



## Advanced Certificate program in Digital Innovation & Transformation for Enterprises

### Course Session wise agenda

Start date: Saturday, 13<sup>th</sup> May 2023\* - 2 sessions per week of 2 hrs each, 32 sessions, 66 hrs

### Key Objectives of Program

Prepare and empower the participants with diversified knowledge areas of Digital Transformation with blended learning of management, strategy, innovation, leadership, governance, design thinking, technology enablement and few other important areas.

### Faculty Resources

Name	Profile
Prof M D Agrawal	<a href="https://www.linkedin.com/in/m-d-agrawal-7a792510/">https://www.linkedin.com/in/m-d-agrawal-7a792510/</a>
Prof Sivakumar	<a href="https://www.iitb.ac.in/en/division-functionary/prof-g-sivakumar">https://www.iitb.ac.in/en/division-functionary/prof-g-sivakumar</a>
Prof Ashish Pandey	<a href="https://www.linkedin.com/in/ashish-pandey-69637a7/">https://www.linkedin.com/in/ashish-pandey-69637a7/</a>
Prof N L Sarda	<a href="https://www.cse.iitb.ac.in/~nls/">https://www.cse.iitb.ac.in/~nls/</a>
Prof Pushpak Bhattacharya	<a href="https://www.cse.iitb.ac.in/~pb/">https://www.cse.iitb.ac.in/~pb/</a>
Aashish Shetty,	CIO, Asian paints
Sanjay Agrawal	<a href="https://www.linkedin.com/in/sanjay-agrawal-bb01811/">https://www.linkedin.com/in/sanjay-agrawal-bb01811/</a>
Uday Gharpure	<a href="https://www.linkedin.com/in/uday-gharpure-05143b2/">https://www.linkedin.com/in/uday-gharpure-05143b2/</a>
Prof Pankaj Dutta	<a href="https://www.som.iitb.ac.in/?p=918">https://www.som.iitb.ac.in/?p=918</a>

### Invited Guest Faculty

1. Alok Khanna, Former CDO, IOCL
2. Dr Kamal Karnataka, Group CIO, RJ Group of companies
3. Rajiv Pandey, CIO, Tata Motors
4. Sandli Srinivasan, Sr. data Integration consultant, Persistent System

*There will be a few extra practice sessions in break out rooms online, which will be scheduled for one hour on Sundays before starting formal technical sessions, in breakout room for each group. Participants will be guided suitably to complete the assignments (Min seven assignments) and one major project in group exercise*

*\*First two sessions on 6<sup>th</sup> May Saturday and 7<sup>th</sup> May are Bootcamp sessions of the Course, from 13<sup>th</sup> May Saturday onward, Technical sessions will start.*

## Schedule of 31 technical Sessions starting on 13 th May Saturday

Date & time	Module and Title of session	Outline of session	Faculty
<b>Module I</b> <b>DIGITAL TRANSFORMATION CAPABILITIES AND RE-IMAGING DIGITAL INFRASTRUCTURE AND DATA ORGANIZATION STRATEGY</b>			
Session 1 Saturday 13th May, 06.30 – 08.30 PM	Introductory Session  4 stages of Digital in Enterprises  Business agility and Digital transformation	<ul style="list-style-type: none"> <li>• Welcome of participants, Objective of program, Certification process</li> <li>• Designed for Digital vs Automation Business Agility &amp; Agility Compass</li> <li>• Exercise: Digital agility assessment of your company</li> </ul>	Dr. Ganesh Singh, AIMA  Prof M D Agrawal
Session 2 Sunday 14 <sup>th</sup> May, 11.00 AM – 01.00 PM	Digital Transformation framework Part I	<ul style="list-style-type: none"> <li>• Discussion on assessment of your company for Digital readiness</li> <li>• Five building blocks of Digital transformation</li> <li>• Learnings for co-creation of digital strategy with customers</li> <li>• Discussion of global case study of Lego</li> <li>• Introduction of 15 elements of Digital capabilities</li> </ul>	Prof M D Agrawal  Sanjay Agrawal
Session 3 Saturday 20 th May 06.30 PM – 08.30 PM	Reimaging and Remaking IT Infrastructure for Digitalization and transformation - Backbone  Strategy Migrating/ Upgrading from Legacy for Digital Ready IT state	<ul style="list-style-type: none"> <li>• Key differences between legacy vs Digital transformation state: inside Vs Outside</li> <li>• Key components of digital Infrastructure Architecture</li> <li>• Mapping External Digital Interactions to The Organization</li> <li>• Suggested framework of an Integrated and Scalable Digital platform</li> </ul>	Sanjay Agrawal
Session 4 Sunday, 21 st May 11.00 - 01.00 PM	Redefine your cloud strategy to accelerate digital Innovations	<ul style="list-style-type: none"> <li>• An overview about Cloud as a business platform</li> <li>• Latest developments and advance features</li> </ul> Workshop on cloud strategy for your organization	Sanjay Agrawal
Session 5 Saturday, 27 <sup>th</sup> May, 06.30 – 08.30 PM	Digital Transformation framework Part II	<ul style="list-style-type: none"> <li>• Reflecting back to 15 elements of Digital capability areas and 4 capability areas of Leadership</li> <li>• Extended explanation on digital capability areas with example</li> </ul>	Prof M D Agrawal

		<ul style="list-style-type: none"> <li>• Customer experience Worker / Employee enablement operation process optimization significance of Data for transformation</li> <li>• Discussion on DBS bank case study – matured state of DT</li> <li>• Exercise to map the digital capability areas in your company</li> </ul>	
Session 6 Sunday 28 <sup>th</sup> May 11.00 AM – 01.00 PM	Customer experience journey and engagement	<ul style="list-style-type: none"> <li>• Design Methodology and Business Model change</li> </ul>	Aashish K Shetty
Session 7 Saturday 3 <sup>rd</sup> June 06.30 – 08.30 PM	Building Digital capability pipeline for strong data strategy: processes, policies, transformation, composability  Data management Meta data Data lake	<ul style="list-style-type: none"> <li>• Examine data management function and it is progressively supported more and better in the evolution of data processing systems.</li> <li>• Overview data management in Database systems, data warehouse systems, data lake, etc., and understand gaps and shortcomings we still face in effectively using our data and bring out issues of metadata, interoperability</li> </ul>	Prof N L Sarda
Session 8 Sunday 4 <sup>th</sup> June 11.00 AM – 01.00 PM	Building digital capability pipeline for strong data strategy: processes, policies, transformation, composability  Deriving value from data Data Governance framework for digital transformation	<ul style="list-style-type: none"> <li>• Establish importance of data governance for effective data management and for bringing out value from the data resources.</li> <li>• We will high light tasks and activities in data governance and look at some well-established data governance frameworks such as TOGAF</li> </ul>	Prof NL Sarda
Session 9 Saturday 10 <sup>th</sup> June 06.30 – 08.30 PM	Building digital capability pipeline for strong data strategy: processes, policies, transformation, composability  Data Governance organization Data stewardships Emerging tools for building data fabric, DataOps	<ul style="list-style-type: none"> <li>• How to set up data governance in an organization.</li> <li>• Different kinds of data stewardships and their responsibilities.</li> <li>• A detailed case study on data governance.</li> <li>• Exercise: Scan current state of Data in your company and prepare a roadmap for data ready for digital transformation</li> </ul>	Prof NL Sarda  Dr. Murli Dharan, Former CEO, NSEIT

**MODULE II**  
**DIGITAL STRATEGY FOR RETOOLING BUSINESS AND DIGITAL BUSINESS CAPABILITY AREAS**

<p>Session 10  Sunday  11<sup>th</sup> June  11.00 AM –  01.00 PM</p>	<p>Remaking Business Model  for transformation and  customer engagement</p>	<ul style="list-style-type: none"> <li>• Elements of Business Model &amp; associated drivers for business value</li> <li>• Disruptive Drivers of Business Model &amp; how to leverage</li> <li>• Study of 15 Business Models</li> <li>• Exercise: Craft Business model to achieve new business values</li> </ul>	<p>Prof M D Agrawal</p>
<p>Session 11  Saturday 17<sup>th</sup>  June  06.30 – 08.30  PM</p>	<p>Connected Enterprise and  customer.  API fundamentals and best  practices</p>	<ul style="list-style-type: none"> <li>• Understanding how APIs work</li> <li>• Basics of edge computing</li> <li>• API building blocks - signature, documentation, implementation, deployment</li> <li>• API lifecycle - build, distribute, monetize.</li> <li>• How APIs help create new revenue streams</li> </ul>	<p>Mr. Sandli  Srinivasan,  Sr. data  integration  consultant,  Persistent system</p>
<p>Session 12  Sunday  18<sup>th</sup> June  11.00 AM –  01.00 PM</p>	<p>Platform as Driver for  business transformation</p> <p>Platform economy -  Fundamental knowledge  of Enterprise-wide digital  platform and Platform  business model</p>	<ul style="list-style-type: none"> <li>• Pipeline economy to platform economy of network effect</li> <li>• Understanding two versions of Platform: Enterprise Digital business technology platform and Platform business model</li> <li>• Platform stacks and techniques of increasing connections</li> <li>• Next level Digital Business Technology Platform Integration and Orchestrate Company's Existing Systems</li> <li>• Platform strategy and Business Model Change</li> <li>• Case studies – Royal Phillips and Reliance Jio</li> </ul>	<p>Prof M D Agrawal</p>
<p>Session 13  Saturday 24<sup>th</sup>  June  06.30 – 08.30  PM</p>	<p>Part A  Shift in platform design  like the rise of protocols  (Blockchain based)</p> <p>Part B  Crafting Platform Canvas  for customer  augmentation</p>	<ul style="list-style-type: none"> <li>• Web 2.0 vs web 3.0, emergence of new internet</li> <li>• Overview of government of India newly launched ONDC platform, based on Web 3.0 platform.</li> <li>• Introduction of Platform Canvas</li> <li>• Case Study of Lego, Netflix: how they leverage platform to scale up their business</li> <li>• Value Proposition of Platform for business</li> <li>• Exercise: Craft your platform</li> </ul>	<p>Prof M D Agrawal</p>

Session 14 Sunday 25 <sup>th</sup> June 11.00 AM – 01.00 PM	Building digital capability in Total Experience  Create Superior Shared Customer and Employee Experiences	<ul style="list-style-type: none"> <li>• Overview of capability areas and customer touch-point roadmap</li> <li>• tools for customer touchpoint journey</li> <li>• Case Study: Disney World</li> </ul>	Prof M D Agrawal
Session 15 Saturday 1st July 06.30 – 08.30 PM	Strategy for Data driven organization Deriving business value from data Creating a Data Savvy Organization Enterprise Data Strategy	<ul style="list-style-type: none"> <li>• Strategy to build analytics as end-to-end value chain and for building data platform</li> <li>• Data monetization by shifting focus from data operations to Innovation.</li> </ul>	Sanjay Agrawal
<b>Module III</b> DIGITAL DESIGN - INITIATIVES FOR ACCELERATED TRANSFORMATION			
Session 16 Sunday 2 <sup>nd</sup> July 11.00 AM – 01.00 PM	Learning Design thinking process as human centricity innovation for digital solution design	<ul style="list-style-type: none"> <li>• Design Thinking: Re-imagining Customer Journeys for the Digital Age</li> <li>• Design thinking is a creative, human centric, holistic Innovation methodology for elevating experiences of your customers in the Digital age. The DT sessions will consist of: <ul style="list-style-type: none"> <li>- Introduction to Design Thinking: Emergence of experience economy, Role of Design in Experiences, Design Thinking definition and examples</li> <li>- Design Workshop: Learn the Design Thinking process by solving a Design Challenge to re-imagine customer journey.</li> <li>- Conclusions: Strategic Aspects of using Design Thinking in organizations for Business Innovation</li> </ul> </li> <li>• Interactive session</li> </ul>	Uday Gharpure
Session 17 Sunday 9th July	Design Thinking Workshop	Design Thinking Workshop	Uday Gharpure

11.00 AM – 01.00 PM			
<b>Module IV</b> <b>BUSINESS STRATEGY FOR AI FOR TRANSFORMATION</b>			
Session 18 Saturday 15 <sup>th</sup> July 06.30 – 07.30 PM	CEO's Perspective of AI	AI for Business strategy	Dr Kamal Karnataka
Session 18 th. contd..  July 15, Saturday 7.30 PM to 8.30 PM	Data Driven decision making and Analytics	<p>What is Data Driven Decision Making?</p> <ul style="list-style-type: none"> <li>- Data provides insights that enable the managers to identify trends and patterns and accurately forecast the future</li> <li>The benefits of Data Driven Decision Making: <ul style="list-style-type: none"> <li>- Shift from opinion/intuition-based decision making to data driven decision making</li> <li>- Derive business decisions with better confidence</li> <li>- Improve customer experience and gain competitive advantages</li> </ul> </li> <li>How to explore data to make business decisions? <ul style="list-style-type: none"> <li>- Important steps in the DDDM process</li> <li>- Data pre-processing and data visualization</li> </ul> </li> <li>What decision making techniques one can use for data analysis? <ul style="list-style-type: none"> <li>- Descriptive statistics, Time series and business forecasting, Prescriptive analytics, Machine Learning, etc</li> </ul> </li> <li>Decision Tools Suite – Simulated modelling of data using @Risk software</li> <li>Draw inferences from the used dataset</li> </ul>	Prof Pankaj Dutta
Session 19 Sunday 16 <sup>th</sup> July 11.00 AM – 01.00 PM	Data Driven decision making and Analytics	Session Contd....	Prof Pankaj Dutta
Session 20 Saturday 22 <sup>nd</sup> July 06.30 – 08.30 PM	Session 1 Natural Language Processing (NLP) for business transformation	<ul style="list-style-type: none"> <li>• Introduction to NLP and Generative AI</li> <li>• Applications in enterprise operations and customer engagement</li> </ul>	Prof Pushpak Bhattacharya

		<ul style="list-style-type: none"> <li>Using NLP to extract insights from unstructured data: This session would explore how NLP can be used to extract insights from</li> <li>unstructured data, such as customer feedback, social media posts, and support tickets. The session would cover topics such as</li> <li>sentiment analysis, topic modeling, and entity recognition.</li> <li>Automating customer support with NLP: This session would focus on how NLP can be used to automate customer support processes,</li> <li>such as chatbots and virtual assistants. The session would cover topics such as natural language understanding,</li> </ul>	
<p>Session 21 Sunday 23<sup>rd</sup> July 11.00 AM – 01.00 PM</p>	<p>Session 2  NLP</p>	<ul style="list-style-type: none"> <li>Personalizing customer engagement with Generate AI: language generation, content recommendation, and user modeling.</li> <li>NLP for compliance and risk management</li> <li>Building a successful NLP and Generate AI strategy.</li> <li>Identifying use cases, selecting the right tools and technologies, and building the necessary infrastructure and team.</li> </ul>	<p>Prof Pushpak Bhattacharya</p>
<p><b>Module V</b> <b>AGILE, SECURITY, DATA PROTECTION, STRATEGY FOR DIGITAL TRANSFORMATION</b></p>			
<p>Session 22 Saturday 29<sup>th</sup> July 06.30 – 08.30 PM</p>	<p>Cyber Security for Digital Business Session will have coverage of techniques and framework to deal with the situation.</p>	<ul style="list-style-type: none"> <li>Attack frameworks to understand adversary tactics and techniques, assessing business risks.</li> <li>Deciding security posture, moving from basic fortress like defense to zero trust models, security operations center for detecting and responding to attacks.</li> </ul>	<p>Prof Sivakumar</p>
<p>Session 23 Sunday 30<sup>th</sup> July 11.00 AM – 01.00 PM</p>	<p>Data privacy and security</p>	<ul style="list-style-type: none"> <li>Concerns about data privacy, misuse without user consent and violation of regulatory frameworks need to be addressed.</li> <li>Study of recent examples of data breaches, use of encryption and tokenization, identity</li> </ul>	<p>Prof Siva kumar</p>

		management, legal and regulatory frameworks.	
Session 24 Saturday 5 <sup>th</sup> August 06.30 – 08.30 PM	Agile development and deployment for Digital Business	<ul style="list-style-type: none"> <li>Study agile methods for secure development and deployment of software (DevOps and DevSecOps), collaboration tools and approaches such as low-code Programming.</li> </ul>	Prof Siva Kumar
Session 25 Sunday 6 <sup>th</sup> August 11.00 AM – 01.00 PM.	Workshop	<ul style="list-style-type: none"> <li>Crafting Digital transformation for your company</li> <li>Presentation by participants in group as per template</li> </ul>	Prof MD Agrawal Sanjay Agrawal
Session 26 Saturday 12 <sup>th</sup> Aug 06.30 – 08.30 PM	Enterprise Case studies of digital strategy design	Tata Motors  Indian oil corporation ltd	Rajiv Pandey, Group CIO, Tata Motors  Alok Khanna, Former ED and Digital Strategy Head, IOCL
Session 27 Sunday 13 <sup>th</sup> August 11.00 AM – 01.00 PM	Leading and managing organization change & readiness for digital strategy	Interactive session	Prof Ashish Pandey
Session 28 Saturday 19 <sup>th</sup> August 06.30 – 08.30 PM	Managerial implications and CIO leadership for digitalization process Organization strategy for digital skill gaps	Interactive session	Prof Ashish Pandey
Session 29 Sunday 20 <sup>th</sup> August 11.00 AM – 01.00 PM	<p><b>Part A</b> Defining KPIs for Measuring Digital success</p> <p><b>Part B</b> Crafting IT operating model for digitization projects</p> <p><b>Part C</b> Digital Governance model and cultural challenges</p>	<ul style="list-style-type: none"> <li>Building blocks of operating model</li> <li>Concept of Agility Compass for teams</li> <li>Exercise: Identify key elements</li> </ul>	M D Agrawal Sanjay Agrawal
Session 30 Saturday 26 <sup>th</sup> August 06.30 – 08.30 PM	<p><b>Part A</b> 6 personas of leadership for digital to the core</p> <p><b>Part B</b> Orchestrating Digital transformation</p>	<ul style="list-style-type: none"> <li>Brief discussion persona scores of each participant.</li> <li>Change management vs orchestration.</li> <li>Re-visiting guiding principle of transformation of business value</li> <li>Introduction of transformation orchestra</li> </ul>	M D Agrawal
Session 31	Manufacturing 4.0	Special session on Manufacturing 4.0	M D Agrawal



Sunday 27 <sup>th</sup> August 11.00 AM – 01.00 PM			
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*Note: Handouts: Faculty will distribute handouts and copies of presentations.  
Google class platform and WhatsApp will be used for communication and assignment submission.*