



ISB

**Srini Raju Centre for IT
and the Networked Economy**

ANNUAL REPORT 2020-21





About the Benefactor

The Sridhi Raju Centre for Information Technology and the Networked Economy (SRITNE) is supported by a generous endowment set up by Sridhi 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 Indian School of Business (ISB).

Sridhi Raju

Benefactor / Supporter



Message from Dean

During the difficult year that went by, we faced considerable COVID-instigated challenges across research centres and departments. But despite that, I am very happy to note that SRITNE has had an eventful and an impactful year across a range of initiatives.

SRITNE has been an active research centre in evaluating the impact of the COVID crisis through interactions with academicians and industry veterans and also through surveys, research findings and publications. The Centre has also been instrumental in forming key partnerships with state governments and technology companies to benefit various stakeholders such as jobseekers, employers, MSMEs, the government and related bodies.

I wish the entire SRITNE team continued success for the upcoming years in driving research education and impacting business and government.

Rajendra Srivastava

Dean and Novartis Professor of Marketing Strategy and Innovation



Message from Executive Director

Technology today is evolving at a breakneck speed. We have witnessed several disruptions in the last ten months that were anticipated in a period of five to ten years. The acceleration of digital transformation of organisations worldwide is a testimony to technology's strategic importance as a critical component of the business and not merely a cost centre.

Having said that, this time is particularly exciting and opportune for SRITNE as we gear up for further research to facilitate interaction between business leaders, students, ISB faculty, and the academic community at large, and co-create value for our stakeholders. In the following pages, you can find out more information about our research initiatives in the areas of artificial intelligence, COVID-related impacts, digital transformation, and innovation.

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 Sridhi 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

The core activities of SRITNE are as follows:

- Research that addresses practical and policy questions related to the effective ICT selection, adoption, & exploitation
- Education that trains future leaders to leverage ICT for competitive success
- Dialogue with academics, industry, government and students through speaker series, conferences and symposia

Thematic Areas of Focus

- Digital Economy and Future of Work
- Digital Transformations for Business and Society
- Technology Innovation and Entrepreneurship
- Digital Experiments, Big Data and Computational Policy
- Bridging the Digital Divide

ISB Faculty aligned with SRITNE

Economics and Public Policy			
Shilpa Aggarwal	Assistant Professor	Shekhar Tomar	Assistant Professor
Finance			
Bhagwan Chowdhry Area Leader & Professor Executive Director, Digital Identity Research Initiative (DIRI)		Nitin Kumar	Assistant Professor
		Shashwat Alok	Assistant Professor
Prachi Deuskar	Assistant Professor		
Information Systems			
Rajib Saha	Assistant Professor	Abhishek Kathuria	Assistant Professor
Sumanta Singha	Assistant Professor	Vandith Pamuru	Assistant Professor
Sumeet Kumar	Assistant Professor		
Marketing			
Sudhir Voleti	Associate Professor	Madhu Vishwanathan	Assistant Professor
Organisational Behaviour			
Ram Nidumolu	Clinical Professor	Chandrashekhar Sripada	Clinical Professor
Nikhil Madan	Assistant Professor	Pooja Mishra	Assistant Professor
Strategy		Operations Management	
Anand Nandkumar	Associate Professor	Sumit Kunnumkal	Associate Professor
Entrepreneurship			
Anusha Sirigiri	Assistant Professor		



Industry Advisory Board Members



Ajit Nema
Managing Director,
Deloitte



Amit Varma
Executive Director &
Country Technology Head
DBS Bank



Debashish Banerjee
Head – Innovation &
Strategy, Novartis



Nisheeth Srivastava
Chief Technology and
Innovation Officer, Capgemini



Nivruti Rai
Country Head, Intel India &
Vice President
Data Center Group, Intel



Rohini Srivathsa
National Technology Officer
(CTO), Microsoft India

Role of Industry Advisory Board Members

- Provide strategic direction and assistance to achieve the key initiatives of the centre
- Provide access within their networks for faculty-led research projects, student projects & development of teaching material
- Help identify speakers for the classroom and events such as workshops, industry panels and speaker series

Academic Advisory Board Members



Anandhi Bharadwaj
Goizueta Endowed Chair in
E-Commerce and Jordan
Fellow in Information Systems,
Vice Dean for Faculty and
Research at Emory University -
Goizueta Business School, USA



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



Subodha Kumar
Anderson Distinguished
Chair Professor of Supply Chain,
Marketing, Information Systems,
Statistics, Fox School of Business,
Temple University, USA



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

Role of Industry Advisory Board Members

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

Research

Addresses questions in policy and practice that relate to the effective selection, adoption, and exploitation of ICT.

Digital Economy and Future of Work

- Artificial Intelligence and Future of Work
- Suitability of Machine Learning Index
- Artificial Intelligence (AI) Index
- Work from Home Index for Indian Occupations
- Resources on Impacts of COVID

Digital Transformation for Businesses & Society

- Digital Ecosystem for Skilling and Employment

Technology Innovation and Entrepreneurship

- Industry Innovation Index

Bridging the Digital Divide

- Gender Divide in Technology

Digital Experiments, Big Data and Computational Policy

- **Indices of Economic Activity**
 - Real Estate- Housing Price Index (HPI)
 - Employment & Skill Index
 - Online Prices Index

Education

Train future leaders to leverage ICT for competitive success

IT Management in India – Vienna University Global Executive MBA Coursera – Online Certification in Courses & Specialization

- Business Technology Management (BTM) Specialization
- A Life of Happiness and Fulfilment

Capacity Building at the Grassroots

- Entrepreneurial Literacy for Village Level Entrepreneurs and Citizens
- Digital Literacy for Citizens
- Business Literacy
- Behavioural Skills

Outreach

With industry, government, and academic communities

For Industry & Government

- Diversity & Inclusion Summit
- Distinguished Speaker Series
- Panel Discussions

For Academia

- Panel Discussion at the International Conference on Information Systems (ICIS) 2020 by Association of Information Systems (AIS)

For Students

- To be updated after announcement



RESEARCH

Research



Artificial Intelligence (AI) and Future of Work

The interactions between machines and humans and, in turn, the impacts of AI on labour markets remains under-investigated, especially in the context of emerging economies such as India.

Last year, two complementary surveys were completed: (1) Survey on Suitability of Machine Learning (SML) of over 3,000 people across more than 100 occupations in the National Classification of Occupations (NCO), and (2) Survey of senior executives from 300 companies, who have adopted AI in their workflows.

The former was used to assess the vulnerability of different occupations and sectors to machine learning (ML) in India. The SML index drove key policy insights during the COVID-19 lockdown about which sectors and districts were amenable to remote work, and in turn, could open up. The index continues to fuel work on the different impacts of AI on labour markets, especially in the wake of the pandemic.

The latter survey enhances our understanding of the impacts of AI at the firm level. Specifically, we sought to understand the quantum and nature of investments in AI in firms and the organisational investments that complement AI investments to create value. Based on the survey, we also released a report titled “The Impact of Artificial

Intelligence (AI) on the Indian Labour Market” at the all.ai 2020 Virtual Summit conducted by Intel India.

A key finding from the AI and Future of Work Survey is that firms are making significant investments in projects with a high suitability for ML are expected to receive investments that are broader in scope and quantum. These projects are also expected to see high growth in investments over the next five years. The survey also indicates a growth in workforce hiring and re-training over the next two years.

The final day of the summit also witnessed the unveiling of the AI Index that acts as a first-of-its-kind barometer of Indian AI readiness and adoption patterns.

Artificial Intelligence (AI) Index

Artificial Intelligence (AI) is reshaping businesses & lives. AI powers several key decisions such as detecting fraud, optimizing supply chains, and making personalized recommendations to customers. However, there is limited understanding and sparse data, particularly in the Indian context, on the size and scope of impact of AI.

Therefore, there is a growing need to create a barometer of AI investments and activity in the economy. Such an AI Index would facilitate adoption and exploitation of AI in various areas including R&D, education, employment, start-up ecosystems, public perception, among others.

AI Index: Innovation

With respect to innovation, our mission is to study the pervasiveness of AI/ML deployment in research and development by examining the data on patent publications, scholarly research, and applications of AI.

Taking patents as a study component, our aim is to monitor the steady increase in the proportion of AI patents over the years and their distribution across regions in India. Specifically, we analyse data on Indian patents from World Intellectual Property Organisation (WIPO) granted between 2011 and 2020.

We identified AI patents based on the presence of certain keywords in the patent abstract and text. Similarly, we look at the presence of keywords in academic research documents from Elsevier's SCOPUS database, and GitHub projects from the independent developer community from India. Keywords used to identify AI projects are obtained by referring to the Elsevier report – 'Artificial Intelligence: How knowledge is created, transferred, and used.

AI Index: Employment and Skills
Next, we look at online job postings, and how AI affects the job content across various states and cities in India. For this analysis, we have classified jobs based on specific keywords.

We used the data available from various online job search portals for this analysis. We estimate the proportion of the AI job vacancies posted in a region to the total number of AI job vacancies posted across India.

We also analysed the demand for AI-related skills in online job postings. To achieve this, the occurrence of skills is searched in the job descriptions, using the same set of keywords.

AI Index: Start-Ups

We monitor the growth of AI-based start-ups across the country to identify regions or cities that are emerging as AI hubs. For this, we used data from Crunchbase to identify AI start-ups from the year 2000 onwards. As adoption of AI technology increases within the start-up ecosystem across sectors, we will continue to monitor the growth of AI-related investments to determine which sectors are making maximal investment in the technology and growth of specific technology within the AI space.

Conclusion

We hope that our observations will drive future research and enable researchers, industry executives and policymakers to further their understanding of the field of AI and respond better to its effects. Industry leaders who have access to such data on the technology have the potential to contribute to improve the quality of information related to AI, and the effects of its implementation across functions. We are hopeful that with fruitful partnerships with data-rich organisations, we will be able to develop a robust AI Index continually over time.

Work from Home Index for Indian Occupations

The pandemic has brought to focus many job characteristics that moderate firm and worker vulnerability to the pandemic. The centre has initiated several projects in this context that seek to document these characteristics and their impact on resilience and business continuity during the pandemic. We developed an index of vulnerability of each occupation to the pandemic that reflected the occupation's amenability to remote work and need for human proximity. Specifically, we use a 2019 survey of over 3,000 workers across more than 100 occupations listed in the 2004 National Classification of Occupations (NCO) to assess the susceptibility of the occupations to automation. We generate an index of suitability of the occupation to remote work or work from home (WFH) and the need for human proximity (HP). We then created scores for WFH and HP for each occupation. We found that occupations that are characterized by low human proximity and greater suitability to work from home may be more amenable to work shifts during the pandemic through technological innovation and technology-enabled business models. The index helped us understand the vulnerability of different sectors, cities, and occupations to the pandemic.

Impacts of COVID

Organisations of various sizes across geographies, industries and functions have been adversely affected by the outbreak of the novel coronavirus. Significant changes have occurred to business model operations, consumer behaviour and supply chains leading to disruptions.

Through a dedicated microsite, we aim to provide expert insights and perspectives about economic and financial impacts, remote work, productivity and well-being, leadership, and adaptability, and leveraging technology to manage businesses. While these pandemic-related issues and challenges continue to evolve, we are working towards offering valuable insights from academia, research, and industry experts to help you tackle the situation with respect to a variety of relevant topics.

Topics:

- Remote Work, Productivity and Well-being
- Leading and Adapting During Crisis
- Leveraging Technology to Manage Businesses
- Economic and Financial Impacts

Across these topics, we aim to bring to you a range of perspectives that you can benefit from.

Website:

[HTTPS://WWW.ISB.EDU/EN/IMPACTS-OF-COVID.HTML](https://www.isb.edu/en/impacts-of-covid.html)

Digital Ecosystem for Employment and Skilling

SRITNE – ISB has invested in a Digital Ecosystem that is particularly salient to employment and skilling in the post pandemic world. The platform will address needs of diverse jobseekers, employers, skilling agencies, and the public at large across various states in India. This ecosystem will reflect a data-driven approach to employment, worker empowerment and human capital development.

The digital ecosystem essentially comprises of four major components:

A. Employment Marketplace:

- Match employers and employees using rich data on worker characteristics, job, and industry attributes.
- Provide frequent, high-resolution analytics that will empower the employees and organizations.

B. Skill Passport

- A standardized ILO-based framework that captures the knowledge, skills, and abilities required of each occupation, thereby, facilitating identification of skill gaps of workers in those occupations.
- Allow employees to demonstrate skills & competencies for tasks across various occupations and sectors, but also provide for employee mobility across states.

C. Capacity Building

- Skilling and certification programmes offering with varying degrees of competency for individuals and SMEs.

D. Market Analytics

- Real-time, granular intelligence on market parameters like demand, trends, growth, wages, etc. across skills, occupations, industries, and geographies.

To achieve the proposed scope of work, ISB has committed a multi-disciplinary research team whose expertise spans diverse areas, notably, Marketing, Information Systems, Data Sciences, and Economics. We will also attempt to complement this in-house team with an ecosystem of technology partnerships with leading technology companies. This ecosystem will benefit various stakeholders such as job seekers, employers, MSMEs, Government and related bodies.

On an ongoing basis, we aim to conduct an impact assessment of the employment marketplace and skilling program on the beneficiaries: increased employment opportunities, wage growth, productivity, among others such. The results of this assessment will inform policy-and decision-makers in the on the state of the informal economy in the state and design evidence-based interventions and policies.

The existing job portals of government have a job matching feature that connects the employers to employees and skilling programme. However, there is limited scope to identify skill gaps to up-skill oneself as per market trends or for mobility across geographies, occupations & sectors. Also, there is limited information on market parameters like demand, wages, growth, emerging skills, skill similarities and dynamic skills, etc.

Digital ecosystem will address the issues such as lack of awareness of market demand or available jobs, lack of needed skills for the job, access to data & market intelligence that will help build and traverse through a career trajectory suitable to one's interests and skills. SRITNE is in discussion with various State governments to launch and align this Digital Ecosystem Platform with employment and skill development activities.

DIGITAL ECOSYSTEM



Job Matching

An employment marketplace that intelligently matches employers with employees to significantly improve efficiencies and reduce frictions in current labor markets



Skill Passport

A standardized ILO-based framework that captures the knowledge, skills, and abilities required of each occupation, thereby, facilitating identification of skill gaps of workers in those occupations



Skilling/Capacity Building

Facilitating standards-based skill development, up-skilling, certifications, and experiential learning



Data & Market Intelligence

Real-time, granular intelligence on market parameters like demand, trends, growth, wages, etc. across skills, occupations, industries, and geographies

Digital Capabilities Index

How does a firm's ability to manage information technology impact its financial and operating performance?

This index will provide insights on this question through responses from CIOs of leading firms in India, US, and Europe. The results of this study will provide CIOs with guidelines to aligning, synchronizing, and even converging technology and business management, thus ensuring better execution, risk control, and profitability.

The survey will measure various aspects of firms' digital capabilities, including strategic role and applications of IT in the firm, IT investments, governance structure, operating model, and enterprise architecture. The output will help firms understand the relationship between digitization, performance and the specific capabilities that drive these performance gains.

Firms will also be able to use the data to benchmark themselves against their industry and other

peers in terms of IT investments and performance gains from such investments. We expect responses from senior leadership (CIOs/Head of IT groups) of at least 200 IT-intensive firms across diverse sectors (IT Services, Business Process Management, Hardware, Packaged Software and E-Commerce) and geographies.

Industry Innovation Index

There is limited intelligence with respect to the nature and impact of innovation in Indian firms.

Through this survey, our objective is to understand: (a) the relative mix of innovation – products, processes, business models – across diverse firm types and sectors in the Indian economy; (b) the organizational mechanisms that allow firms to extract rents from their innovations in the marketplace; and (c) the impacts of different innovation types on firm productivity and competitive value. The results of such study will provide insights into the trajectory of innovations in firms as well as appropriate policy interventions that foster innovation.

Towards building a larger Industry

Innovation Index, we will administer this annual survey across a range of organisations: established firms, start-ups, multinational subsidiaries, etc. We hope that the outputs from our study will inform both industry and policymakers about drivers of innovation in India and build a conducive environment to promote innovation.

Understanding the Gender Divide in Technology

Our centre's ongoing research examines the biases against women in technological innovation. The research was primarily motivated by the need to discern the under-representation of women in the upper echelons of technology firms. This led us to examine biases against inventors of technologies through an assessment of gender-based bias in patents' awards and review. This project is part of a broader effort to understand inclusiveness and biases that operate against women in the upper echelons of various careers and sectors.

Indices of Economic Activity

Policy makers and decision-makers across the public and private sectors need accurate and timely information on economic activity for effective action and interventions. At present, such information is of low granularity and resolution and often fragmented and privately held, making coordination among economic actors difficult. We propose to develop high frequency indices of economic activity using big data analytics at the highest possible spatial and temporal resolution. Such indices would be especially relevant to industry and policy makers in the face of current systematic and pervasive disruptions in the economy, notably, the COVID-19 pandemic.

Real-Estate - Housing Price Index (HPI)

Real-Estate industry plays a significant role in contributing to the economy of India. The industry in India ranks second in the world in terms of generating employment for the people of India. Presently, real estate accounts for about 5% of India's GDP. It is forecast to reach USD 650 billion representing 13% of the country's GDP by 2025. There is quite a robust demand with an expected growth in the inventories of urban areas in order to build affordable housing. The magnification of realty sector directly or indirectly depends upon the growth of corporate sector and infrastructural development. Despite its key role in the

economy, there are very few aggregate indices to monitor real-time changes in the housing market. To address this challenge, SRITNE has partnered with HOUSING.COM to develop the Housing Price Index (HPI) for Indian realty market. The HPI would enable policymakers, banks, finance companies, real estate developers, investors, and retail home buyers to track housing prices at an aggregate level as well as across different cities in India. Our vision is to establish the HPI as a transparent and trustworthy source to monitor the inflation/deflation in housing prices and quantities in India.

Employment – Skills Index:
Online employment platforms are fundamental to employment search in the economy. We propose a rigorous assessment of the relationship between various attributes of job searches in various online job search portals - quantum of openings, content, job seeker attributes, and search spells, amongst others – and equivalent employment metrics from large sample labour force surveys (such as the Periodic Labour Force Survey) for the Indian economy. Such an assessment will allow us to create a high-frequency, high-resolution employment index that can effectively nowcast labour market parameters in India. The key advantage of such an index relative to traditional metrics is its

immediacy: information can be available continuously, and in turn, allow real-time understanding of Indian labour markets.

In addition to providing insights into the quantum of employment in occupations, sectors, and geographies, we will also identify skill clusters and salient relationships between skills, jobs, industries, and geographies, including how skill requirements for a given job have evolved over time, how skill requirements vary across industries and geographies, which skills are growing the fastest in the economy, which skills are most valuable to employers and which are in least supply.

Online Prices Index (OPI):
Our objective is to construct an Online Price/Payments Index (OPI) that closely mimics the Consumer Price Index. With very minimal lag, this index can give relevant information on inflation, price fluctuations etc., almost daily. It will also help us understand whether online prices have distinct dynamics and whether they could present a reliable source of information in a real-time setting. Our current major focus is on Apparel, Groceries and Food which constitutes ~50% of the consumer basket in India. Online data is available in real-time and this would be useful for policymakers and any stakeholder who needs updated information on consumer prices.





Research

ISB Faculty Funding

To further advance cutting-edge research aligned with SRITNE's vision, the Centre invited proposals that seek funding and those that are aligned with the 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 2019-20:

Proposal Title	ISB Research Team	Award Component
Using individual career histories to understand the causes and consequences of employee mobility	Anusha Sirigiri (Assistant Professor, Entrepreneurship)	Survey Costs
Fintech and Credit Scoring for the Millennial Generation	Shashwat Alok (Assistant Professor, Finance)	Survey Costs

The following table illustrates the research proposals that were awarded SRITNE grants in 2020-21:

Proposal Title	ISB Research Team	Award Component
To be or not to be: The impact of disclosure laws on advertiser responses and polarization in online platforms	Madhu Viswanathan Vandith Pamuru Sumeet Kumar	Researcher cost
Are videos on YouTube for Kids Platform Advertising Products without Appropriate Disclosure?	Sumeet Kumar Vandith Pamuru Deepa Mani	Hiring interns and resources cost for computation storage and processing
Differential Role of Information in Donation-Based Crowdfunding	Sumanta Singha Himanshu (FPM)	Data collection / experiments

Does Mandatory Declaration of Ideological Stance Amplify or Attenuate Polarization in Online Political Discourse?

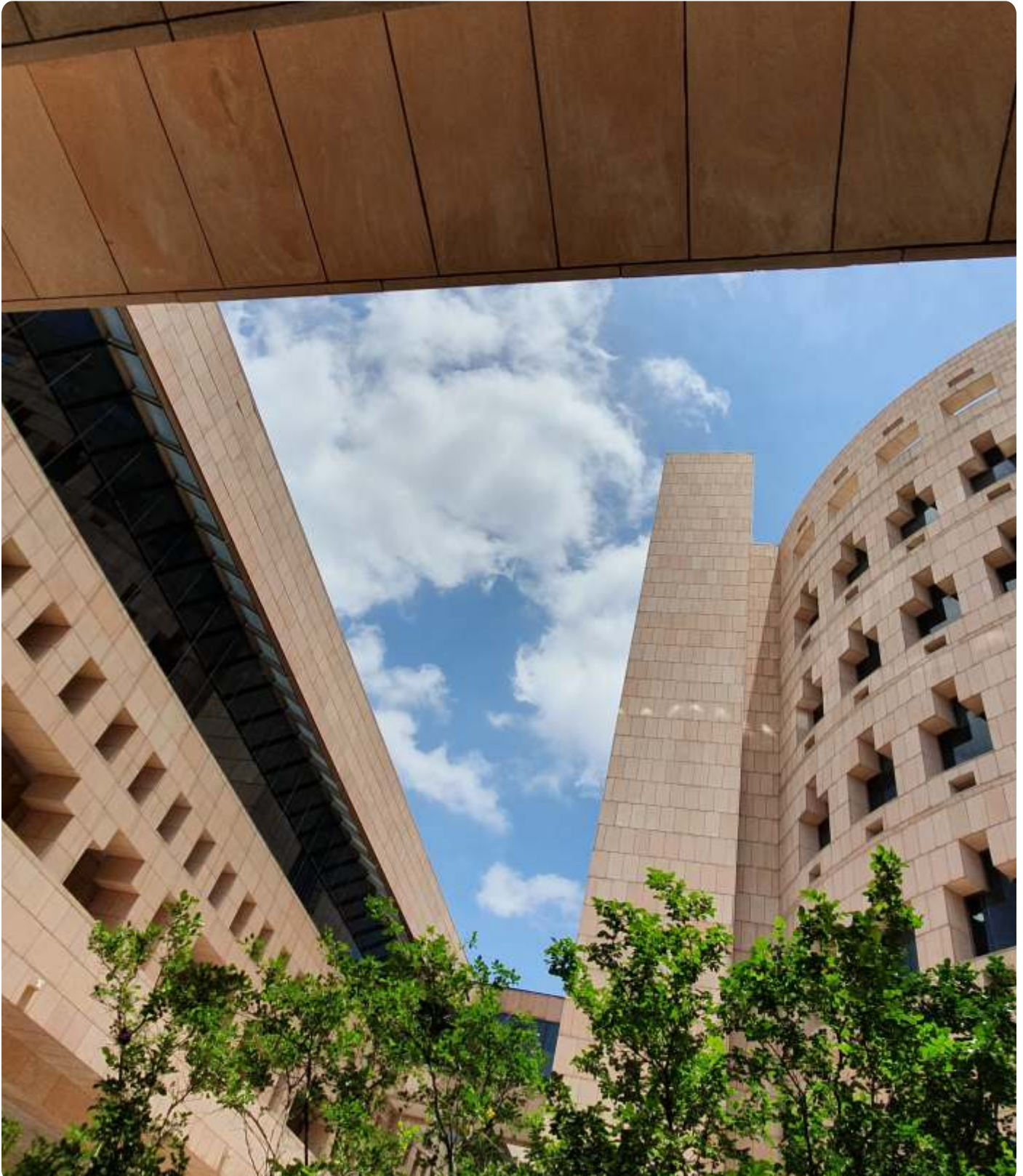
Vandith Pamuru

Support for additional computational expenditure

COVID-19 and Labour Markets: The Insulating Effects of Intelligent Automation

**Shekhar Tomar
Deepa Mani**

Data Purchase





EDUCATION

Education

IT Management in India - Vienna University Global Executive MBA students

For the last ten years, SRITNE has been hosting Vienna University Executive MBA students for a 5-day residency programme. In January 2020, we had 35 participants experience academic sessions led by SRITNE aligned faculty members, industry guest speakers and site visits

to leading technology 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.



Professor Deepa Mani, Area leader – Information Systems and Executive Director – SRITNE delivering a session for Vienna University Executive MBA students as part of the India Immersion Programme

This year, considering the current global scenario and restrictions on international travel, the University implemented a virtual “Global Week” with its international partners. The India Immersion Programme was scheduled on 14th and 15th January 2021. Other countries that participated in the sessions in the Global Week 2021 included China, Brazil, and Argentina.

The Global Week Programme was a mix of academic sessions and virtual tours to IT organizations. SRITNE - ISB emphasized the transformative role played by IT in a range of decisions, including those affected during the COVID crisis, be it in business or government. Students were offered a virtual tour of Start-Up Accelerator: Cisco LaunchPad and Novartis.

Academic Sessions conducted:

Faculty

Professor Deepa Mani, Area Leader – Information Systems and Executive Director, SRITNE, ISB

Professor Giri Kumar Tayi, Visiting Faculty at ISB and Professor of Management Science and Information Systems at the State University of New York at Albany

Topic

Digital Disruptions:
The Incumbent's Dilemma and Response

Managing Multi-sided IT Platforms

Education



Ms. Sruthi Kannan, Head of Cisco LaunchPad and Siddharth Desai, Co-Founder of Clean Slate Technologies taking the participants of the Vienna cohort through their collaborative journey of scaling a deep tech start-up

The residency programme in its regular format will most likely be conducted in H2-2021, depending on the travel policies.



COURSERA - ONLINE CERTIFICATION IN COURSES & SPECIALIZATION

coursera

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.

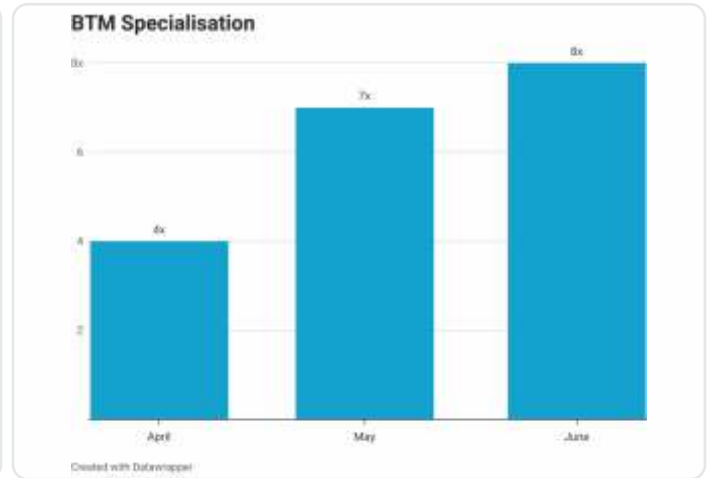
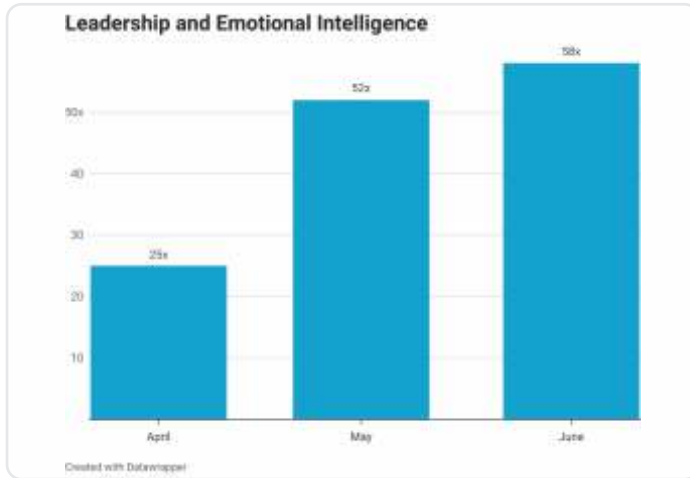
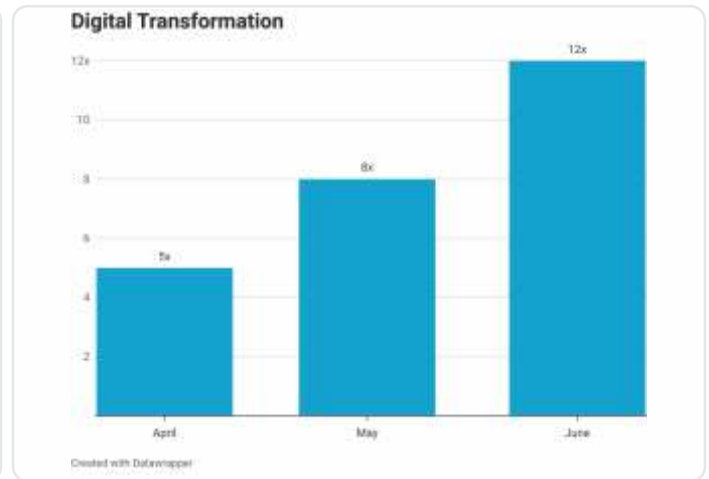
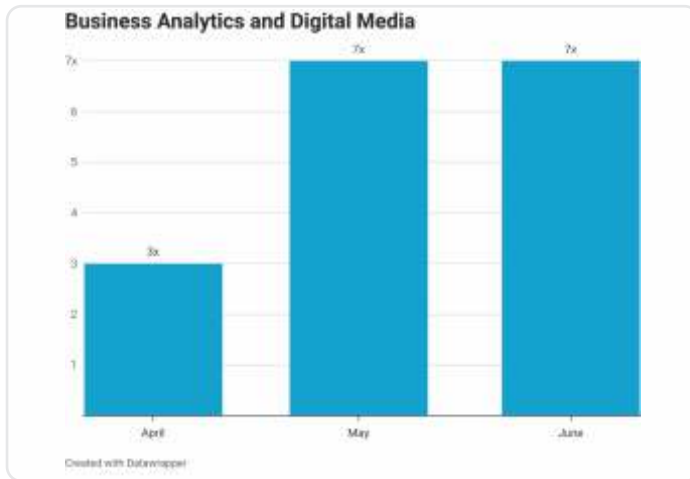
Since June 2017, the 6-course specialisation developed

by SRITNE has been empowering learners virtually with the knowledge of the IT domain, management, leadership, functional and analytical skills required in the digital area.

We witnessed an incredible growth in enrolments across all the courses in the specialization. We had nearly 19,820 enrolments since April 2020. Some of the courses like Digital Transformation, Business Analytics and Digital Media showed more than 8X growth in 2020 enrolments over the same time in 2019.

The Leadership and Emotional Intelligence course, taught by Prof. Ramnarayan, was the most popular course in our suite of courses and showed 58X growth during the lockdown months in 2020 relative to the same time period in 2019. It appealed best to the enterprise clients in the EMEA region, and the course was translated in German, Russian, French and Arabic.

Education



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

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

Participant Testimonials:

An amazing course. The professor explains everything in detail and the projects and assignments help you understand everything and apply them in real business conditions. I highly recommend it.

By **Malvina V**, November 2020

This Course is really helping us to understand the term of leadership not only for leader but as personal, we can learn so much from this course, for improving our knowledge, not just using our IQ but EQ is also important in our career!

By **Yulio A**, April 2020

This course is the best for anyone willing to understand leadership and gain insights into emotional intelligence. It guides you well and makes you understand that technical skills are not the only pillar needed in the industry, but people and relationships with them are equally important.

By **Sahil S.B.**, April 2020

Amazing course. The focus in this one was not the technologies but rather building the foundations and introduction to concepts like network etc.

By **Rajat G**, April 2020

Education

A Life of Happiness and Fulfilment

This course, based on the award-winning class offered both at the Indian School of Business and at the McCombs School of Business at The University of Texas at Austin, developed by Prof. Raj Raghunathan (aka "Dr. Happy-smarts") draws content from a variety of fields, including psychology, neuroscience, and behavioural decision theory to offer a tested and practical recipe for leading a life of happiness and fulfilment.

13,164 learners have completed this course since its launch.

Capacity Building at the Grassroots

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 programmes are increasing, the sustainability of these programmes are significantly skewed towards individually driven citizens with 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, but also towards skill utilisation of digital technologies for communication, information, marketing and building businesses.

To address the need to impart good quality skills for entrepreneurs and citizens at the grassroots, SRITNE offers following courses in partnership with the Common Service Centre (CSC) Academy.

- Entrepreneurship Literacy for Village-Level Entrepreneurs (VLE's) and Citizens
- Digital Literacy for Citizens

Entrepreneurial Literacy Programme for Village Level Entrepreneurs (VLE's) and citizens

Digital training encompasses both entrepreneurial literacy and digital literacy programme for entrepreneurial literacy exist, with a focus on general business skills and strategy with limited 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 programme will help prospective owners launch businesses more quickly while digital literacy programme will help in marketing efforts, better financial planning and frequent updating of services offered, especially at the grass root level. While entrepreneurship programme for rural areas exist, we provide additional vectors to make the programme more holistic and continuously assess the impact of entrepreneurial literacy specifically through survey questionnaires in different languages.



Education

Programme Timeline	Number of Certifications Awarded	Programme Timeline	Number of Certifications Awarded
April 2020	37,281	October 2020	28,260
May 2020		November 2020	19,287
June 2020	41,805	December 2020	21,973
July 2020		January 2020	25,986
August 2020	32,789	February 2020	21,908
September 2020	32,652	March 2020	17,087

Digital Literacy Programme for Citizens

SRITNE in partnership with CSC Academy is going to launch the Digital Literacy Programme for citizens, which aims to develop awareness, skills, and experience digital technology while keeping in mind the onerous differences in geographical locations, skill sets, exposure, and use of technology. This programme is tailored to their requirements and will be delivered through the CSC Digital Academy platform starting from May 2021.

Business Literacy Programme

Business Literacy programme gives learners across all educational backgrounds, industries and organizations, the means to contribute & improve their firm's performance. The idea of this programme is to teach the learners about a business, how its success is measured, and how they make an impact. By the end of the programme, learners are expected to develop an ability to use financial and business information to understand and make decisions that help organizations achieve success. With the business environment becoming more competitive & faster-paced, expectations of employers have changed from the employees just doing their job to contribute to the company's success and have bottom-line accountability.

Behavioural Skills Programme

Behavioural Skills programme is a compelling workplace training strategy to impart the most sought out career

skills. It is an essential component for all organizations and institutions globally. It involves a blend of skills essential for managing interpersonal relationships, being emotional intelligent, building effective communications and addressing conflicts. For any change in approach to occur, a behaviour change must happen. Some skills are in-built, and some must be imbibed. Together, these skills allow employees to perform and work well with each other. Challenging behaviours at work can cause stress, loss of productivity, loss of revenue, low morale, and disturb the work culture and performance of employees. This programme helps individuals analyse their present behaviour patterns and equips them with new skills required to develop new habits and eventually attain better results.

SRITNE-ISB has partnered with Andhra Pradesh State Skill Development Corporation (APSSDC) to launch the two programmes, viz. Business Literacy and Behavioural Skills. The programmes would be delivered in an asynchronous mode through a Learning Management System managed by ISB to different citizen groups ranging from undergraduate students to MSME employees to unemployed youth based in Andhra Pradesh.

We propose scaling these programs across other state governments as well as the central government through partnerships.



OUTREACH



Outreach

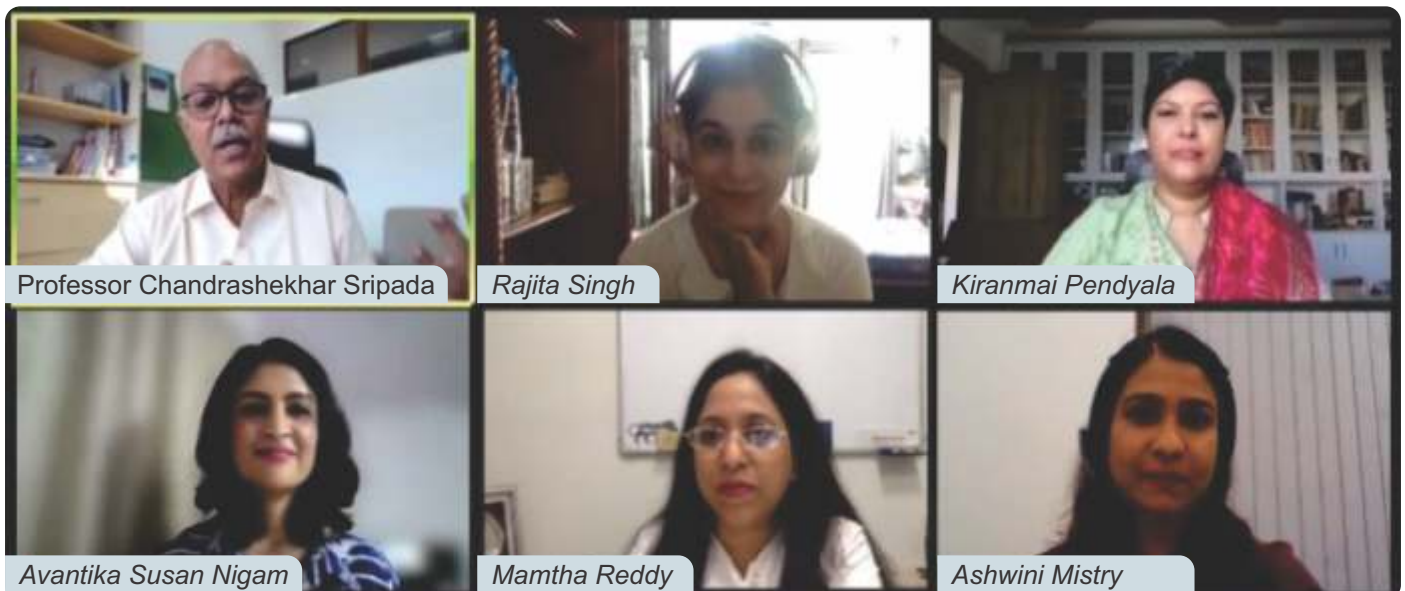
Industry and Government

Diversity and Inclusion Summit 2021

Continuing with our theme of empowering women in the technology sector, the annual Diversity and Inclusion Summit hosted by Srinu Raju Centre for IT and the Networked Economy (SRITNE) at the Indian School of Business was based on on-going research that examines the biases against women in technological innovation. The research was primarily motivated by the need to discern and provide solutions for the under-representation of minorities, specifically, women.

Speaking at Diversity and Inclusion Summit in ISB Hyderabad, Prof Deepa Mani, Executive Director, Srinu Raju Centre for IT and the Networked Economy (SRITNE) pointed out that gender stereotypes and the implicit biases need to be broken.

The summit saw an exclusive panel of women HR leaders and an inter-disciplinary group of women leaders from industry, government, start-up ecosystem and academia to ideate on ways to eliminate the barriers and biases and address the challenges that limit women from seeking leadership roles. The summit was held in a LIVE virtual format.



Professor Chandrashekhar Sripada, Clinical Professor, Organisational Behaviour, ISB, steered an interesting conversation with Avantika Susan Nigam (Director & Head of HR, Pepsico India), Kiranmai Pendyala (Head HR, Western Digital) and Rajita Singh (Head HR, Broadridge), exploring real-life examples of employees during the remote-working phase.



Professor Deepa Mani moderated the panel on “The Status of Women in Leadership” – How to eliminate the implicit biases and challenges that limit women from seeking leadership roles” with Ms. Isha Pant, IPS, Sruti Kannan, Head, Cisco Launch Pad, Ms. Pradnya Desai, MD, Accenture India.

Outreach

Distinguished Speaker Series

SRITNE organized five speaker series sessions in 2020 in a webinar format. We received over 150+ registrations for each of the sessions and were well appreciated by the audience.



Sundara Ramalingam N. – Head – Deep Learning Practice, Nvidia Graphics Ltd.
Touched upon how AI is reshaping the Future of Work across industries. Recent advancements in AI computing technology as well as its use in Telecom (5G / SDNs) and Conversational Robots were discussed.



Murali Talasila - Partner and Innovation Leader, PwC
Talked about the paradigm shift need after the pandemic. He reiterated the important of shutting down current ways of working by restarting, repairing, re-thinking and reconfiguring for the new normal.



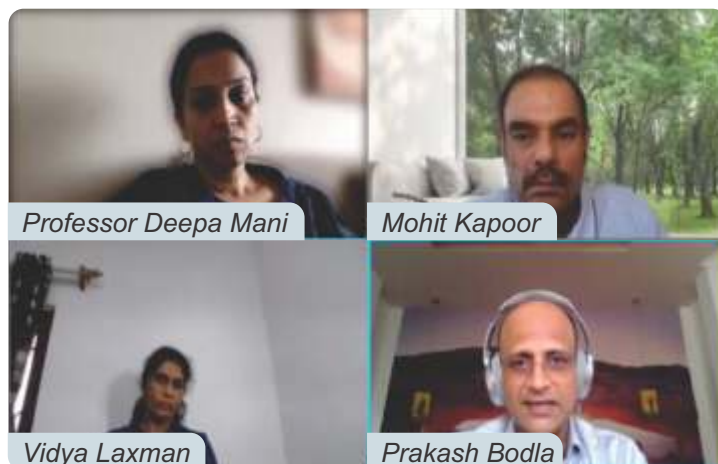
Abhishek Burman - Director and CEO, General Aeronautics Pvt. Ltd.
Elaborated on the increasing use of drones in agriculture, the challenges of technology adaptation by farmers, efficient utilization of systems, regulations, and monitoring support.



Vivek Belgavi - Partner, FinTech, PwC
Spoke about how the war against COVID-19 is expected to drive technological advancement in terms of digital infrastructure, customer-sensitive experiences via digital channels and government stimulus for specific sectors.



Rajat Mehta - 3D Printing & Digital Manufacturing Country Manager, HP
Highlighted how 3D printing is regarded as the catalyst for the Industrial Revolution 4.0.



Professor Deepa Mani moderating the panel discussion on technology priorities with Mohit Kapoor (DBS), Vidya Laxman (Tesco), Prakash Bodla (Carrier Corporation)

Outreach

Panel Discussion: Reshaping Technology Priorities in the wake of COVID-19 -July 2020

The COVID-19 pandemic has ushered in a new normal. Critical among those is the need to be more connected than ever, to take care of our health priorities. In a panel discussion organised by the Indian School of Business's Srinji Raju Centre for Information Technology and the Networked Economy (SRITNE) and NASSCOM, three technology leaders from different business areas shed light on answering some of the critical questions related to this new normal.

The session was moderated by Deepa Mani, Professor of Information Systems at ISB and Executive Director of SRITNE with the panellists Mr. Prakash Bodla, VP-Engineering and Head of Carrier Corporation's two global research centres, Ms. Vidya Laxman, Technology Director of Tesco and Mohit Kapoor, Head – Technology Capability & Optimisation with Singapore-based global bank DBS.

Panel Discussion: Remote Work and Employee Productivity – The Way Forward

Our recent study on AI and the Future of Work impelled us to extend the discussion about remote work and address the gaps in prior work and advance our understanding of such arrangements. Specifically, we brought in industry-specific perspective on how two important indicators of remote work efficacy - employee productivity and isolation - vary across jobs that differ in the need for human proximity and, therefore, exposure to social distancing policies. The panel was headed by senior leaders in human resources across diverse technology sectors and moderated by Professor Ram Nidumolu (Clinical Professor, Organisational Behaviour)



Professor Ram Nidumolu (Clinical Professor, Organisational Behaviour) moderating the session on "Remote Work and Employee Productivity – The Way Forward – Nov 2020"

Panellists

Name	Designation	Organisation
Alpa Chandan	Senior Director - Human Resources	Target India
Jnanesh Kumar	Director – Employee Success	Salesforce.com
Uma Rao	Vice President – Human Resources	Ashok Leyland

With a rich and varied experience in their fields, they shared their perspective on how the lockdown has changed the way we work, view productivity, and manage our well-being. They also shared valuable takeaways on the following:

- How to effectively track employee productivity?
- Is remote work cost-effective for certain occupations and sectors?
- Effecting a robust policy framework to facilitate remote work efficacy.

Outreach

Academia

Panel Discussion - ICIS (SIG-DITE) Innovation and Entrepreneurship in Emerging Markets - Dec 2020

A panel headed by experts across diverse sectors to talk about Innovation & Entrepreneurship in Emerging Markets. ICIS is an annual conference of repute for academics and research-oriented practitioners in information systems. Under the umbrella of ICIS 2020 (International Conference on Information Systems) conducted by the Association of Information Systems, the event was hosted in collaboration with a Special Interest Group on Digital Innovation, Transformation, and Entrepreneurship (SIG DITE) as the newest addition to AIS Communities.

Moderated by ISB Faculty – Professor Anusha Sirigiri (Assistant Professor, Entrepreneurship), the discussion spanned technology enabled innovations that build resilient, scalable and high-growth enterprises. With inputs from policy makers to understand policies and interventions that foster technology-enabled entrepreneurship to achieve scale economies in untapped markets and create self-sustaining benefits in the long run, the stellar speaker line-up facilitated a brilliant exchange of ideas.



Panellists

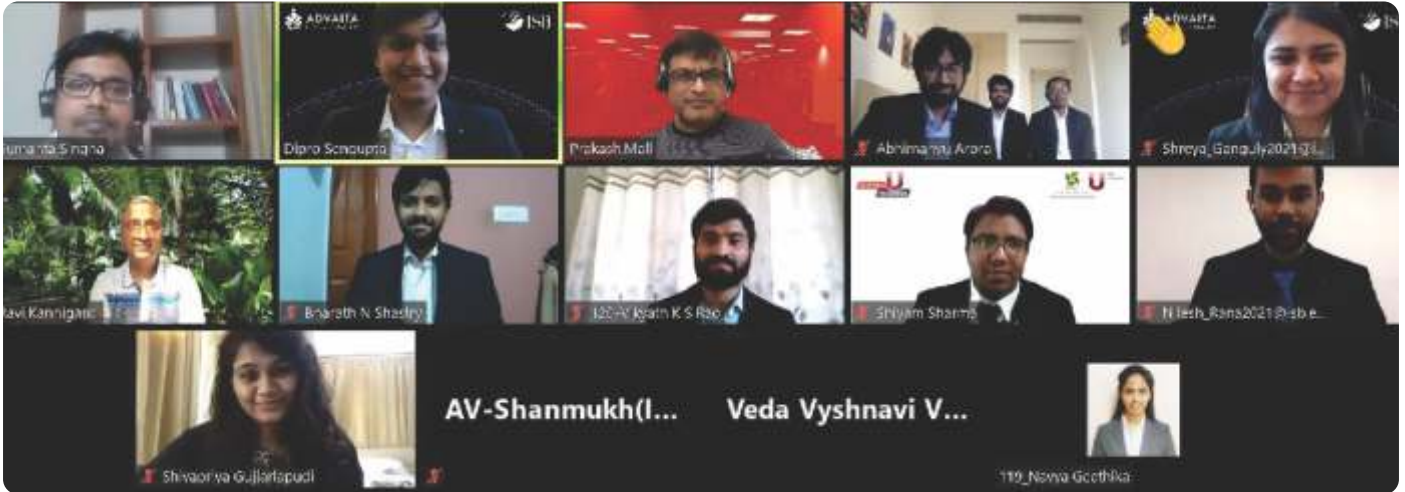
Name	Designation	Organisation
Anusha Sirigiri	Assistant Professor	Indian School of Business
Rajeev Menon	Partner	Anthill Ventures
Dr. Dinesh Tyagi	Managing Director	CSC e-Governance Services
Madhurima Agarwal	Director	NetApp Excellerator
Phalgun Kompalli	Co-Founder	UpGrad

Outreach

Student Engagement

Advaita: ISB Case Study Competition (Target)

SRITNE sourced real-world problems from the retail giant Target, for Advaita – ISB's annual international B-school competition. The students were expected to come up with a technology solution to these problems. Despite the event being conducted through a 100% virtual set-up, we saw 300+ team registrations. A total of 5 teams out of the 17 who qualified after the quiz round, presented their solution to the case provided to them.



Participants in the final round of Xccelerate, a case-study competition organised by Business Technology Club at ISB.



SRITNE Team



Professor Deepa Mani
Executive Director



Mamtha Reddy
Sr. Associate Director



Meghana Rao
Project Manager
Digital Ecosystem –
Employment & Skilling



Ashwini Mistry
Manager
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Praveen Ranjan
Instructional
Designer for
Programmes

Research Team



Ashutosh Dwivedi
Research Associate



Rohin N Vrajesh
Research Associate



Monish Krishnan
Research Associate



Madhumitha Mohan
Research Associate



Sachin Kumar S
Research Associate



Manu Yadav
Technical Analyst

"The RA programme at SRITNE provides a great platform for people interested in pursuing a Ph.D. in Management. The diverse faculty group of SRITNE allows one to explore different research areas and interact with faculty members from top business schools. This freedom has helped me cement my decision to pursue a Ph.D. in Strategy. The rigorous research process and exposure to top-quality research through regular seminars have developed my research skills. Further, the opportunity to credit Ph.D.-level courses prepares one for a Ph.D. programme. Thanks to the SRITNE RA programme, I will be joining Bocconi University for the Ph.D. programme in Fall 2021."

"My journey as a Research Associate at The Sridhar Raju Center for IT and the Networked Economy (SRITNE) enabled me to explore and apply Statistics and Machine Learning to Strategy and Policy Making. Being a tech enthusiast with an inclination for Artificial Intelligence, I found my experience incredibly fulfilling, as I had the opportunity to work on the entire pipeline of projects, from data collection to statistical inferencing. The mentorship provided by the professors at SRITNE, with the freedom to explore and apply new ideas, highly enhanced my critical reasoning skills. The proficiency I gained in Natural Language Processing helped me receive admits from top schools like the University of Pennsylvania and the University of Massachusetts, Amherst. RAs can also take up interdisciplinary academic courses at ISB, which together with the research work, would provide a platform for a holistic learning experience. Thus, this programme is highly recommended for masters / Ph.D. aspirants seeking to pursue technology-related research aimed at business and societal applications."



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If you are keen on exploring any technology-focused research activities at SRITNE, please contact:

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To know more about research opportunities, updates on research projects or to learn about and participate in SRITNE's Executive Education programmes, please contact:

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Accreditations _____



Disclaimer: ISB has not sought affiliation from any University in India or abroad nor has ISB sought approval from AICTE for any of its programmes.