Brazil)

The assignment involves: (1) an analysis of a Brazilian social innovation (ones you have studied while in class, visited or observed), and (2) a comparison to similar innovations in the US, Uganda and India.

Part 1. Choose **one** of the social innovations (SI) you have learned about in Brazil, frame the social and environmental problem they are seeking to address, and explain how they address it.

Using the **social innovation continuum** (De Bruin & Stangl, 2013) and **promoting factors of SI scalability** (Morais-Da-Silva et al., 2016), discuss the levels where these innovations are occurring and their scalability and potential impact.

- Examples of cases you may want to consider include: Geekie, Justa Trama, Solar Ear, Gerasol, Banco Palmas, 100% Amazônia, Vivenda, A Banca, Amata or Fazenda da Toca.

As you develop this first part of your analytical essay, please think about and include the following:

- ✓ **The problem and impact:** *What is the problem this social innovation is trying to address? How does the analyzed organization intend to generate socio-environmental value? What is the intended impact?*
- ✓ **The solution and the design:** *What is the solution proposed? How does it work? Why, how and where was the technology designed? Did it consider the beneficiaries' needs, access, education, literacy (digital and non-digital), economic status, etc.?*
- ✓ **Beneficiaries:** *Who is the innovation for? Who has access to it? Is it accessible to the intended beneficiaries? How are the beneficiaries included in the process?*
- ✓ **Social and Environmental Innovation:** *Can this solution or technology be considered a social innovation? Why? What is the kind/focus of innovation? In what level? Does it have a more local or global focus?*
- ✓ **Business Model:** *How is the innovation or technology financed? Is it sustainable? List the key points (from your perspective) in the business model of the case you selected. How does the analyzed organization generate economic value (i.e., revenue)?*
- ✓ **Scalability:** *Is the impact scalable? In what direction – up or deep? Why or why not? Is it scaling? How? What are the main challenges and points of concern to scale?*
- ✓ **Challenges:** *what are the main challenges for the technology to obtain the expected results?*

Part 2. Comparison. Compare the Brazilian innovation you chose with an example(s) you experienced or have researched in the US, Uganda and India. Choose one feature of comparison to conduct in your essay: (1) *similar technology*; (2) *similar features of social innovation* (3) *similar challenges to deliver results and scale*.

Once you choose the feature, make sure to provide sufficient background on both innovations and analyze the following:

- *What are the main differences and similarities?*
- *How does this technology/innovation differ or is similar to those in the US, Uganda or India?*
- *What are the contextual characteristics that influence both technologies/innovations? How are these similar or different?*
- *What design features change?*
- *How do users differ?*
- *What kind of social impact is it having in different contexts?*
- *Would it be possible for the technology/innovation and the operational model to learn or exchange practices from each other? Please explain your suggestions and what results could be expected.*

SOURCES:

Essays should refer to and integrate:

- At least 2 readings assigned during the Brazil country program;
- At least 2 additional sources from research you do on your own (you can use other academic journals, field notes, interviews, etc.);

- At least 1 site visit, guest lecturer, homestay observations or other country program component.

ESSAY FORMAT:

Please follow these prompts:

- Include your full name at the top of the assignment.
- Essays should be 7-8 pages in length (approx. 2000 words); double spaced, 12-point font, 1-inch margins, excluding references and bibliography.
- Essays have a structure which includes an introduction (hook and thesis statement), a body (make claim and provide evidence), and a conclusion.
- Use APA style for citations in text, such as (Smith, 2013), and include a bibliography. Primary sources such as guest lecturers and site visits should also be included in the bibliography.
- Please save the essays as a single document (.doc or .docx format, not .pdf). Be sure to label your file with the following naming convention:

FirstName LastName TECH Brazil (*i.e. Katy Delagarza TECH Brazil.docx*)

DELIVERY INSTRUCTIONS:

Please submit your analytical essays to your local faculty. Specific instructions will be provided in each country.

GRADING SCALE:

94-100%	A	Excellent
90-93%	A-	
87-89%	B+	
84-86%	B	Above Average
80-83%	B-	
77-79%	C+	
74-76%	C	Average
70-73%	C-	
67-69%	D+	
64-66%	D	Below Average
below 64	F	Fail

Explanation: An “A” represents truly outstanding work that exemplifies through analysis, superior insights and crystal-clear presentation. A “B” signifies highly competent work that accomplishes the task at hand very well, through considerable thought, reasonable analysis and an organized presentation. A “C” represents adequate work that meets basic requirements but does not demonstrate distinction in terms of analytical insight or organization. A “D” is characterized by poorly or partially completed work that reflects a lack of initiative, inconsistent analysis and/or erratic presentation. Pluses and minuses indicate relatively better or poorer work within each category. There is no A+. Papers/reports/presentations without thematic ideas or arguments – those that lapse into mere narration or description, or whose arguments are buried within the text – will be graded with their low level of organization.

ASSESSMENT:

The following criteria and rubric will be used as the base for grading your essay:

Criterion	Standards
Responsiveness to topics/essay prompts	<p>A – Strongly addresses topics, responds very effectively to all aspects of assignment.</p> <p>B – Clearly address topics, but may respond to some aspects more comprehensively or effectively than others.</p> <p>C – Adequately addresses the topics, but may often slight relevant and pertinent aspects.</p> <p>D – Indicates confusion about the topics and overall assignment, or significantly neglects important aspects.</p> <p>F – Suggests an inability to comprehend assignment, or to respond meaningfully to topics.</p>
Communication of ideas	<p>A – Explores relevant issues through strong analyses of data/experience; goes significantly beyond the simple or obvious.</p> <p>B – Shows good depth and complexity of thought.</p> <p>C – May treat the topics simplistically or repetitively; doesn't demonstrate sufficient analysis of data and/or experience.</p> <p>D – Lacks focus, demonstrates confused or simplistic thinking, or fails to adequately communicate ideas.</p> <p>F – Unfocused, illogical, incoherent or disorganized.</p>
Organization and clarity of expression	<p>A – Very coherently organized, with ideas/statements consistently supported by strong reasons or examples.</p> <p>B – Well organized and developed, with frequently appropriate reasons or examples.</p> <p>C – Adequately organized and developed; generally supports ideas/statements with appropriate reasons or examples.</p> <p>D – Poorly organized and/or undeveloped; lacks support from data and/or experience.</p> <p>F – Undeveloped; provides little or no relevant support or rationale.</p>
References	<p>A – Thoughtfully and analytically incorporates all references requested in prompt.</p> <p>B – Incorporates all references and provides sufficient analysis.</p> <p>C – Partially includes references and provides very general analysis.</p> <p>D – Partially includes references and doesn't demonstrate sufficient analysis.</p> <p>F – Does not include any references in prompt; provides no analysis.</p>

Expectations and Policies

Participation: IHP is an experiential learning program. You have to show up to have the experience. As such, participation is a minimum expectation, not generally to be rewarded with class credit. Students are expected to attend all classes, guest lectures, and field activities unless they have a medical excuse that has been communicated and approved of by IHP staff, faculty, or Fellow.

Class Preparation: Show up prepared and have your readings completed and points in mind for discussion or clarification. Complying with these elements raises the level of class discussion for everyone. This program is built upon the strong belief that your experiences result in deep insights and powerful learning. Course assignments are created to facilitate learning opportunities and experiences. Dialogue in class about these insights and participation in these activities is critical. For this reason, your participation is very important. As a learning community, each one of us will influence the learning environment. Please take responsibility for your role in this environment and come to class prepared and ready to engage with others in a positive and thought-provoking manner.

Meeting deadlines: All assignments have to be turned in on the date indicated on the specific country module schedule. Have assignments completed on schedule, printed, and done accordingly to the specified

requirements. This will help ensure that your assignments are returned in a timely manner. In keeping with IHP policy, late papers will drop one point per day, unless other arrangements have been made in advance. Course assignments are due at the beginning of the day.

Technology in the classroom: Electronic devices are critical tools for learning and communication, but our IHP courses prioritize engaged conversations unhindered by personal electronic devices. Students, faculty, and visitors are expected to *keep cell phones, laptop computers, and other devices out of sight, sound, and mind* during class sessions – except under extenuating circumstances that have been discussed in advance with the faculty member.

Academic Integrity: Academic dishonesty is the failure to maintain academic integrity. It includes, but is not limited to, obtaining or giving unauthorized aid on an examination, having unauthorized prior knowledge of the content of an examination, doing work for another student, having work done by another person for the student, and plagiarism. Academic dishonesty can result in severe academic penalty, including failure of the course and/or dismissal from the institution/program.

Plagiarism is the presentation of another person's ideas or product as one's own. Examples of plagiarism are: copying verbatim and without attribution all or parts of another's written work, using phrases, charts, figures, illustrations, computer programs, websites without citing the source; paraphrasing ideas, conclusions or research without citing the source; using all or part of a literary plot, poem, film, musical score, computer program, websites or other artistic product without attributing the work to its creator.

Students can avoid unintentional plagiarism by carefully following accepted scholarly practices. Notes taken for papers and research projects should accurately record sources of material to cited, quoted, paraphrased, or summarized, and research or critical papers should acknowledge these sources in footnotes or by use of footnotes.

Respect differences of opinion: (classmates', lecturers, local constituents engaged with on the visits) You are not expected to agree with everything you hear, but you are expected to listen across difference and consider other perspectives with respect.

Please refer to the SIT Study Abroad Student Handbook for policies on academic integrity, ethics, warning and probation, diversity and disability, sexual harassment, and the academic appeals process.