ISB | Srini Raju Centre for IT
and the Networked Economy

ISB-SRITNE
ANNUAL REPORT
2017-18

The Srini Raju Centre for Information Technology and the Networked Economy (SRITNE) is supported by a generous endowment set up by Mr. Srini Raju, who is the Chairman of iLabs Group. He is also the founding member of the International Institute of Information Technology (IIIT), Hyderabad and Indian Institute of Information Technology, Sri City. He is also a member of the Governing Board of Indian School of Business.

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 members, 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 bureaucrats, corporate leaders and small and medium businesses. I wish the entire SRITNE team continued success for the upcoming years.

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 organizations.

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 programs and outreach. I would also like to express gratitude to Mr. 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 programs 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 & 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
Marketing	
Siddharth Singh	Associate Professor
Manish Gangwar	Assistant Professor
Sudhir Voleti	Assistant professor
Sundar Bharadwaj	Professor
Strategy	
Anand Nandkumar	Associate Professor
Jaya Dixit	Assistant Professor

Academic Advisory Board Members

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

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

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

Professor Youngjin Yoo
Elizabeth M. and William C. Treuhaft Professor of Entrepreneurship, Weatherhead School of Management, Case Western Reserve University, USA

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
- Evangelize research events hosted by ISB

Industry Advisory Board Members

Anil Bhansali
Managing Director, Microsoft R&D India

N J Joseph
Senior Vice President, Cyient Ltd

Prasad Vanga
Founder & CEO, Anthill Ventures

Dr Ganesh Natarajan
Chairman, NASSCOM Foundation

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

SRITNE Activities

Research Partners	Programmes	Outreach
• NITI Aayog, Government of India • Ministry of Electronics and Information Technology (Government of India) • Microsoft R & D • Government of Telangana • Novartis Global Drug Development India • Google • ISB Faculty Research Sponsorship	• Government of Andhra Pradesh • Leading Digital Business Transformation & Innovation Programme for Novartis India Leadership • Google Digital Small and Medium Businesses (SMB) Heroes Program • Business Technology Management (BTM) - Coursera • Vienna University Executive MBA program • Digital Transformation - Centre for Executive Education Open Programme (DT-CEE)	• Workshop on Digital Transformations • Workshop on Information Technologies and Systems (WITS) Feeder • Conference on the Digital Economy (CODE) • Emerging Technologies Workshop Series • SRITNE Merit Scholarships for PGP Students • Networking Opportunities for PGP Students & Alums • Advaita: ISB Case Study Competition - Technovision

Research

On the research front, SRITNE has been active in conducting various studies in partnership with industry and government. Following are some exemplar research projects:

Impact assessment of ride-sharing platforms on quality of urban mobility, labour markets and micro-entrepreneurship

Impact assessment of the CSC e-Governance Services scheme on rural communities (especially on Village Level Entrepreneurs & Citizens): Evidence from 10 Indian states

Impact assessment of Digital Technologies (Artificial Intelligence, Cloud Machine Learning, Satellite Imagery and Advanced Analytics) in improving agricultural productivity across 4 Indian States

Impact of ICT (TS-CLASS initiative) on teaching and learning efficacy in government high schools in Telangana

Assessment of the state of innovation at Novartis India and subsequent identification of interventions targeted at improving innovation productivity

Impact of Google's Digital Unlocked programme (digital marketing training) on the performance of small and medium businesses in India

Research

NITI Aayog, Government of India

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. Ride-sharing 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 ride-sharing services. They also document the significant increase in ridership in the Delhi Metro and other high occupancy vehicles during this period. The results have important implications for transport policy, including providing incentives for high occupancy and demand responsive mobility, enabling effective business models in shared mobility, and investing in urban planning for modal shifts.

Ministry of Electronics and Information Technology (Government of India)

The Government of India's National eGovernance Plan (NeGP), since 2006, identifies 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.

Drawing on an extensive survey of the literature, including prior impact assessment studies commissioned by the GOI and related academic research, researchers at SRITNE are conducting an impact assessment of the Common Service Centre (CSC) e-governance Services scheme on rural communities (especially on Village Level Entrepreneurs & Citizens). The evaluation spans CSCs across 10 Indian states in the four regions in the country - (North: Punjab & Uttar Pradesh; East: Bihar, West Bengal, Assam and Orissa; South: Telangana and Karnataka; West: Maharashtra and Gujarat).

The study will yield important insights on the opportunities and critical success factors for CSCs and in turn, guide policy interventions that help VLEs overcome contextual constraints and improve their performance.

Microsoft

Agricultural output per worker in India significantly lags developed and other ascendant economies of the world. Failure to increase labour productivity in agriculture constrains economic growth by raising the costs of shifting labour and other resources from the farm to the factory as development proceeds.

Advancements in ICT can potentially increase the incomes of the significant number of households engaged in agriculture by improving their output and how much they get for their output. More recently, leading-edge technologies like Artificial Intelligence (AI), satellite imagery, and advanced analytics are used to empower farmers with information that increases their crop yield and allows them better price control.

Researchers at SRITNE are engaged in the assessment of one such digital agriculture initiative – AI based crop management. Microsoft R&D India Limited, in partnership with ICRISAT and UPL Limited, is currently working with a network of 3000 farmers across 50 districts in Telangana, Maharashtra and Madhya Pradesh to pilot AI-based sowing and pesticide advisories. The researchers will compare outcomes – yield, multiple cropping index (or diversity of crops in the cultivated area), and land rentals – between the farmers who receive the intervention and those who do not - to offer insights into factors that aid adoption of digital initiatives and how these initiatives increase agricultural productivity and allied economic outcomes.

Research

Government of Telangana

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 digitization 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

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, that you cannot improve what you cannot measure also renders it imperative to continually measure innovation performance and capabilities of the firm.

Researchers at SRITNE provide the detailed assessment of the state of innovation in firms. For e.g., 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: (a) Individual; (b) Team and (c) Organization. Such assessments that document key enablers and constraints to the observed innovation performance are complemented with benchmark information on innovation in the sector, established

through the center's innovation and technology management surveys.

Our analyses help the firm 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.

Google

Researchers at SRITNE helped assess the impact of the Digital Garage programme conducted by Google in India. As part of the program, small and medium businesses (SMBs) are receiving training in digital and social marketing through a 6-hour self-paced online model as well as through a 1-day in-person offline training programme that is delivered by FICCI. The goal of the study is to identify the impact of digital and social marketing training on: (1) the changes in mix of marketing orientation and practices of SMBs post the Digital Garage program, (2) the intensity of use of digital and social marketing strategies by SMBs, (3) the operational and financial performance impact of adoption of digital and social marketing practices, (4) the efficacy of online, offline and online + offline training in impacting the adoption and performance impact of the Digital Garage program.

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.

In response to the call, we received a number of proposals from faculty across diverse areas. Subsequently, we offered grants of INR. 40 lakhs to the following projects led by ISB faculty:

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 & 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 & 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 & 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 Behavior Compliance?	• Manish Gangwar (Marketing)	Game Design/ Development & Research Associate

Education

Govt. of Andhra Pradesh – ISB Certificate Program – Digital Transformation in Public Governance

e-Pragati, the Andhra Pradesh State Enterprise Architecture, is a holistic and coherent framework designed to propel the state into a developed state by 2029 and country's first state wide enterprise architecture initiative.

SRITNE and ISB's Centre for Executive Education partnered with Government of Andhra Pradesh to train 92 officers, representing 50 unique state departments as part of the 6-month certificate program. This program was well-appreciated by the Chief Minister's office, and is now being considered as a learning model for replication to address the capacity building needs of remaining state departments and secretary-level bureaucrats.

The program was designed to meet the developmental needs of select professionals of ePragati officers representing various departments of Government of Andhra Pradesh to "develop the next generation of CIOs, Enterprise Architects contributing to Government goals, industry stewardship by advancing their profession."

Following table illustrates the various topics covered and the faculty who taught those topics:

ISB Faculty & Industry Speakers	Topics
Professor Giri Kumar Tayi, Visiting Faculty Mr Neil Jacobsohn, Senior Partner, FutureWorld International	Understanding Global Digital Revolution
Professor V Nagadevara, Visiting Faculty	Fundamentals of IT Systems
Professor Sudhir Voleti, ISB Resident Faculty Dr. Manish Gupta, Principal Applied Scientist, Microsoft R&D	Fundamentals of Data Analytics
Professor M Rammohan Rao, ISB Resident Faculty Professor V Nagadevara, Visiting Faculty	IT Project Management
Professor Deepa Mani, ISB Resident Faculty Mr Mahesh Balani, Partner, Anthill Ventures	Procurement Models for IT Services Enterprise Architecture & Operating Models
Professor Ram Thirumalai, ISB Resident Faculty	Financial Evaluation of IT Projects
Shri J Satyanarayana (IAS), Chairman UIDAI Professor Deepa Mani, ISB Resident Faculty Mr Prashant Gupta, Principal Director, Microsoft - Digital India Initiatives Professor Chandan Chowdhary, ISB Resident Faculty	Strategies for eGovernance
Mr Mahesh Balani, Partner, Anthill Ventures Mr Nirmal Mandal, Senior Manager, National Institute for Smart Government	Government & Business Process Re-engineering
Professor Sisir Debnath, ISB Resident Faculty	Monitoring & Programme Evaluations
Mr Unny Radhakrishnan, Chief Digital Officer, WPP	Digital Branding & Citizen Engagement
Mr Rajeev Menon, Partner, Anthill Ventures	Service Quality
Professor S Ramnarayan, ISB Resident Faculty Mr Rajeshwar Upadhyay, CEO, Par Excellence Leadership Solutions Mr Umamaheshwar & Mr Sreekumar, Partners, Equinox Consultants	Leadership & Change Management

Education

Novartis – Digital Business Transformation & Innovation Program

SRITNE delivered a 5-day custom-designed program for 35 senior executives of Novartis Global Drug Development and Novartis Business Services. This program 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.

We organized a Digital Boot camp to identify the technologies and technology-enabled processes and business models aligned with Novartis. The objective was to understand how new technologies and business models are disrupting incumbent businesses and transforming traditional business functions such as R&D, procurement, marketing etc. We helped develop a strategic roadmap to effect Digital Transformation capably and quickly throughout Novartis.

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

ISB Faculty & Industry Speakers	Topics
Professor Deepa Mani, ISB Resident faculty	Digital Disruptions: The Incumbent's Dilemma
	Innovation 2.0
	Your strategic Road map for Digital Business Transformation
Professor Ram Chellappa, Visiting faculty	The Business Models of Technology Giants
	Digital Boot Camp - Competing on Business Analytics I
	Digital Boot Camp - Competing on Business Analytics II
Professor S Ramnarayan, ISB Resident faculty	Leadership Roles in the Face of Change
Professor Anand Nandkumar, ISB Resident faculty	Lean Startups
	Corporate Entrepreneurship
	Co-Innovation
Professor Anitesh Barua, Visiting faculty	Emerging Technologies - The Business of Artificial Intelligence
	Emerging Technologies - The case of Blockchain
	Competing on Business Analytics
Mr Manoj Kothari, MD & Chief Design Strategist, Turian Labs	Design Thinking Workshop
Mr Mahesh Balani & Mr Rajeev Menon, Partners, 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. Health Tech Startups: Monitra Health, Xcube LABS, Navia Life Care, Medicea, Searchlight Health, Nexrea, Onward Health, Nano Health, Pratibha Healthkon, SixthSenseData.

2. PGP Student Clubs: Business Technology Club, Health Care Club, Marketing Club & Women in Business Club

Education

Google Digital Small and Medium Businesses (SMB) Heroes

In October 2017, SRITNE delivered a custom-designed 2-day Executive Education programme for 30 leaders of small and medium-sized businesses (SMBs), who are seeking to leverage the power of digital for growth.

The programme focused on deepening participants' understanding of digital business models and familiarizing them with data analytics tools and other techniques for leveraging digital media to generate superior business outcomes. Additionally, participants gained insights about the functional strategies and leadership skills required to drive growth digitally for their businesses.

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

ISB Faculty & Industry Speakers	Topics
Professor Deepa Mani	Digital Business Models
Professor Siddharth Singh	Marketing Strategies for B2B & B2C
Professor Anitesh Barua, Visiting faculty	Leveraging Digital Media
	Business Analytics & Data Mining
	Social Media Analytics
	User-generated Content Analytics Hackathon
Professor S Ramnarayan	Leadership in the Face of Change
Professor Manish Gangwar	Pricing Strategies

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 new 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. The following link has the details of the courses this specialisation offers: **https://www.coursera.org/specializations/business-technology-managment**

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 Feb 2018, the course already saw 1000 paid learners, who completed their course enrollments, and nearly 1600 enrollments.

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.

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

ISB Faculty & Industry Speakers	Topics
Professor Deepa Mani	Digital Transformations
Professor Sudhir Voleti	Business Analytics and Digital Media
Professor Ramabhadran Thirumalai	Accounting and Finance for IT professionals
Professor M Rammohan Rao	IT Project Management
Professor S Ramnarayan	Leadership and Emotional Intelligence
Professor Deepa Mani Professor Sudhir Voleti Professor Ramabhadran Thirumalai Professor M Rammohan Rao Professor S Ramnarayan	Capstone Project: Business Technology Management

Details of the courses this specialisation offers is here: **goo.gl/B28PUA**.

The link where you can see around 50 reviews about the Digital Transformations Course: **goo.gl/7fq6jw**

Education

Programme for Vienna University Executive MBA students

For the last 7 years, SRITNE has been hosting Vienna University Executive MBA students for a 5-day residency program. In January 2018, we had 30 participants experience academic sessions led by SRITNE aligned faculty members, industry guest speakers and site visits to IT firms such as Infosys, TCS, Microsoft & T-Hub. Additionally, the participants were sensitized to the context of business in India through an immersive experience with stakeholders of a low-income school in the old city of Hyderabad.

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

ISB Faculty & Industry Speakers	Topics
Professor Deepa Mani	Digital Disruptions: The Incumbent's Dilemma
Dr Amir Ullah Khan	Doing Business in India
Professor Galit Shmeuli	Big Data & Analytics in the Digital World
Professor Anand Nandkumar	Innovation & Entrepreneurship in India
Professor Giri Kumar Tayi	Managing Multi-sided IT Platforms
Mr. Mahesh Balani	Start-up Ecosystem in India

Outreach

Workshop on Digital Transformations

Rapid technological advances offer a simpler and more connected future for all, but putting them into practice will not be easy. A few highlights from the recently concluded Workshop on Digital Transformations organised by the Srini Raju Centre for Information Technology and the Networked Economy (SRITNE) at ISB on September 22-23, 2017.

How will the Government of India's Digital India mission enable the state in extending its programmes more effectively and efficiently to hitherto unserved citizens in remote corners of the country? What is the role of intellectual property rights (IPR) in the context of fostering cutting-edge innovation (or the lack thereof) in India? How is artificial intelligence (AI), machine learning, and deep learning redefining the nature and functioning of practically every industry?

Participants from academia, government and industry came together recently at the workshop on Digital Transformations, hosted by the Srini Raju Centre for Information Technology and the Networked Economy (SRITNE) at the Indian School of Business (ISB) on September 22-23, 2017, to imagine the shape of these digital transformations in the near horizon.

This workshop featured both presentations and panel discussions that demonstrate the latest thinking, research and insights from academic, government and industry leaders. Following are the topics and sessions that were part of this workshop:

• Digital India – Challenges, Impact and Opportunities

• Innovation & Entrepreneurship in India

• Breakthrough Business Models & Industry Disruptions

• Automation & Incentives for Human Capital Development in Technology Service

"Technology is not static, it is dynamic and has the ability to enable simpler, democratic and more efficient decision-making." With this opening statement, Dr. Dinesh Tyagi, CEO, CSC e-Governance Services India Limited, set the tone and pace of the panel discussion on 'Digital India – Challenges, Impact and Opportunities'. Dr. Tyagi and Mr. G. T. Venkateshwar Rao, Commissioner, Telangana Technology Services and eSeva, outlined the central and Telangana governments' vision and road

map for a Digital India and Telangana. They highlighted various experiences from their efforts to digitise governance especially increasing financial inclusion through eSeva centres, and expansion of better quality education and health services through e-kiosks.

On a related note, Mr. Jayesh Ranjan, Secretary, Information Technology and Electronics & Communication Department, Government of Telangana, in his keynote address pointed out to the need for reducing the, "inequality gaps in societal inclusion for a complete digital transformation of the Indian society". The theme was further explored by Professor Sripad Devalkar of the ISB who presented findings from his ongoing research on the impact of installing Point of Sale (POS) devices in the prevention of leakages in the Public Distribution System (PDS).

Echoing Mr. Ranjan's comments on the challenges of promoting digital literacy, Dr. Ganesh Natarajan, Chairman 5F World and NASSCOM Foundation, urged participants to rethink what "digital literacy even means."

Panellists representing the pharmaceutical, insurance and internet services sectors discussed various issues underlying their respective businesses in the context of 'Breakthrough Business Models and Industry Disruptions'. Professor Vasudeva Verma, Dean, Research & Development, IIIT Hyderabad gave a basic primer on AI, machine learning and its possible impact on societal functions. The presentation also provided a glimpse into the future of social computing in the context of communications, healthcare, and law and order.

The featured presentation "Returns to Digital Innovations: A Group-Based Trajectory Approach" by Professor Deepa Mani of ISB, analysed the intricate connections underlying digital innovation and growth and profitability prospects of firms. Professor Mani called for firms to "break away from two forms of

From L to R: **Deepa Mani**, Associate Professor, ISB, **Dinesh Tyagi**, CEO, CSC e-Governance Services India Limited, **G T Venkateshwar Rao**, Commissioner, Telangana Technology Services & eSeva

From L to R: **Anand Nandkumar**, Associate Professor, ISB, **Rajeev Menon**, Partner, Anthill Ventures, **Anil Bhansali**, MD, Microsoft R&D India Limited, **Amit Biswas**, EVP, Dr. Reddy's Laboratories

captivity - customers and markets" in their pursuit of digital innovation and creation of a sustainable value network.

In his featured presentation on the theme of 'Business Innovation and Entrepreneurship in India', Professor S Arunachalam of ISB highlighted both the facilitators and barriers in the adoption of personal computers in rural India against the backdrop of the Digital India mission.

Professor Anand Nandkumar of ISB, set the tone for the panel discussion that followed with his presentation - Innovation and Entrepreneurship in India. Exploring the question of 'What role patents play in the Indian innovation and start-up ecosystem," Professor Nandkumar demonstrated that post 2005, incentives and a changed IPR regime in India did not really promote innovation in terms of patents filed but they did create tremendous market value for business enterprises which were both technology enabled and technology driven.

The concluding panel discussion brought out the need for increased policy initiatives that prioritise collaboration -- between the public and private sectors, and between big corporates and small and medium scale businesses -- for the creation of an ecosystem that can transform India into a knowledge economy.

Prof. **S Arunachalam,** Assistant Professor, ISB

From L to R: **Ramnath Chellappa**, Associate Dean, Emory University, **Karthik Rapaka**, Associate Director, SRITNE-ISB, **Deepak Sapra**, Vice President, Dr. Reddy's Laboratories, **Neha Patel**, Head of Design, Roadzen Inc, **Dr. Subodh Deshmukh**, Head, Global Drug Development, Novartis India, **Nishant Pandey**, EVP, Info Edge India Limited, (ISB PGP Alum – Class of 2008)

From L to R: **Tarun Jain**, Assistant Professor, ISB, **PNSV Narasimham**, SVP, Global HR, Cyient Limited, **Saswata Shankar**, Lead Operations, SquadRun, Inc, **Dr. Santanu Paul**, CEO & MD, TalentSprint

Agenda of Digital Transformation Workshop

Agenda: Day 1 - Sept 22, 2017

Venue: AC8 Boardroom, Level 2, Main Building, Indian School of Business

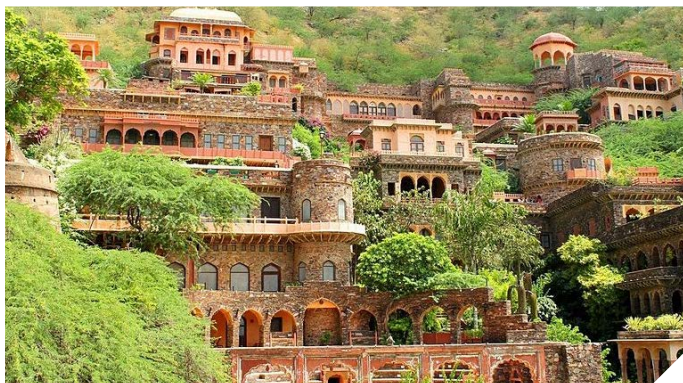|	
9:30 am - 10:00 am	Welcome
10:00 am - 11:15 am	**Panel Discussion on Digital India – Challenges, Impact and Opportunities** Dinesh Tyagi IAS, CEO, CSC e-Governance Services India Limited G T Venkateshwar Rao, IRS, Commissioner, Telangana Technology Services & eSeva **Moderator:** Deepa Mani, Indian School of Business
11:15 am - 11:30 am	Tea Break
11:30 am - 12:30 pm	**Featured Presentations: Digital India – Challenges, Impact and Opportunities** Sripad Devalkar, Assistant Professor, Indian School of Business Ganesh Natarajan, Chairman 5F World & NASSCOM Foundation
12:30 pm - 1:30 pm	Lunch
1:30 pm - 2:45 pm	**Panel Discussion: Breakthrough Business Models & Industry Disruptions** Subodh Deshmukh, Head, Global Development, Novartis India Nishant Pandey, EVP, Info Edge India Limited Neha Patel, Head of Design, Roadzen Inc Deepak Sapra, Vice President, Dr. Reddy's Laboratories **Moderator:** Ramnath Chellappa, Associate Dean, Emory University
2:45 pm - 3:00 pm	Tea Break
3:00 pm - 4:00 pm	**Featured Presentations: Breakthrough Business Models & Industry Disruptions** Vasudeva Verma, Dean R&D, IIIT Hyderabad Deepa Mani, Associate Professor, Indian School of Business
4:00 pm - 5:15 pm	**Panel Discussion: Automation & Incentives for Human Capital Development** Santanu Paul, CEO & MD, TalentSprint Saswata Shankar, Lead Operations, SquadRun, Inc PNSV Narasimham, SVP, Global HR, Cyient Limited Moderator: Tarun Jain, Indian School of Business
5:15 pm - 5:30 pm	**Closing Remarks: Deepa Mani**
7:30 pm - 10:00 pm	**Dinner at Executive Housing Mirror pool, ISB**

Agenda: Day 2 - Sept 23, 2017

Venue: AC8 Boardroom, Level 2, Main Building, Indian School of Business

10:00 am - 10:30 am	**Keynote Speaker** Jayesh Ranjan IAS, Secretary, IT & EC Department, Government of Telangana
10:30 am - 11:30 am	**Featured Presentations: Innovation & Entrepreneurship in India** S. Arunachalam, Assistant Professor, Indian School of Business Anand Nandkumar, Associate Professor, Indian School of Business
11:30 am - 11:45 am	Tea Break
11:45 am - 1:00 pm	**Panel Discussion: Innovation & Entrepreneurship in India** Rajeev Menon, Partner, Anthill Ventures Anil Bhansali, MD, Microsoft R&D India Limited Amit Biswas, EVP, Dr. Reddy's Laboratories **Moderator:** Prof. Anand Nandkumar, Indian School of Business
1:00 pm - 1:10 pm	**Closing Remarks**
1:10 pm - 2:30 pm	**Lunch**

Outreach

Workshop on Information Technologies and Systems (WITS) Feeder

WITS, the Workshop on Information Technologies and Systems – is a global academic conference for information systems. The global WITS community is focused on addressing complex business problems or societal issues using current and emerging information technologies. With the theme being Technology-enabled Socioeconomic Transformations, SRITNE hosted the WITS Feeder Workshop at the Neemrana Fort Palace, Rajasthan on December 21, 2017. The Feeder workshop, which was conducted for the first time in India, encouraged research at the intersection of technology and public policy. The summary of this ISB-hosted event is scheduled to be presented at the next global WITS conference in San Francisco, December 2018.

Conference Venue, Neemrana Fort Palace, Rajasthan

Ram Gopal, Professor, UConn School of Business

Agenda of WITS Feeder Workshop

Wits Feeder: Technology - Enabled Socioeconomic Transformations (Thursday, December 21, 2017)

9:15 am	Welcome Note & Opening Remarks - Prof. Ram Gopal, UConn School of Business
9:30 am - 10:15 am	Keynote Address
10:15 am - 11:15 am	**Digital Transformations in Public Governance** **Impact of installation of POS devices on the performance of public distribution system** - An empirical example from Karnataka: Maya Ganesh, Sarang Deo and Sripad Devalkar **Role of ICTs in Combating Malnutrition in Schools:** Increasing Transparency in India's Mid-Day Meal Programme - Sisir Debnath and Mrithyunjayan
11:15 am - 11:30 am	Coffee Break
11:30 am - 12:30 pm	**Systems for Smart Energy Solutions** **FleetPower: Creating Virtual Power Plants in Sustainable Smart Electricity** - Micha Kahlen, Alok Gupta and Wolfgang Ketter **Towards Efficient Energy Management: Transforming Energy Business with IT:** Dmitry Zhdanov
12:30 pm - 14:00 pm	Lunch
14:00 pm -15:30 pm	**Social Impacts of ICT** **The Impact of the Sharing Economy on Quality of Urban Mobility** - Saharsh Agarwal, Deepa Mani and Gabriel Kreindler **Understanding Drivers of ICT Adoption in Government High Schools - Evidence from Telangana:** Deepa Mani, Karthik Rapaka and Tanushree Rawat **Simulation-Based Crowd Management: A Design Science Perspective:** Shankar Prawesh, Indranil Saha Dalal and Anurag Tripathi
15:30 pm - 15:45 pm	Coffee Break
15:45 pm - 16:45 pm	**Credibility & Authenticity in Digital Media** **Online Reputational Loss Aversion: Empirical evidence from Stack Overflow.com** - Ramesh Shankar **Fake News and Clickbait Website Detection Through Third Party Usage:** Ram Gopal, Hooman Hidaji, Raymond Patterson, Erik Rolland and Dmitry Zhdanov
16:45 pm - 17:00 pm	Closing Remarks - Prof. Deepa Mani, Indian School of Business
17:00 pm - 17:15 pm	Coffee Break
18:30 onwards	Drinks & Dinner

Outreach

Conference on Digital Economy (CODE)

SRITNE hosted the eleventh edition of Conference on the Digital Economy (CODE) from December 22 - 23, 2017 at Neemrana Fort-Palace, Rajasthan, 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.

Kiron Ravindran, Professor, IE Business School, Spain

Sudhir Voleti, Assistant Professor, ISB

Agenda of CODE Workshop

Conference on the Digital Economy - Day 1 (Friday, December 22, 2017)

9:30 am	Welcome Note & Opening Remarks - Prof. Deepa Mani, ISB
9:45 am - 12:00 pm	**Digital Platforms & Ecosystems** **Platform Preannouncement Strategies: The Strategic Role of In-formation in Two-Sided Markets Competition -** Ram Chellappa and Rajiv Mukherjee **A Model of Online Trading Platforms: Provisioning Trust for Transactions versus Enabling Discoveries -** Karthik Kannan, Rajib Saha and Warut Khern-Am-Nuai
10:45 am - 11:00 am	Coffee Break
11:00 am - 12:00 pm	**Effects of posted price channel on multi-channel Sequential Dutch auction system** - May Truong, Alok Gupta, Wolfgang Ketter, Eric van Heck **M**odeling Authentication in Online Matching Platforms - Amit Basu, Sree Bhaskaran and Rajiv Mukherjee
12:00 pm - 13:30 pm	**Strategies for the Digital Economy** **The Dynamics of Product–Market Choices in the Technology Sector** - Ashish Galande and Sudhir Voleti **Versioning: A Tool for Information Dissemination** - Atanu Lahiri and Debabrata Dey **Split-door Criterion: Finding natural experiments in digital systems** - Amit Sharma, Jake Hofman and Duncan Watts
13:30 pm - 14:30 pm	Lunch
14:30 pm - 16:00 pm	**IT Outsourcing** N**o Really, Why Do Firms Outsource?** - Shivom Aggarwal, Kiron Ravindran, Gautam Ray **Performance Impact of Outsourcing Portfolio Configuration and Business Strategy** - Sukruth Suresh and Ravichandran T **Bringing the Rival Firms in IT Outsourcing Calculus: An Empirical Study of Knowledge Leakage from (to) a Focal Firm to (from) a Rival Firm by a Common Vendor** - Rajiv Kishore, Akie Iriyama and Laxmi Gunupudi
16:00 pm - 16:15 pm	Closing Remarks by Prof. Ram Gopal, University of Connecticut
16:15 pm - 16:30 pm	Coffee Break
18:00 onwards	Cultural Performance, Drinks & Dinner

Debabrata Dey, Professor, Foster School of Business, University of Washington

Rajib Saha, Assistant Professor, ISB

Agenda of CODE Workshop

Conference on the Digital Economy - Day 2 (Saturday, December 23, 2017)

8:30 am	Opening Remarks - Prof. Ram Gopal, UConn School of Business
8:45 pm - 10:15 pm	**Crowds, Contests and Communities** **Sponsored Crowdsourcing Contests** - Jiahui Mo, Jianqing Chen and Sumit Sarkar **The Impact Of Digital Collaboration On Consumer Behavior: A Study of Select E-tailors in Delhi - NCR region:** Ashish Chandra, Isha Chugh and Rishabh Gupta **Launch on a High Note: How Prefunding Affects Crowdfunding Outcomes** - Aravinda Garimella and Weijia You
10:15 am - 10:30 am	Coffee break
10:30 am - 11:30 am	**Mobile & Social Media Collaborations** **Leaders and Lemmings on Twitter: Examining the Role of Textual Content in Gaining Influence** - Nishtha Langer, William Obenauer, Sung Kim and Sandeep Khurana **Mobile App Ecosystem: Social Features and Performance** - Aditya Karanam, Ashish Agarwal and Anitesh Barua
11:30 am - 12:30 pm	**Integration & Investments with IT** **Vertical Integration with Access Products by Advertising Based Platforms** - Siddhartha Sharma and Amit Mehra **IT versus non-IT Firms 1950-2015: Determinants of Revenue Slowdown and the Role of Investments in Intangibles** - Terence Saldanha, Raveesh Mayya and Sunil Mithas
12:30 pm - 12:45 pm	Closing Remarks by Prof. Ram Gopal, University of Connecticut
12:45 pm – 14:00 pm	Lunch

Alok Gupta, Professor, Carlson School of Management, University of Minnesota

Amit Basu, Professor, Cox School of Business, Southern Methodist University

Outreach

Emerging Technologies Workshop Series

For the PGP community, SRITNE actively partnered with the Business Technology Club (BTC) in hosting an Emerging Technology Speaker series. BTC and SRITNE conducted a Design Thinking workshop for students, through which students learnt how to approach a problem from first principles, and how to use design as a solution to solve complex problems. BTC and SRITNE also conducted workshops on Artificial Intelligence (AI) and Internet of Things (IoT) for the PGP students.

SRITNE Merit Scholarships for PGP Students

In April 2017, as part of the PGP graduation ceremony, SRITNE also awarded merit scholarships (worth INR. 2 lakhs) to 3 PGP students majoring in the Information Technology Management area based on their outstanding academic performance.

Recent Recipients of SRITNE Scholarships

Cohort - 2016	Cohort - 2017
Chinmay Misra	Pramod Suresh
Farid Jalal	Mayank Thakur
Nandan Muralidharan	Mohit Patni

It is always a great feeling when you are recognized for your performance. The knowledge gained from attending the IT courses was priceless and more than what I could have asked for. The scholarship was a pleasant surprise and certainly an icing on the cake.

Mayank Thakur, Class of 2017
Senior Analyst, Everest Group

Networking Opportunities for PGP Students & Alums

SRITNE hosted a networking dinner for 20 PGP students representing BTC, Healthcare and Women in Business student clubs to connect with the leadership team of Novartis India in September 2017.

Separately, multiple PGP Alums and their startup founders were invited and included in the Health Tech Startups networking with the Novartis executives in November 2017.

Advaita: ISB Case Study Competition

The centre 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.

Advaita Team Finalists Group

SRITNE Team

Professor Deepa Mani
Executive Director

Mr Karthik Rapaka
Associate Director

Mr Varun Sharma
Senior Manager

Mr Yedu Rajeev
Manager

Research Team

Mr Sreevathsan Sridhar
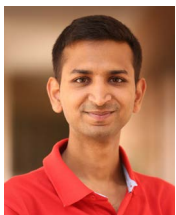Research Associate

Mr Naveen T B
Research Associate

Mr Pradeep Pachigolla
Research Associate

Mr Rohan J Sharma
Technical Analyst

Mr Saharsh Agarwal
Research Associate

Research Associate @ SRITNE (Message from Saharsh)

The Research Associate (RA) role at the SRITNE Centre, ISB Hyderabad is like an early initiation into the academic world. Under the guidance of SRITNE aligned faculty members, in addition to working on cutting-edge research projects, I also got a chance to attend Fellow Programme in Management (FPM) and Post Graduate Programme in Management (PGP) courses at ISB. Additionally, there were multiple opportunities to attend research seminars, and perhaps most importantly, to connect with seasoned academicians.

For those who are considering an academic career, such a role will serve as a good sample of what business academia is all about. SRITNE RAs have historically done extremely well in their academic pursuits, and schools are eager to talk to us during the admission process. The role allows for significant flexibility, because of which one can expect to be in good standing not just in Information Systems (IS) programmes, but also in others such as Strategy and Marketing.

For my PhD admissions, I am currently in talks with business schools at top-ranked universities such as Carnegie Mellon University (CMU), The University of Texas at Austin, Emory University and University of Minnesota and hope to join one of these programs for Fall 2018.

Contact Us

Srini Raju Centre for IT and the Networked Economy (SRITNE)
AC-6, Level 1, Indian School of Business
Gachibowli, Hyderabad – 500 111, India

If you are keen on exploring any technology-focused research activities at SRITNE, please contact: **Deepa Mani**, Executive Director, SRITNE at **Deepa_Mani@isb.edu**

For academic or industry outreach events, please contact: **Karthik Rapaka**, Associate Director, SRITNE at **Karthik_Rapaka@isb.edu**

To learn more about and participate in SRITNE's Open Executive Education programs, please contact: **Varun Sharma,** Senior Manager, SRITNE at **Varun_Sharma@isb.edu**

ISB

Srini Raju Centre for IT and the Networked Economy (SRITNE)

Indian School of Business

Registered office: Gachibowli, Hyderabad - 500 032, Telangana, India. Ph: +91 40 2300 7000, Fax: +91 40 2300 7099, www.isb.edu
Mohali Campus: Knowledge City, Sector 81, SAS Nagar, Mohali - 140 306. Punjab, India. Ph: +91 172 459 0000
Corporate Identity Number: U80100TG1997NPL036631

Founding Associate Schools	Associate Schools	Accreditations

Kellogg School of Management · Wharton UNIVERSITY of PENNSYLVANIA

London Business School · MIT MANAGEMENT SLOAN SCHOOL · THE FLETCHER SCHOOL TUFTS UNIVERSITY

AACSB ACCREDITED · EFMD EQUIS ACCREDITED