ISB | Srini Raju Centre for IT and the Networked Economy

ISB-SRITNE
ANNUAL REPORT
2018 - 19

Message from Benefactor

The Srini Raju Centre for Information Technology and the Networked Economy (SRITNE) is supported by a generous endowment set up by Srini Raju, who is the managing director and co-founder of Peepul Capital (formerly, iLabs Capital). He is also the founding member of the International Institute of Information Technology (IIIT), Hyderabad and a member of the governing board of ISB.

Srini Raju
Benefactor / Supporter

Message from Dean

I am very happy to note that SRITNE has had an extremely active and an impactful year across a range of initiatives. Besides sponsoring interdisciplinary and rigorous research ideas of our ISB faculty, SRITNE has also been an active research partner for national, state governments and corporates. I am particularly pleased to say that SRITNE has also created innovative executive education offerings around digital transformation for government officials, corporate leaders and small and medium business managers. I wish the entire SRITNE team continued success for the upcoming years in driving research education and impact business and government.

Rajendra Srivastava
Dean, Indian School of Business

Message from Executive Director

It's an exciting time for technology. Big data, artificial intelligence, on-demand computing and an increasingly networked economy are catalysing change in diverse industries and changing how we live and work. Grounded in the ISB tradition of rigorous and relevant research, SRITNE advances the understanding of industry leaders and policymakers of the impacts of technology on business and society and the drivers of such impact. Through research, education and outreach activities, the centre stimulates interaction between business leaders, students, ISB faculty, and the academic community at large, and provides an important opportunity for these stakeholders to co-create value in a rapidly changing business context. In the following pages, you can find out more information about how we help industry and governments lead dynamic, information-intensive organisations.

Research centres owe their vibrancy and value to the people who are at the heart of their work. We thank the diverse faculty body for their research contributions to SRITNE and the energy and passion that they bring to the forefront of the centre's programmes and outreach. I would also like to express gratitude to Srini Raju for his continued support and encouragement provided through this decade-long journey.

We hope that you will find value in SRITNE's research, upcoming events and educational programmes showcased in this report, and will engage with us to help further our agenda of creating new and useful knowledge for businesses and society. We look forward to welcoming you to become part of the ISB SRITNE community.

Deepa Mani
Executive Director, SRITNE

ABOUT SRITNE

Srini Raju Centre for IT and the Networked Economy (SRITNE) is a multi-disciplinary research centre aimed at fostering rigorous and relevant research, education and outreach that advances our understanding of how Information and Communication Technologies (ICT) create value for business and society.

Vision

To provide an interdisciplinary lens for understanding the nature of technology-led transformations and their impacts on business and society

Core Activities

- Research that addresses questions in policy and practice that relate to the effective selection, adoption and exploitation of ICT
- Education that trains future leaders to leverage ICT for competitive success
- Outreach with industry, government and academic communities

Thematic Areas of Focus

- Technological Innovation and Entrepreneurship
- Digital Media and Business Analytics
- IT Products, Services and the Indian IT Industry
- Digital Transformations for Business and Society

SRITNE aligned ISB Faculty Members

Economics and Public Policy	
Shilpa Aggarwal	Assistant Professor
Sisir Debnath	Assistant Professor
Tarun Jain	Assistant Professor
Finance	
Nitin Kumar	Assistant Professor
Prachi Ajay Deuskar	Assistant Professor
Shashwat Alok	Assistant Professor
Information Systems	
Deepa Mani	Associate Professor
Rajib Saha	Assistant Professor
Sumanta Singha	Assistant Professor
Marketing	
Siddharth Singh	Associate Professor
Manish Gangwar	Associate Professor
Sudhir Voleti	Associate Professor
Strategy	
Anand Nandkumar	Associate Professor
Jaya Dixit	Assistant Professor
Siddharth Sharma	Assistant Professor

Industry Advisory Board Members

Anil Bhansali
Managing Director, Microsoft R&D India

Dr Ganesh Natarajan
Chairman, 5F World, Global Talent Track, Pune City Connect, and SVP India

N J Joseph
Senior Vice President, Cyient Ltd

Prasad Vanga
Founder and CEO, Anthill Ventures

Role of Industry Advisory Board Members

- Provide access within their networks to faculty for research projects and development of teaching material
- Provide access within their firms to students for field learning projects
- Help identify speakers for the classroom and events such as workshops, industry panels and speaker series

Academic Advisory Board Members

Professor Anandhi Bharadwaj
Goizueta Term Chair and Professor, Goizueta Business School, Emory University, USA

Professor Galit Shmueli
Distinguished Professor of Business Analytics, Institute of Service Science, National Tsing Hua University, Taiwan

Professor Subodha Kumar
Paul R Anderson Distinguished Professor, Fox School of Business, Temple University, USA

Professor Youngjin Yoo
Elizabeth M and William C Treuhaft Professor of Entrepreneurship, Weatherhead School of Management

Role of Academic Advisory Board Members

- Provide strategic direction and other inputs for research initiatives
- Help with selection of projects for research funding
- Collaborate with resident faculty on research projects
- Evangelise research events hosted by ISB

SRITNE ACTIVITIES

Research	
Addresses questions in policy and practice that relate to the effective selection, adoption and exploitation of ICT	• NITI Aayog, Government of India (GOI) • NITI Aayog, (GOI), Atal Innovation Mission • CSC E-Governance Services Ltd., Ministry of Electronics and Information Technology (GOI) • Government of Telangana • Novartis Global Drug Development India • ISB Faculty • Purdue University
Education	
Trains future leaders to leverage ICT for competitive success	• Leading Digital Business Transformation and Innovation (LDBTI) Executive Education • Customised LDBTI Programme for Pharma Industry • IT Management in India - Vienna University Global Executive MBA • Business Technology Management (BTM) - Coursera (Online certification) • CSC - Digital Literacy and Entrepreneurial Literacy Programme for Rural India
Outreach	
With industry, government and academic communities	• Workshop on Digital Transformation • Conference on the Digital Economy (CODE) • Emerging Technologies Workshop Series • Advaita: ISB Case Study Competition Technovision • SRITNE Merit Scholarships for PGP Students • Networking Opportunities for PGP Students and Alums

RESEARCH

Completed Projects		Ongoing Project

Niti Aayog
नीति आयोग
National Institution for Transforming India

Developed empirical evidence and influenced the policy-making unit with a substantive report titled 'The Economic Impacts of Private Ridesharing - Quality of Urban Mobility and Labor Market Effects'

Ministry of Electronics and Information Technology Government of Indai
सत्यमेव जयते

Contributed to a deeper understanding of the drivers of technology-enabled rural entrepreneurship (evidenced by data from 1000+ Village Level Entrepreneurs) with a report titled 'Impact assessment study of Common Service Centres 2.0 Scheme'

CSC ACADEMY

Impact Assessment of Digital and Entrepreneurial Literacy - A study to assess the effects of educational training intervention jointly developed with the CSC Academy, Government of India

Ongoing Project

Impact Assessment of ICT on education - A study to assess the effects of technology (TS-CLASS initiative) on teaching and learning efficacy in government high schools in Telangana

Impact Assessment of Digital and Entrepreneurial Literacy - A study to assess the effect of technology on educational intervention

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State of Innovation in India - A study to understand the drivers of innovation and measure the effectiveness of innovation culture

SRITNE Funded Planned Projects

Industry Innovation Survey: A study of the Indian innovation scene using a detailed survey to document different types of innovation in Indian firms

Artificial Intelligence (AI) and Future of Work Survey - A study to develop empirical evidence and a better understanding of the impacts of AI and Machine Learning on organisational performance and the Indian labour markets

Smart Cities Index: A study to develop a smart city index that uses big data to assess the liveability and productivity of cities

* **Purdue University** - A collaborative research engagement focusing on big data and analytics with the faculty associated with Business Information and Analytics Centre, Krannert School of Management.

* **Itihaasa Study** - A study of the Itihaasa application with Kris Gopalakrishnan consisting of semi-structured, conversational in-depth research interviews (735 short videos) of 44 leading IT sector luminaries.

Research

The Economic Impacts of Private Ridesharing - Quality of Urban Mobility and Labor Market Effects

Cities around the world are grappling with the problem of traffic congestion. App-based taxi services have proliferated at a rapid pace, yet their impact on the quality of urban mobility remains unclear. Ridesharing services have a theoretically ambiguous impact on mobility: On the one hand, they may reduce private car ownership, improve utilisation, while on the other hand, they may draw commuters from public transport into using these more convenient modes of transport.

Using granular route level traffic data from Google Maps and a natural experiment design, which exploits driver strikes in Delhi as an exogenous shock, researchers at SRITNE show that congestion was lower in the absence of ridesharing services. They also document the significant increase in ridership in the Delhi Metro and other high occupancy vehicles during this period.

Regarding the problem of congestion, the results suggest that people do not substitute ridesharing with low occupancy, privately owned vehicles that increase congestion.

Interestingly, the researchers further find evidence of positive impacts of ridesharing on labour market outcomes in point-to-point transportation services. Independent employment and income expanded in cities that adopted the ridesharing platform. The results are suggestive of spillovers to other sectors, and the researchers do caution policy efforts to ban or restrict the proliferation of ridesharing platforms.

Impact assessment study of Common Service Centres 2.0 Scheme

The Government of India's National eGovernance Plan (NeGP), since 2006, identifies Common Service Centres (CSCs) as the key access points for delivery of various e-governance and business services to citizens in rural and far-flung areas of the country. We conducted an impact assessment of the CSC e-governance Services scheme on rural communities collecting data from 1000+ Village Level Entrepreneurs (VLEs) and 5000+ citizens. The evaluation spanned CSCs across 10 Indian states in the four regions in the country and comprised of analysis of archival VLE performance data, surveys and qualitative interviews to assess the impact as manifest in the financial viability and social impact of CSCs.

Our results emphasise three significant findings:

- We find that entrepreneurial traits, notably, achievement motivation, social orientation and belief in self significantly impact the performance of the VLE. Furthermore, we show that the intrinsic traits also determine these strategies chosen by the VLEs to drive the CSC operations and thereby the impact on the local communities

- The entrepreneur's perception of her environment influences her achievement motivation and social orientation. These perceptions also systematically vary across states

- We study the effect of VLE strategies, including service mix, training provided to employees, funding model, hours of operation and marketing, and find it to impact sales performance

- Entrepreneurial traits determine the strategies employed by the entrepreneur's achievement motivation positively impacts marketing investments; while social orientation and self-belief have a negative effect

Impact Assessment of Digital and Entrepreneurial Literacy Trainings

India sees a proliferation of expanded infrastructure, access to the Internet and the push towards e-governance/ ecommerce, even in the remotest areas of the country. Prior research has largely focused on the role played by physical infrastructure in enhancing the information capacity of citizens and thereby bridging the digital divide. However, the role of investments in social infrastructure / human capital development in bridging the digital divide is less investigated.

While there are numerous pockets of small-scale initiatives that invest in ICT-enabled education, there is limited evidence in the effectiveness of such interventions or significant policy imperative, given the magnitude of the digital divide in India.

In partnership with Government of India, CSC e-Governance Services and their skill-development arm CSC Academy, SRITNE aims to leverage the large-scale

2,50,000 plus Village Level Entrepreneurs (VLEs) network across India for imparting two key training programmes focusing on:

• Digital Literacy

• Entrepreneurial Literacy

As part of the impact assessment study, the researchers will rigorously assess the effects of these two large-scale and distinct training interventions on citizen demographics (age, gender, education, location, occupation, income, etc.) and the tangible and intangible costs and benefits (Baseline and ex-post 6 and 12 months since training).

Impacts of Blockchain on Chit Funds Administration in Telangana State

The Government of Telangana is committed to a better understanding of the impact of a host of emerging technologies such as Artificial Intelligence, Machine Learning and Blockchain on delivery of public services to businesses and citizens alike.

Researchers from SRITNE are engaged with the Government of Telangana in an impact assessment study of the use of Blockchain in the chit funds administration and management. This impact assessment study aims to gather empirical evidence that renders the Government of Telangana's policymaking in this area scientifically rigorous and systematic.

The focus of the research study is to analyse the impact of Blockchain on the different processes and outcomes related to chit funds market. In the current world, even though many policies aim to regulate the chit fund schemes, a major portion of the investment is done in the unregistered sector, due to low operational cost, less paperwork and high returns. The ecosystem built on Blockchain technology is expected to overcome the bottlenecks in the current workflow in unregistered chit funds to make their operations transparent and render them more attractive to investors. Accordingly, the research question is whether the introduction of Blockchain reduces the throughput time for operating the chit fund schemes, by automating the processes through smart contracts.

Impacts of Technology on Teaching and Learning Efficacy in Telangana Schools

An increasing number of governments in emerging markets are implementing technology solutions in schools aimed at improving teaching effectiveness and student learning outcomes. However, there is insufficient evidence that providing access to these technologies, including computers, the Internet, educational applications/e-books, has a significant effect on student performance.

The Government of Telangana launched an initiative called Telangana State Computer Literacy and Skills in Schools (TS-CLASS) to promote digitisation of education in government high schools. Researchers at SRITNE, through detailed qualitative interviews and surveys of students, teachers and administrators at over 100 government schools, are seeking to provide insights into the impact of digitisation of education, heterogeneity in such impact and the mechanisms underlying impact. Specifically, the study will:

1. Understand the differential motivations and beliefs of students and teachers regarding various technology tools in the classroom

2. Document patterns of adoption of digital tools across schools and amongst teachers and students within schools

3. Evaluate the impact of technology adoption and the drivers of such impact

State of Innovation in Firms - Evidence from MNCs in India

Innovation is fundamental to the competitiveness of modern firms. The importance of innovative capabilities is especially pronounced in sectors where significant and pervasive digitisation is creating new opportunities for product differentiation and enhancement, transforming business models, and ushering in a new wave of competition from digital entrepreneurs and technology giants. Firms cannot ignore the imperative to innovate in this new disruptive business environment. However, you cannot improve what you cannot measure. It also renders it imperative to measure innovation performance and capabilities of the firm continually.

Researchers at SRITNE provide a detailed assessment of the state of innovation in firms for a large pharmaceutical firm with global drug development operations in India.

Through archival data, surveys and detailed qualitative interviews with company leadership, SRITNE conducted a detailed assessment of their innovation strategy, culture, and metrics, amongst other parameters to understand the magnitude and nature of innovations in the firm and their contribution. Innovation performance and potential are typically articulated at three levels:

1. Individual

2. Team

3. Organisation

Our study finds that team characteristics are important in driving innovation. The personality traits of constituent members drive these team characteristics themselves. Therefore, individual characteristics of team members and the distribution of these traits influence the team's perception of performance, information search strategies, and innovation constraints. These perceptions, in turn, drive innovation. Our analyses help managers to efficiently manage human capital to enable innovation and design more accurate and successful interventions for ongoing innovation and diffusion of ideas in the firm. They are critical to assessing and designing the future innovation trajectory of a firm.

SRITNE Funded Planned Projects

Smart Cities Index

Researchers at SRITNE are engaged in developing a smart city index that uses big data at the highest possible spatial and temporal resolution to assess the liveability and productivity of cities. The index cities address three important limitations in the current data and methods used to assess the health of cities.

First, rather than drawing merely on archival data from a limited set of informational sources, the index leverages multiple public and private sources of information being generated digitally at high frequency. Extant assessments of liveability use survey-based measures and supply-side metrics, which can result in lagged estimates and hinder proactive policymaking.

These indices ignore the demand side metrics, notably, citizen perceptions and use of public goods. Given that the interactions between citizens and state agencies are increasingly being recorded digitally in real time, we include people's sentiments on social media to understand how a city fares in terms of providing a robust liveable environment for its inhabitants.

Finally, our smart city index captures the heterogeneous nature of economic activity across the sub-continent that makes it highly likely that the same set of observations and data sources may not be the best predictors for all regions.

This is particularly true for the difference between rural and urban regions, as well as within rural areas across different parts of India (about a third of rural India does not have access to electricity). Similarly, most indices of economic activity focus on the formal sector while in India, given the scale of the informal sector, it is important to capture activity in this sector as well. Our index captures the heterogeneous nature of economic activity across the subcontinent, including that for regions for which standard GDP measures are not available.

Artificial Intelligence (AI) and Future of Work

Rapid advances in Machine Learning (ML) are engendering economically significant applications in speech and face recognition, customer retention, R&D, trading, anomaly detection, and operations and workflow design, amongst others, across diverse sectors. These applications, in turn, are giving rise to new tasks and occupations, new processes, and new business models.

While it is clear that Machine Learning is a general-purpose technology that spawns a plethora of opportunities, innovations and capabilities, there is limited empirical understanding or evidence of its specific expected impacts on organisational performance and the economy, including labour markets. This understanding is particularly limited in the Indian context.

Some of the research questions researchers at SRITNE aim to address are:

1. What jobs or occupations across diverse sectors are susceptible to ML systems?

2. What are some of the more complex effects on employment beyond the simple substitution effects emphasised by various industry reports?

3. What are the tasks that are complements for ML systems, yielding augmentation of human capabilities and creation of new products, services and processes?

Industry Innovation Capability Survey

Innovation is fundamental to firm performance. Yet, little is known about the nature and sources of innovation in Indian firms.

There is also a lack of understanding of the unique nature of Business Model Innovation in India, which seems to be the key to thrive in the Indian business environment.

To shed light on the Indian innovation scene, researchers at SRITNE use a detailed survey to document different types of innovation in Indian firms (product/process/marketing/organisational/business model innovation), modes of protection of IP (patents/trade secrets/copyrights, etc), sources of innovation (internal R&D/contract R&D, etc), and returns to innovation. We also try to uncover the process of Reverse Innovation in the context of multinational firms where the innovation in an Indian subsidiary is used in the parent country.

We intend to administer this survey across a range of organisations - established firms, startups, multinational subsidiaries, etc. The outputs from our study will inform both the industry and policymakers about drivers of innovation in India and build a conducive environment to promote innovation.

Funding ISB Faculty Research

To further advance cutting-edge research aligned with SRITNE's vision, the Centre invited proposals that seek funding and are aligned with this broad mission of the Centre. We welcomed submissions in a broad range of areas, including but not limited to the business and societal value of IT, technology innovation and entrepreneurship, electronic commerce and digital transformations, social networks and big data analytics, global sourcing, and human capital development.

The following table illustrates the research proposals that were awarded SRITNE grants in 2017-18

Proposal Title	ISB Research Team	Award Component
Angels and Crowds: Expanding Entrepreneurial Finance through Equity Crowdfunding	• Deepa Mani (Information Systems) • Anand Nandkumar (Strategy and Entrepreneurship) • Prachi Deuskar (Finance)	Research Associate
Digital Transformation of the Public Distribution System (PDS) in India: A Supply Chain Perspective	• Sarang Deo (Operations Management) • Sripad Devalkar (Operations Management)	Household Surveys (Third-party agency)
Examining the Use of Mobile Apps and Social Media for Nutritional Information in India: The role of Motivation and Message Framing	• Tanuka Ghoshal (Marketing) • Catherine Xavier (Centre for Learning Management and Practice)	Survey Costs
Impact of Firm Initiated Technological Enablers on Engagement and Effectiveness of Village Level Entrepreneurs in Bottom of the Pyramid Markets	• Arunachalam S (Marketing) • Prakash Satyavageeswaran (FPM Candidate) • Sundar Bharadwaj (Marketing)	Conjoint Study and Research Associate
Measuring and Modelling the "Soft" Antecedents of Firm Performance: An Emerging Markets Perspective	• Sudhir Voleti (Marketing) • Ashish Galande (FPM Candidate)	Computing Power + Research Intern
Do Games Supplement Home Healthcare Workers in Healthy Behaviour Compliance?	• Manish Gangwar (Marketing)	Game Design/ Development and Research Associate

The following table illustrates the research proposals that were awarded SRITNE grants in 2018-19

Impact of Pharmacy Store-Redesign on Firm Performance and Customer Compliance with the Treatment Procedure	• S Arunachalam (Marketing) • Ashish Khandelwal (FPM Student)	Survey Costs

EDUCATION

Leading Digital Business Transformation and Innovation Programme (Open) 2018-2019

Emerging technologies and digital business models are fundamentally transforming how firms compete with one another. Traditional boundaries and value networks of firms are getting disrupted at a rapid pace, forcing organisations to rethink strategies not just for business growth and competitive advantage, but also for survival. It is imperative for the leaders to understand and effectively leverage appropriate digital technologies to transform their business strategies and models, lead their organisations to new paradigms of data-driven analytical insights and customer-focused innovation, and acquire the ability to continually learn, armed with lessons and innovative trends from around the world. The requirements vary from process-improvement, identifying unmet customer needs or creating an ecosystem of partnerships. For the same, forward-looking firms face challenges in adopting new technologies and business models at various implementation levels within the organisation.

SRITNE delivered ISB's 'Leading Digital Business Transformation and Innovation' was a 6-month multi-module, immersive learning programme designed for mid to senior level executives. The programme enabled them to understand and leverage digital technologies and implement ready to learn, innovate and transform business models continually.

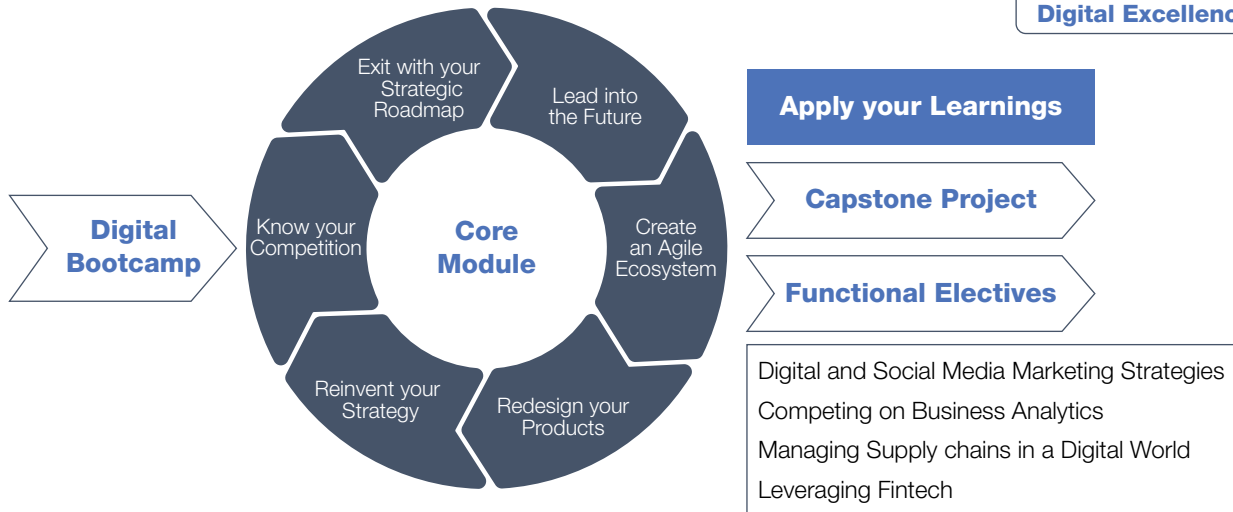*Academic session with Professor Anitesh Barua*

Academic session with Professor Deepa Mani

The following table illustrates the various topics covered and the faculty that taught those topics:

ISB Faculty and Industry Speakers	Topics
Boot Camp	
Deepa Mani, Resident Faculty	Introduction to Bootcamp The Internet of Things
Anitesh Barua, Visiting Faculty	Artificial Intelligence Machine Learning The Business of Blockchain
Vasudeva Varma, Visiting Faculty	Social Computing
Giri Tayi, Visiting Faculty	Cybersecurity for Business
Core Modules	
Deepa Mani, Resident Faculty	Digital Disruptions: The Incumbent's Dilemma and Response
Anand Nandkumar, Resident Faculty	Lean Startups Corporate Entrepreneurship Innovation and Entrepreneurship in India
Ramabhadran Thirumalai, Resident Faculty	Assessing the Value and Risks of Digital Transformations
Mahesh Balani, Anthill Ventures	Tech Start-up Ecosystem in India
Anitesh Barua, Visiting Faculty	Competing with Business Analytics Artificial Intelligence and Machine Learning The Case of Blockchain Digital Marketing Strategies
Rajeev Menon, Anthill Ventures	Design Thinking workshop
S Ramnarayan, Resident Faculty	Leadership Roles in the Digital Era
Pavan Soni, Inflexion Technologies	Culture and Creativity
Functional Electives	
Ravi Bapna, Visiting Faculty Amit Mehra, Visiting Faculty	Digital and Social Media Marketing Strategies
Giri Tayi, Visiting Faculty Subhodha Kumar, Visiting Faculty	Managing Supply Chains in the Digital World
Lil Mohan, Visiting Faculty Sanjiv Das, Visiting Faculty	Leveraging Fintech

Leading Digital Business Transformation and Innovation

ISB Certification of Digital Excellence

Digital Bootcamp

Core Module
- Exit with your Strategic Roadmap
- Lead into the Future
- Know your Competition
- Create an Agile Ecosystem
- Reinvent your Strategy
- Redesign your Products

Apply your Learnings

Capstone Project

Functional Electives
- Digital and Social Media Marketing Strategies
- Competing on Business Analytics
- Managing Supply chains in a Digital World
- Leveraging Fintech

Learn the Fundamentals	Develop Your Roadmap for the Digital Economy	Build In-depth Expertise

https://www.isb.edu/LDBTI

Senior Executive Participants' Testimonials

"The whole concept and the content of the programme is very well designed. From artificial intelligence to analytics, from digital marketing to design thinking, the curated modules helped in strengthening the digital knowledge and skills. Digital transformation is key to successfully drive strategic initiative, whether it is digitising the customer experience or operations or developing new business models. The programme idea coincided with my area of interest, given that I recently got awarded globally for one of the projects which I did. A lot of people are still unaware of what digital transformation is and think it is just bringing a technology to the table - which it is not. It is more of business transformation, so that value is created and magnified".

- Participant, Cohort 2018

"I work with a life science company and was looking forward to digitally transform our agriculture programme operations. ISB's digital transformation programme and the electives such as Managing Supply Chains was very much well-crafted and well done by contextualising the current technologies to the business opportunities. The overall experience was very good because there was a diverse set of people who were involved, and the faculty was excellent".

- Participant, Cohort 2018

"The experience of the programme was very enriching because we interacted with a lot of faculty who came from very diverse backgrounds. Further, the group was also very heterogeneous. So, collective learning came into place. We also learned about upcoming technologies like deep learning and machine learning".

- Participant, Cohort 2018

"The digital and social media marketing strategy elective gave a lot of insights and new learnings to understand and appreciate the dynamics of digital marketing".

- Participant, Cohort 2018

"The Fintech elective was very relevant to my business. Blockchain is no longer a complete mystery. The content was great and brilliant".

- Participant, Cohort 2018

Novartis - Digital Business Transformation and Service Innovation Programme

SRITNE delivered a 3-day custom-designed programme in three batches (May 2018, November 2018, March 2019) each consisting of 35 senior executives of Novartis Global Drug Development and Novartis Business Services. This programme provided insights into a range of emerging technologies and enhanced the participants' understanding of how the new digital ecosystem can be leveraged to create new models of value creation and extraction in the pharmaceutical sector.

Programme participants - May 2018 Cohort

Programme participants - November 2018 Cohort

The following table illustrates the various topics covered and the faculty that taught those topics:

ISB Faculty and Industry Speakers	Topics
Deepa Mani, Resident Faculty	Digital Disruptions: The Incumbent's Dilemma
	Digital Disruptions - The Incumbent's Response
Anand Nandkumar, Resident Faculty	Co-Innovation
S Ramnarayan, Resident Faculty	Leadership Roles in the Face of Change
S Arunachalam, Resident Faculty	Customer Value and Strategic Marketing: Real-time approach
Jitendra Singh, Visiting Faculty	Leadership Roles in the Face of Change
Youngjin Yoo, Visiting Faculty Manoj Kothari, Turien Labs Pavan Soni, Inflexion Point Consulting	Design Thinking
Anitesh Barua, Visiting Faculty	Competing with Business Analytics
	Artificial Intelligence and Machine Learning
	The Case of Blockchain
Mahesh Balani, Anthill Ventures	Health Tech start-up interactions

In addition to the academic classes, we created opportunities for Novartis Executives to interact and network with:

1. PGP Student Clubs: Business Technology Club, Health Care Club, Marketing Club and Women in Business Club

2. Health Tech Startups: Following are some of the start-ups that participated in the programme

- **Artelus:** Develops accurate primary screening solutions
- **Artivatic:** Powers insurance, finance and healthcare businesses with intelligent systems, solutions and processes using AI, ML
- **Ayurythm:** Connects Ayurveda with digital solutions
- **BDB Biz Viz:** Provides data analytics platform to provide actionable insights, Predictive, Pipeline and Dashboard designers
- **BeatO:** Makes a smart Diabetes Care and Management App facilitating proactive monitoring and analysis
- **CardioTRack:** Provides affordable cardiac care and portable healthcare diagnostics
- **Clensta:** Innovative healthcare ideas to make waterless hygiene solutions
- **C Test Medicals:** Provides painless, bloodless, non-toxic tests to detect oral cancer

- **Elevare Systems:** Solves healthcare challenges using technologies like AI and NLP
- **mBreath:** Provides wireless sleep monitoring products
- **Monitra Health:** Helps detect cardiac arrhythmia and cardiovascular disease in real-time for preemptive treatments.
- **Nexrea:** Develops an Augmented Reality app for marketing medical devices
- **Perspect.AI:** Helps hire, engage, and retain talent through a robust and reliable combination of game-based assessments and bias-free behavioural intelligence
- **Schrocken:** Accelerates Digital Initiatives through Blockchain
- **Searchlight Health:** Uses AI to provide fundamental insights into cost, access, quality and utilisation of healthcare resources
- **Sixth Sense Data:** Makes analytics and data related services

Programme participants interacting with healthcare start-ups

Industry workshop - Design Thinking

Participant Testimonials

"An experiential one of its kind workshop with some of the best faculty as well as a diverse group of participants where we are challenged enough to think out of our comfort zones. Relevant topics of strategic importance in industry trends and coherence with pharma continue to be the focal strength of the programme. Use cases, team huddles, and connect with start-ups alongside the ongoing capstone project after the programme with lots to read, learn, and share, keeps us progressive on the learning curve of digital business transformation".

- People and Operations Business Process Excellence Lead

"An excellent programme to bring you up to speed on what is happening in the tech space and also provide a strategic framework on how to plan and execute a digital transformation. A very important wakeup call for leaders at all levels to embrace Digital Transformation. The programme equips you with the necessary techniques to implement this. A great opportunity to widen your perspective on Digital technology and how to drive a transformation in your organisation. Many leaders today tend to think of technology and tools first rather than the problem to be solved. A great course which puts things in perspective on how digital can help if you have a business problem to solve".

- Finance, Global Business Planning & Analysis Head

Academic session with Professor Youngjin Yoo - March 2019 Cohort

Participants - March 2019 Cohort

IT Management in India - Vienna University Global Executive MBA students

For the last eight years, SRITNE has been hosting Vienna University Executive MBA students for a 5-day residency programme. In January 2019, we had 42 participants experience academic sessions led by SRITNE aligned faculty members, industry guest speakers and site visits to IT firms such as Infosys, Microsoft, Novartis and T-Hub. Additionally, the participants were sensitised to the context of business in India through an immersive experience with stakeholders of a low-income school in the old city of Hyderabad.

Participants on a school visit in old city Hyderabad - January 2019

Participants - January 2019

Participant Testimonials

"It was an important and beneficial added value to our GEMBA programme at the WU Vienna (Vienna University of Economics and Business, Austria) to attend the classes prepared by the Indian School of Business (ISB) in Hyderabad, India. We could attend classes in the field of IT management and also get interesting insights from companies visits, like Microsoft, Infosys, Novartis and T-Hub. Many thanks to our ISB colleagues for great hospitality and preparation of the academic programme".

- Marek Paska, International Business Manager Healthcare

"The programme was very well designed, and I like the structure of the program. Also, I would like to appreciate and thank each Professor for taking on the deep dive of each topic very prominently. Finally, I would surely like to thank the administrative part of the ISB as well, for all the kind support during the trip".

- Saurav Prakash, Software Project Coordinator Management

Participants - January 2019

The following table illustrates the various topics covered and the faculty that taught those topics:

ISB Faculty and Industry Speakers	Topics
Deepa Mani, Resident Faculty	Digital Disruptions: The Incumbent's Dilemma and Response
Anand Nandkumar, Resident Faculty	Innovation and Entrepreneurship in India
Sudhir Voleti, Resident Faculty	Big Data and Analytics in the Digital World
Amir Ullah Khan, Visiting Faculty	Doing Business in India
Giri Kumar Tayi, Visiting Faculty	Managing Multi-sided IT Platforms
Mahesh Balani, Anthill Ventures	Start-up Ecosystem in India

Business Technology Management (BTM) specialisation on Coursera:

Indian School of Business is offering a specialisation in Business Technology Management (BTM) on Coursera. The course seeks to prepare organisations and managers for a digital future through an understanding of the critical role technology plays in creating competitive advantage. Products and business models in today's competitive environment are increasingly being transformed by technology. This new digital economy places IT at the centre of firm strategy and operations and requires a breed of IT managers and leaders who can examine technology through a business lens. The Business Technology Management specialisation will empower you with knowledge of the IT domain, management, leadership and team building skills, and functional and analytical skills. These skills are critical to leverage technology to create competitive advantage.

In June 2017, the 6-course specialisation developed by SRITNE went fully live empowering learners virtually with the knowledge of the IT domain, management, leadership, functional and analytical skills required in the digital area. As of April 2019, the course already saw 1435 paid learners, who completed their course enrollments, and nearly 6437 enrollments.

Capstone Projects Overview

Learners will be given a business case where they will be required to assess the business objectives of the firm and apply the course learning to evaluate and identify a portfolio of technology solutions that are aligned with the business strategy of the firm.

This is one of the key features of this specialisation, allowing participants to apply their learnings in a practical case.

The following table illustrates the various topics covered and the faculty that taught those topics:

ISB Faculty	Topics
Deepa Mani, Resident Faculty	Digital Transformations
Sudhir Voleti, Resident Faculty	Business Analytics and Digital Media
Ramabhadran Thirumalai, Resident Faculty	Accounting and Finance for IT professionals
Rammohan Rao, Visiting Faculty	IT Project Management
S Ramnarayan, Resident Faculty	Leadership and Emotional Intelligence
ALL	Capstone Project: Business Technology Management

Participant Testimonials

"The course changed the way I was looking at the growth of the IT sector and its impact on other industries. The content is crisp, and the instructor is amazing".
- Kinshuk Acharya

"Very nice course on Digital Transformation. I had to study hard to complete this course. I would recommend this to my friends".
- Aurosish Mohapatra

"I thoroughly enjoyed this course and learnt a lot from the course content. I think the learning objectives were in-line with the course, outline and the learning methods were conducive to a valuable learning experience".
- Julie Michelle

"This is very useful and good to understand about technology-led innovation where you start to know an aboard range of ideas to bring in to your current business when one day you going to sit in a high position".
- Heanh Kim

CSC Academy Digital Literacy and Entrepreneurial Literacy

Digital Literacy Programme

Digital Training programmes are particularly salient in developing countries like India. Based on the comparison of training content offered by published studies on various training programmes in developing countries, it can be seen that while the overall numbers of training programmes are increasing, the sustainability of these programmes are significantly skewed towards individually-driven citizens, and there is minimal growth in the overall skill development of rural areas. Also, most training initiatives are focused on basic managerial skills, while the most potential for impact is for the entrepreneurs to scale. There are a variety of interventions attributed to promoting the growth of which we believe the digital training of the rural population has the highest potential.

Computer literacy and specific skills for effective use of digital technology have become even more important. However, computer literacy skills are not just limited to the ability to use computers. It also is skill utilisation of digital technologies for communication, information, marketing and building businesses.

Towards this lacuna in quality higher skills digital training to citizens in both urban and rural areas, SRITNE offers following courses in partnership with the CSC Academy.

- Digital Training in Entrepreneurship Literacy
- Digital Training for Digital Literacy

Fundamentals of IT	Digital Services
Digital Devices - Key parts and functionalities	Understanding CSC Model
Navigating Computers, Laptops and Tablets	G2C Services and B2C Services
Navigating Mobile Smartphones	Navigating Government Schemes and Services
Bluetooth and Connection of Devices	VLEs and CSCs - How to seek newer services
Understanding Internet	**Digital Banking**
World Wide Web	Protecting your ID - Dos and Don'ts
Internet Connectivity Types (Cable, Broadband, Wi-Fi)	Online and Mobile Banking
Using Browsers (Chrome, Safari, Firefox, IE)	Understanding UPI and BHIM App
Search Engines - both Google and within Sites	Aadhaar-Enabled Payment System (AEPS)
Downloading Mobile Applications (Google Play store)	Mobile Wallets (PayTM, SBI Buddy, Jio Money, M-Pesa)
Social, Mobile and Digital Media	**eCommerce and Platform Models**
Understanding the risks and being responsible online	Marketplace Basics - Transacting online
Creating online accounts and safeguarding privacy	Platforms and Mobile Applications - Key Features
Email and Mobile Messaging (Hike, WhatsApp)	eCommerce Players - (Flipkart, StoreKing, OLX, TripAdvisor, Snapdeal, Amazon)
Social Media (Facebook, LinkedIn, Twitter, Instagram)	Government Portals and Mobile Applications
Sharing Digital Media (Audio, Pictures, Videos)	Seeking Help Online - Ratings and Recommendations
YouTube and Learning Channels	Making Successful Transactions - Dos and Don'ts
Introduction to Productivity Programmes	**Digital Marketing and Analytics**
Identifying the right programme	Promoting Products, Services and Events Online
Navigating and understanding features	Email, Mobile (WhatsApp) and YouTube Marketing
Performing the basic functions, saving and printing the output	Social Media Marketing (Twitter/Facebook)
Tools to Create Digital Marketing Content	Using Data and Analytics for Marketing Better

Digital Literacy Programme

Digital training encompasses both entrepreneurial literacy and digital literacy. Training programmes for entrepreneurial literacy exist, with a focus on general business skills and strategy with little emphasis on core and necessary training modules on finance, marketing and strategic skills for first-time entrepreneurs. Managerial capital (e.g., marketing and finance skills), digital skills (e.g., digital marketing, enterprise integration), and entrepreneurial management skills are often not emphasised enough in training modules.

Further, entrepreneurial training programmes help prospective owners launch businesses more quickly while digital literacy programmes help in marketing efforts, better financial planning and frequent updating of services offered, especially at the grass root level.

While programmes teaching entrepreneurship to rural areas exist, we provide additional vectors to make the programme more holistic and continuously assess the impact of entrepreneurial literacy specifically through question banks in different languages.

Entrepreneurial Orientation	Financial Education
What is Entrepreneurship	Basic Financial Terms
Entrepreneurship and Entrepreneurial Character	Recording Business Transactions
Developing an Entrepreneurial Behaviour	Accounting and Business Reporting
Identifying Business Opportunities	Understanding Cost Structures and Pricing
Long term Orientation	Funding your Venture
Entrepreneurial Strategies and Planning for your Business	Analysing Business and Financial Decisions
Entrepreneurial Practices	Budgeting vs Actual Spending
Negotiations	Understanding and Predicting Cash Flows (Managing Working Capital)
Understanding and Improving Business Practices	Funding your Growth (Sources of Finance for Small Business)
Impacts of Entrepreneurship	Recording sales, expenses and margins
Marketing Education	**Digital Education**
What is Value?	Fundamentals of Telecentre
Finding Customer Needs and Solutions	Common Services Centre Schemes
Matching Solutions and Making Contact	Digital Seva Portal
Listening and Questioning Skillfully	G2C and B2C Services
Helping Customers Make the Right Choice	Digital Security and Wellness
Handling Questions and Concerns	Digital Infrastructure and Operating Models (2hrs)
Delivering on Product/ Service Promises	Leveraging Digital Media and Marketing (2 hrs)
Marketing Challenges, Examples and Solutions (Marketing Strategies/ Techniques for your Business)	Data-Driven Decision Making
Honing a Sales Pitch	Case Study and Recap of Major Concepts (2hrs)
Pillars of Good Customer Service	Capstone: Creating your Digital Strategy (1hr)
Case Study and Recap of Major Concepts	Leveraging Digital for CSC Business

OUTREACH

Workshop on Digital Transformation

Evolution of technology services

SRITNE conducted the Workshop on Digital Transformation on October 12, 2018, at ISB. The purpose is to bring together an interdisciplinary leader from industry, government and academia to push our understanding of the future of technology services, including, not limited to technology-enabled service innovations, newer forms of organisation of service delivery, and human capital management. A few highlights from the workshop are presented.

Venue: AC8 Board Room, Level 2, Main Building, Indian School of Business, Hyderabad Campus

Hours	Agenda
9:00 am - 9:15 am	Welcome remarks - Deepa Mani, Associate Professor (Information Systems) and Executive Director, SRITNE, ISB
9:15 am - 10:00 am	**Keynote Speaker: Technologies for Transforming India** Jayesh Ranjan, IAS, Secretary, Industries and Commerce, IT and EC Departments, Govt. of Telangana
10:00 am - 10:15 am	Tea Break
10:15 am - 11:15 am	**Panel Discussion: Technologies to solve Challenging Problems** N Balasubramanyam, IPS, CEO, e-Pragati Authority and Transport Commissioner, Govt. of Andhra Pradesh Amitabh Shukla, Director, Digital Transformation, Cognizant Technology Solutions Nitin Bhate, Chief Marketing Officer, GE Global Amit Sharma, Researcher, Microsoft India **Moderator**: Deepa Mani, Associate Professor (Information Systems) and Executive Director, SRITNE, ISB
11:15 am - 12:45 pm	**Featured presentations: Evidence-Based Policy Making in the Age of Big Data** Rakesh Ranjan, Advisor, NITI Aayog J.A. Chowdary, Special Chief Secretary and IT Advisor to the Chief Minister, Govt. of Andhra Pradesh Milind Sohoni, Professor (Operations Management) and Deputy Dean, ISB

Jayesh Ranjan, (IAS, Secretary, Industries and Commerce, IT and EC Departments, Govt. of Telangana) delivered the keynote address where he touched upon key government initiatives such as Blockchain, women entrepreneurs running internet cafes and drone technologies for women safety. "Unless we convince everyone we need digital measures, it will not be fruitful. There is tremendous potential, but we need to choose what to pursue." Following this, their was a panel discussion on 'Technologies to solve Challenging Problems'. It highlighted various experiences from both the Government as well as industry on their efforts to digitise services especially through increasing citizen friendly

services and digital inclusion through public awareness systems and data personalisation.

Professor Deepa Mani (Associate Professor and Executive Director, SRITNE, ISB) set the tone for the discussion by bringing up the requirement of complementary services and the challenges faced when technologies address citizen issues. N Balasubramanyam, (IPS, CEO, e-Pragati Authority and Transport Commissioner, Govt. of Andhra Pradesh) pointed out the need for upskilling of staff as ideally, we would want to transform businesses but not just overlay technology on existing services.

L to R: Professor Deepa Mani, N. Balasubramanyam, Amitabh Shukla, Nitin Bhate, Amit Sharma

Both Amitabh Shukla (Director, Digital Transformation, Cognizant Technology Solutions) and Nitin Bhate (Chief Marketing Officer, GE Global) mentioned that while big data was available, it was critical to analyse and draw insights from them. The fourth panelist, Amit Sharma, (Microsoft India), gave examples of specific uses of big data analyses that Microsoft had initiated in partnership with other firms and expansion of better-quality education and health services through e-kiosks. On a related note, featured presentations by Rakesh Ranjan (Advisor, NITI Aayog), J.A. Chowdary (Special Chief Secretary and IT Advisor to the Chief Minister, Govt. of Andhra Pradesh) and Milind Sohoni (Associate Professor and Deputy Dean, ISB) touched upon evidence-based policymaking and the effect of digitisation across different sectors.

2:00 pm - 3:00 pm	**Panel Discussion: Emerging Technologies: New Business and Service Models** Arun Rajappa, Group Product Manager, Microsoft Kaizala, Microsoft Ravi Kumar Rayavaram, CEO - Matches and Agarbatti Business, ITC Limited Gunjan Kumar, Director, Wealth Business, Barclays Bhartendu Sinha, Vice President and Managing Director, Autogrid **Moderator**: Anand Nandkumar, Associate Professor (Strategy) and Academic Director for Centre for Innovation and Entrepreneurship, ISB
3:00 pm - 3:15 pm	Tea and Snacks Break
3:15 pm - 4:15 pm	**Featured presentations: Artificial Intelligence (AI) and Implications for Businesses** Vasudeva Varma, Professor and the Dean (Research and Development), IIIT Hyderabad Anandhi Bharadwaj, Endowed Chair Professor, Goizueta Business School, Emory University
4:15 pm - 5:00 pm	Tea Break
5:00 pm - 6:00 pm	**Panel Discussion: Artificial Intelligence (AI) and Implications for Businesses** Swastik Bihani, Head of Products and GM, India at PayPal Ram Kiran Dhulipala, Head - Digital Agriculture and Youth, ICRISAT Manish Jain, Partner and Head - Digital Strategy, Innovation and Fintech, KPMG **Moderator:** Sumanta Singha, Assistant Professor (Information Systems), ISB
6:00 pm - 6:15 pm	Closing Remarks

Panelists representing the financial, power, consumer and internet services sectors discussed various issues underlying their respective businesses in the context of 'Emerging Technologies: New Business and Service Models'. Moderator Professor Anand Nandkumar (Associate Professor and Academic Director for Centre for Innovation and Entrepreneurship, ISB), opened the panel discussion with a few words on business model innovations and the different instances of business model innovations in their respective fields. Arun Rajappa (Group Product Manager, Microsoft Kaizala, Microsoft) mentioned how the start-up Kaizala came into existence in Microsoft garage, which promotes entrepreneurship within the Microsoft Business

framework. Pointing out the importance of large corporations giving the luxury of doing research to individuals, both Gunjan Kumar (Director, Wealth Business, Barclays) and Bhartendu Sinha (Managing Director, Autogrid) stressed that allowing individual entrepreneurial pursuits in large corporations was an important business model innovation which inherently depended on the head of the firm and his/her vision for the management practices that will encourage ramping up of entrepreneurial ventures spun from the firm. In his featured presentation, Professor Vasudeva Varma (Dean, Research and Development, IIIT Hyderabad) gave a basic primer on the differences between machine learning and deep learning.

L to R: Arun Rajappa, Ravi Kumar Rayavaram, Professor Anand Nandkumar, Gunjan Kumar, Bhartendu Sinha

Following this, the presentation 'Returns to Digital Innovations: A Group-Based Trajectory Approach' by Professor Anandhi Bharadwaj (Endowed Chair Professor, Goizueta Business School, Emory University), argued that while there were still early stages of another major technological shift or disruption, (one that is rooted in AI and analytics but enabled by several underlying infrastructure technologies) there was an ongoing search for value from these investments. She called for firms to understand that artificial intelligence requires numerous complementary innovations - including new products, services, workflow processes, and even business models.

Professor Sumanta Singha, ISB, set the tone for the concluding panel discussion on artificial intelligence that followed. Exploring the question of 'What role does AI play in businesses', the panel acknowledged that recently there was a lot more excitement about AI and its implications for business. However, Swastik Bihani (Head of Products and GM, India at PayPal) and Ram Kiran Dhulipala (Head - Digital Agriculture and Youth, ICRISAT) pointed out that adaption of AI for customer needs must be addressed clearly. Manish Jain (Partner and Head - Digital Strategy, Innovation and Fintech, KPMG) cautioned that one must be clear between AI and automation as they are not interchangeable terms. The concluding panel discussion brought out the need for increased understanding of the true power of AI and machine learning- in financial markets and agricultural sector - for the creation of an ecosystem that can transform India into a digital economy that promotes innovation.

L to R: Swastik Bihani, Professor Sumanta Singha, Ram Kiran Dhulipala, Manish Jain

Conference on Digital Economy (CODE)

SRITNE hosted the eleventh edition of Conference on the Digital Economy (CODE) from December 21 - 22, 2018 at Le Pondy Resort, Puducherry, India. Leading scholars from universities worldwide presented their research on diverse topics such as digital platforms and ecosystems, digital marketing, analytics, digital innovation and entrepreneurship, and technology sourcing and partnerships.

Agenda of CODE Workshop: Day 1 (Friday, December 21, 2018)

Hours	Agenda
9:00 am - 9:05 am	**Welcome Remarks by Conference Chairs**
9:05 am - 9:30 am	**Key Note Speaker - Dr Thulasiraj, Aravind Eye Care**
9:30 am - 11:00 am	Business Value of IT Business method innovations and firm value: an empirical investigation - Professor Anandhi Bharadwaj Can the mobile internet bridge the digital divide? A Large-Scale empirical investigation - Professor Karthik Babu Nattamai Kannan, Professor Sri Narasimhan, Professor Eric Overby From supply chains to demand chains: evidence from field research in the medical equipment industry - Professor Ravi Aron
11:00 am - 11.15 am	Coffee Break
11.15 am - 12:45 pm	**Technology and Consumer Behaviour** Social learning in prosumption: evidence from a large randomised field experiment - Professor Ravi Bapna, Joseph Golden, Professor JaeHwuen Jung, Professor Tianshu Sun Harnessing digitised patient engagement capabilities in healthcare operations - Professor Pankaj Setia Service quality and privacy concerns: insights from a survey of microenterprises in Sri Lanka, India and Bangladesh - Abhishek Chanda, Vigneswara Ilavarasan
12:45 pm - 2:00 pm	Lunch
2:00 pm - 4:00 pm	**Platforms** Platforms, pricing and piracy: should platforms care about piracy? - Professor Ramnath Chellappa Turmoil in Entertainment Platforms: Chaos or a New Order? - Professor Hemant Bhargava Content and platform pricing with the secondhand market: the case of the video game industry - Professor Rajib Saha, Professor Antino Kim, Professor Warut Khern-Am-Nuai Examining the antecedents of purchase on online platforms - Professor Indranil Bose, Neha Chaudhuri
4:00 pm - 4:30 pm	Tea Break
4:30 pm - 6:30 pm	**Visit to Aravind Eye Hospitals, Puducherry**
7:00 pm onwards	**Gala Dinner**

Dr. Thulasiraj, Director - Operations Aravind Eye Care

Professor Anandhi Bharadwaj - Co-Chair, CODE'2018

The conference started with Professor Anandhi Bharadwaj, Emory University and Co-Chair CODE, 2018 Conference, examining business method innovations that received patent grants in the US manufacturing, trade and distribution sectors from 1999-2013 in spite of legal uncertainties surrounding the patentability of business method innovations. As key drivers of firm performance, they are important contributors to business method innovations.

This was followed by Professor Sri Narasimhan, Scheller College of Business, discussing the closing of the 'digital divide' as an important public policy goal. Improving mobile internet access impacts the digital divide by examining the adoption of unlimited mobile data plans, policymakers to encourage unlimited mobile data plans as a method to close the digital divide.

Reiterating the business value of IT, evidence from field research in the medical equipment industry was presented to analyse acute shortages and oversupplies of consumable medical supplies in a developing economy (ASEAN country). In his talk 'From Supply Chains to Demand Chains: The reasons for the use of an Internet of Things based system that monitors the use of equipment in hospitals; reports from dealers, service agents and brokers were fed into a set of Machine Learning (ML) algorithms and analysed by Professor Ravi Aron, Carey Business School, Johns Hopkins University.

In the Technology and Consumer Behaviour track, Professor Ravi Bapna, Carlson School of Management, spoke on Social Learning in Prosumption: Evidence from a Large Randomised Field Experiment. Digital technologies enable consumers to actively participate in the product design and production process for a wide range of products, leading to the concept of a 'prosumer'. Social learning affects the customers' decision to design a product, choose the right customers and carefully select the type of user design for display. This can be highly effective in influencing the purchase and design behaviour of the focal customer.

Agenda of CODE Workshop: Day 2 (Saturday, December 22, 2018)

Hours	Agenda
9:00 am - 10:30 am	**Big Data Analytics** **Selecting interactions in multiple regression models using the principle of non-additivity** - Professor Sumanta Singha **Content authentication: issues and challenges** - Professor Vasudeva Varma **Firm focus on service transition** - Professor Sudhir Voleti, Ashish Khandelwal
10:30 am - 10:45 am	Tea Break
10:45 am - 12:15 pm	**Crowd Markets and the Gig Economy** **Dockless bike sharing: convenience or congestion?** - Professor Karthik Kannan, Yipu Deng, Professor Zaiyan Wei **Angles and crowds** - Professor Anand Nandkumar, Professor Deepa Mani, Professor Prachi Deuskar, Abhishek Bhatia **To purchase or to patronise? An experiment to investigate technology consumers' support for reward-based crowdfunding** - Professor Indranil Bose, Shankhadeep Banerjee
12:15 pm - 1:00 pm	Lunch
1:00 pm - 2:30 pm	**Social Impacts of IS** **Smart grids: incentivising growth and investment in demand response** - Professor Barrie Nault, Vaarun Vijairaghavan **The political economy of public good provision: evidence from a rural electrification scheme in India** - Dibya Mishra, Ritika Sethi, Ishani Chatterjee **Impact of highly-able peers on technology-enabled learning and education performance** - Professor Deepa Mani, Professor Rajib Saha, Professor Sundar Bharadwaj, Sreevathsan Sridhar
2:30 pm - 3:00 pm	Closing Remarks - Professor Deepa Mani

On presenting the content and pricing of the second-hand market in the video game industry, Professor Rajib Saha, Indian School of Business, spoke about an interesting happening that is transforming the sector. Second markets provide consumers with an opportunity to use durable goods at lower costs. However, this puts the manufacturer at direct competition with the used version, eroding its monopoly pricing power and market.

The first academic presentation in the following session 'Big Data Analytics' was led by Professor Sumanta Singha. A key question in statistics is which interactions should be used in multiple regression models. However, this is a challenging task due to a few factors including spurious correlation, multicollinearity, and the curse of dimensionality. Bridging both epistemic and statistical interaction and integrating performance with interpretability, Professor Sumanta Singha, Indian School of Business, studied the potential interaction effect.

Big data analytics often provides solutions to everyday social challenges. Professor Karthik Kannan, Purdue University, studied the effect of dockless bike sharing. Given that technology-driven sharing economy has been growing exponentially in the past decade, dockless bike sharing was proposed to provide affordable commuting and mitigate the escalating traffic congestion. However, has it been a convenience, or congestion was the research focus of the presentation.

The concluding session on the social impact of Information Systems saw academic research presentations on the modernisation of electric grids through information technology, rural electrification and political influence and enabling of learning through technology-enabled peers.

Left to Right: (Sitting): *Abhishek Chanda; Professor Giri Kumar Tayi (Conference Chair); Professor Ramnath Chellappa; Professor Ravi Bapna; Professor Deepa Mani; Professor Anandhi Bharadwaj (Co-Chair); Professor Hemant Bhargava; Dr. Thulasiraj, Aravind Eye Care (Keynote Speaker); Professor Karthik Kannan; Professor Sridhar Narasimhan;*

(Standing) *Kiran Kumar; Varun Sharma; Karthik Venkata Rapaka; Professor Manish Gangwar; Professor Vasudeva Varma; Abhishek Bhatia; Professor Ravi Aron; Mridula Anand; Ashish Khandelwal; Vaarun Vijairaghavan; Naveen TB; Professor Sumanta Singha; Sreevathsan Sridhar; Professor Sundar Bharadwaj; Shankhadeep Banerjee; Professor Rajib Saha; Professor Pankaj Setia*

Engagement with the PGP Student Community: Emerging Technologies Workshop Series

For the PGP community, SRITNE actively partnered with the Business Technology Club (BTC) in hosting an Emerging Technology Workshop series. Jointly, we hosted senior executive leaders/subject matter experts from the industry such as Prashanth Gupta (Programme Director, Cloud and AI Platform Group, Microsoft R&D), Sanjay Menon (Managing Director, Publicis Sapient) and Raghav Nyapati (Digital Automation Strategist at Bank of America) where they conducted focused workshops such as Artificial Intelligence (AI), Internet of Things (IoT) and Robotic Process Automation for the PGP students.

Session on Artificial Intelligence by Prashanth Gupta, Microsoft R&D

Merit Scholarships for PGP Students

SRITNE has been awarding scholarships (worth INR. 2 lakhs each) to top performing students opting for a major in the Information Technology Management area starting with 2016 cohort. For 2019 cohort, SRITNE awarded five merit scholarships (student names included below).

PGP Student Names
Harish Bommerla
Rashi Choudhari
Nitin Goyal
Aayush Rajesh Poddar
Vipin Sirigiri

"The STRINE scholarship supported and reinforced my decision to pursue INTM as a concentration. Given the current focus of businesses on analytics and digital, the courses provided by the school have helped me establish a sound understanding of both the theory and execution behind the sciences".
– Rashi Choudhari, Class of 2019

Advaita (Technovision)

SRITNE also sourced real-world problems from the Government of Telangana for Advaita - ISB's annual international B-school competition. The students were expected to come up with a technology solution to these problems. This event saw 150+ students, more than double that of last year's participation, from various colleges across the country participate in the prelims, and a total of 10 teams, 5 per case, where shortlisted for the finals.

Winners Advaita: ISB Case Study Competition with jury members Anandhi Bharadwaj (Visiting Professor, ISB) and Raghu Lanka (Reliance Jio)

SRITNE Team

Professor Deepa Mani
Executive Director

Karthik Rapaka
Associate Director

Mridula Anand
Senior Manager

Saurabh Sharma
Senior Manager

Kiran Kumar A
Manager

Research Team

Abhishek Bhatia
Research Associate

Rohin N Vrajesh
Research Associate

Bhoomi Thakkar
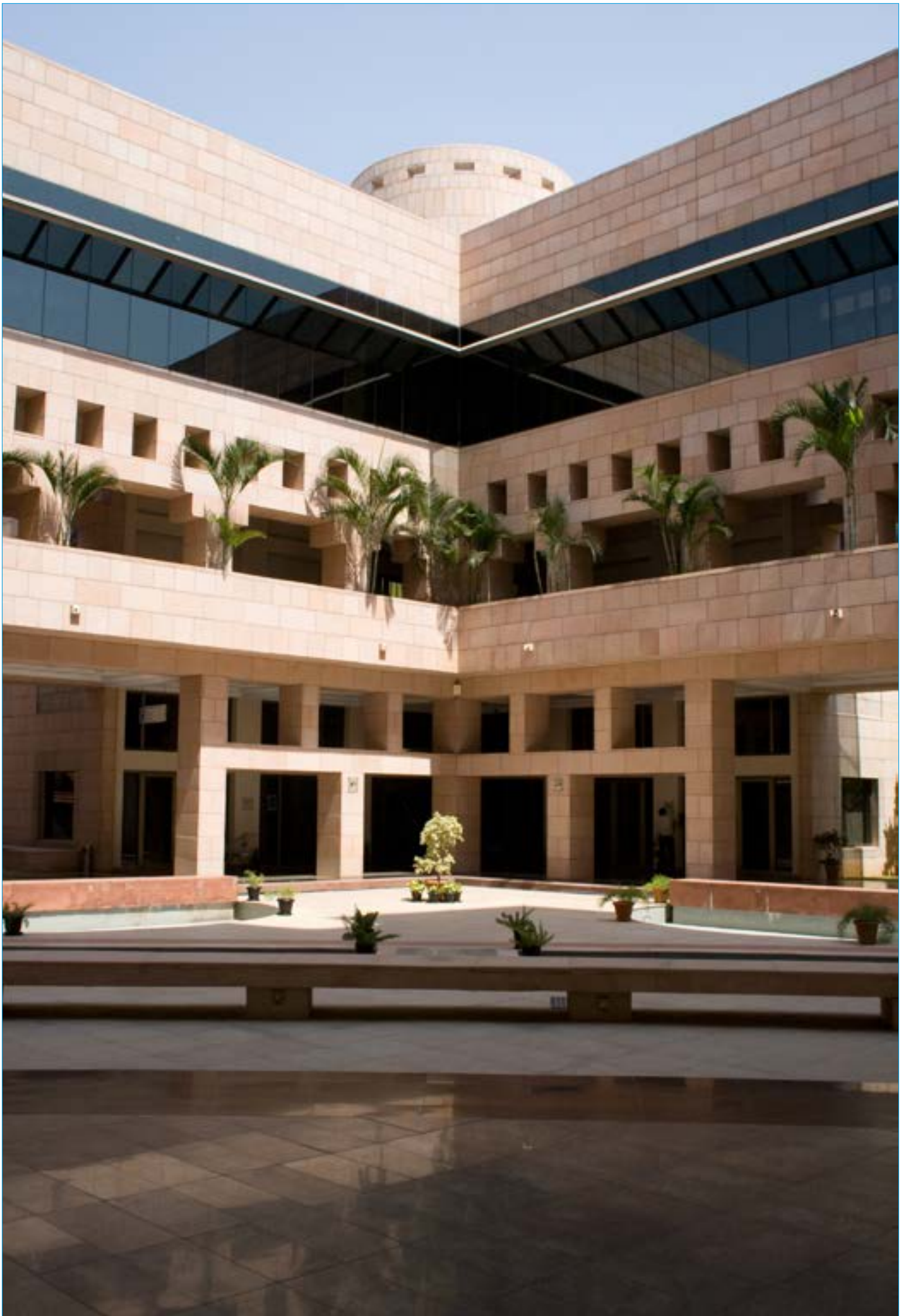Research Associate

Rohan J Sharma
Technical Analyst

Sreevathsan Sridhar
Research Associate

"The Research Associate (RA) role at SRITNE Centre, ISB is a stimulating experience. Through SRITNE, I had an opportunity to work with some of the highly research-active faculty members, affiliated with the centre. Every day was a learning experience. The independence one enjoys while working at SRITNE, combined with rigorous training, articulate comments and succinct feedback one gets, make learning a continuous and enjoyable process. Working with the professors at SRITNE, in three words, is a 'life-changing experience'. Working with the faculty members at SRITNE has had a profound impact, not just on my philosophy of research, but also on my philosophy of life. ISB is the apt launchpad for aspiring professionals to enter academia, and I got several offers from top schools for their PhD programme. I will be heading to the London School of Business for the PhD programme in Fall 2019".

Naveen T B
Research Associate

"The RA programme at SRITNE provides is a great stepping stone to those who are interested in academic research. Working as an RA helped me understand the nuances of academic research and cemented my decision to pursue a PhD. In addition to working on cutting-edge research in policy, social sciences, and innovation, I got several opportunities to interact with SRITNE associated faculty members from top schools across the world. I also got chances to attend classes that are provided to PhD students at ISB and learn about fundamental Statistics and Econometric principles that are necessary for doing any research. The SRITNE RA programme is a great opportunity for anyone looking to embark upon the academic journey and apply to a PhD programme. The RAs from here are generally recognised in most of the top B-Schools in the world, and the placement record stands as a proof for that recognition. Thanks to the SRITNE RA programme, I got several offers from top schools to pursue my PhD programme, and I will be heading to Carnegie Mellon University Heinz College to begin my PhD journey in Fall 2019".