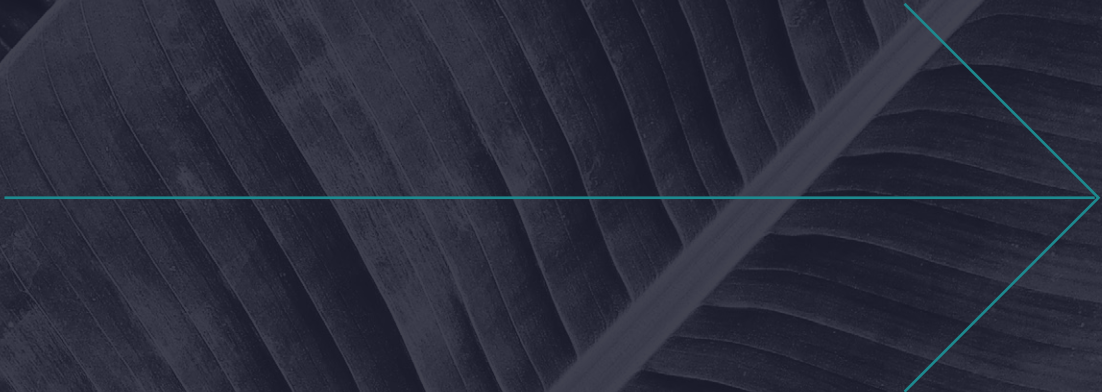


The *dual transition*

The path to a digital and sustainable economy



Executive conversations with...



PROF. SURAJ SRINIVASAN

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USHERING IN THE ECO-DIGITAL ERA™



Prof. Suraj Srinivasan is the Faculty Chair of the Digital Value Lab at Harvard's Digital, Data, and Design Institute and the Philip J. Stomberg Professor of Business Administration at Harvard Business School. He is a widely published author and the recipient of several awards including Greenhill Award for Outstanding Faculty Service and the Apgar Award for Innovation in Teaching from the Harvard Business School and the Management Science Distinguished Service Award. Capgemini Research Institute spoke to him about the role of data in the new digital economy.

THE RISE OF A NEW, DATA-DRIVEN ECONOMY

Are we entering a new age of the world economy?

I believe that we are witnessing the start of an era that we call the “eco-digital economy”. The eco-digital economy refers to a dual transition to an economy that delivers not only economic value but also environmental and social value. In one of our recent studies, we found that a large majority (77%) of senior executives believe that we are experiencing a dual transition to a more digital and sustainable world.

In the Eco-Digital Era™, there is greater exploration of digital technologies’ value to business – for instance by scaling of data and cloud, digital technologies play a crucial role in achieving sustainable goals, there is a fast evolution of emerging tech such as generative AI and synthetic biology, and greater collaboration giving rise to digital ecosystems. The rapid rise and democratization of generative AI is a prime example of how this shift is truly fundamental, cross-sectoral, and global in nature.



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How is the eco-digital economy different?

The digital economy today is amplified by a huge degree of magnitude as compared to the one in the last decade, made possible due to exponential technological and algorithmic advances. The eco-digital economy is driven by the ability to capture and store large quantities of data, and the capacity to process and analyze it at ultra-high speed. It has become so much cheaper to create, access, store, analyze data, and derive meaningful insights.

This advancement has been made possible due to the availability of several technologies such as cloud, semiconductors, graphics processing unit (GPU), Internet of Things (IoT), and sensors, etc. These have allowed us to make innovation broader, cheaper, and therefore more accessible.

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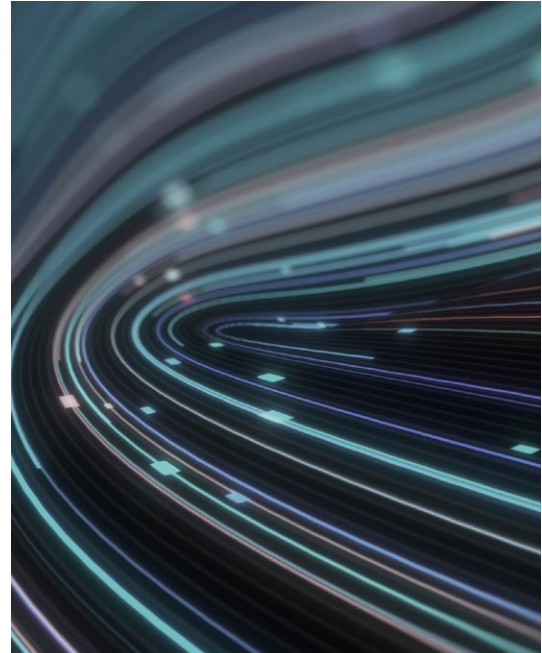
What would you say are the key characteristics of this eco-digital economy?

From a data perspective, there are three key characteristics of the eco-digital economy:

- **Cost efficiency:** The capacity to access, collect, and store data is cheaper than before because of cloud, sensors, 5G/Edge, and other associated technologies.
- **Better capabilities** for analyzing and understanding the data for decision making: This has been made possible because of two kinds of technology, one on the hardware side such as Graphics Processing Unit (GPU), and the other on the software side such as improved algorithms.
- **Ubiquity of digital and data capabilities:** Lower cost and enhanced capabilities have given the ability to embed digital and data-driven ideas everywhere. Our imagination is the only barrier to where these capabilities can be used.

How are data and AI helping the world become more sustainable?

There are a number of good examples from using data for climate change mitigation and adaptation, reducing energy consumption and waste, to personalizing education. But one of my most favorite uses of data for driving sustainable outcomes is when data and AI bring together economic, environmental, and social benefits. An example of this is a startup in India that I'm working with that's providing farmers with intelligence to optimize their crop yield using satellite data on soil moisture, nutrient content, etc. Farmers with small plots of land typically do not have the capital to invest in expensive tech or advice to improve productivity. However, access to data, network connectivity, and custom-made apps are bringing a step change in the level of productivity and thereby quality of life of these farmers. This is just one case example but imagine doing this at scale in large parts of the world – we're starting to see that happen.



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MEASURING THE VALUE OF DATA

How will you describe the role of data in the eco-digital economy?

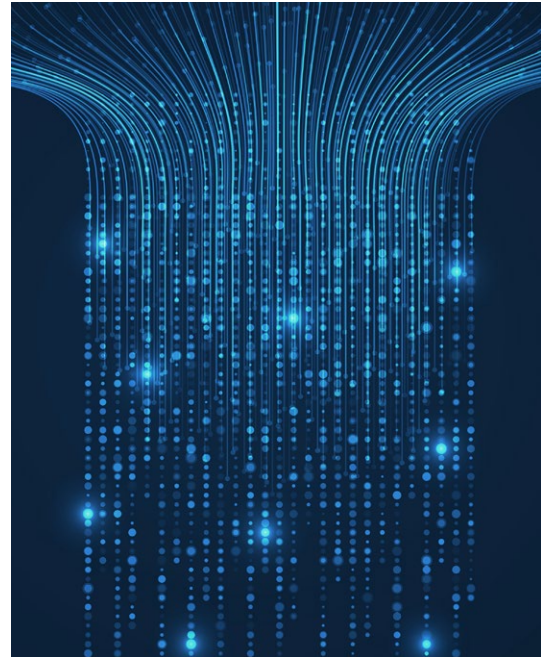
The eco-digital economy will be highly data-driven and AI-driven. Data and data insights should be available as much as, say, water.

Water is the fountain of life, and in that sense, data is the fountain of all decision making and this resource should be equally available. Everyone, whether rich or poor, should have equal access to water. Similarly, the capacity to use data for good decisions should be easily available everywhere.

In the last few years, we have seen data create immense value for organizations. Generative AI is turbocharging it now by making creation of insights, software, and design ubiquitous. You no longer need to be an expert in these fields to harness the value of data.

One of the biggest impacts of the leaps in AI will be seen in the enhanced decision-making by leadership teams. Leaders augmented with AI-driven intelligence will outperform their peers who don't leverage AI's potential.

This kind of democratic access and use of data is a key aspect of economy today, which should also be an important part of policymaking.



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Why is it important to measure the impact of data?

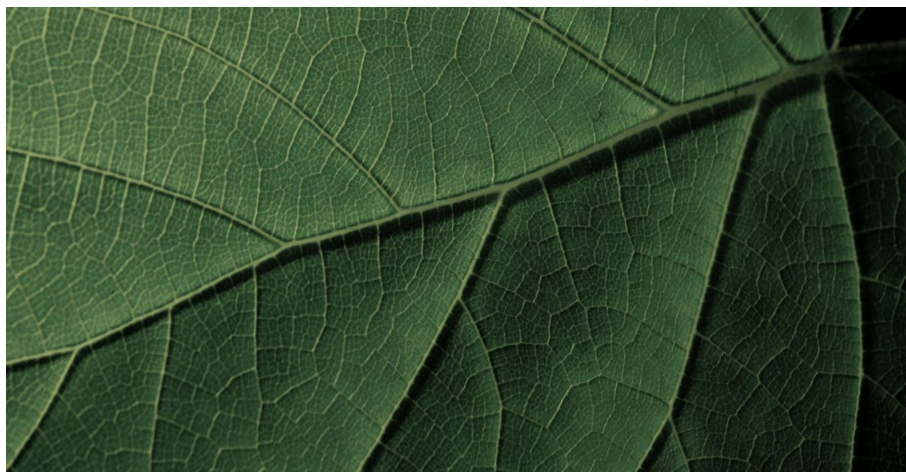
If one can't measure the outcomes, you either under- or overinvest in the data initiatives. Hence, it is important to think about careful measurement of the outcomes.

One thing preventing people from calculating return on investment (ROI) when it comes to data is the availability of so many low-hanging fruits (data initiatives), all guaranteed to generate high value. But it is still important to understand which initiatives create more impact.

Personal intuition is often biased by personal experiences, therefore, almost certainly not representative and likely to be wrong. More practically, this doesn't help when there are multiple uses or places to invest.

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Executive Conversations

What are some of the ways organizations can calculate the ROI for data initiatives?

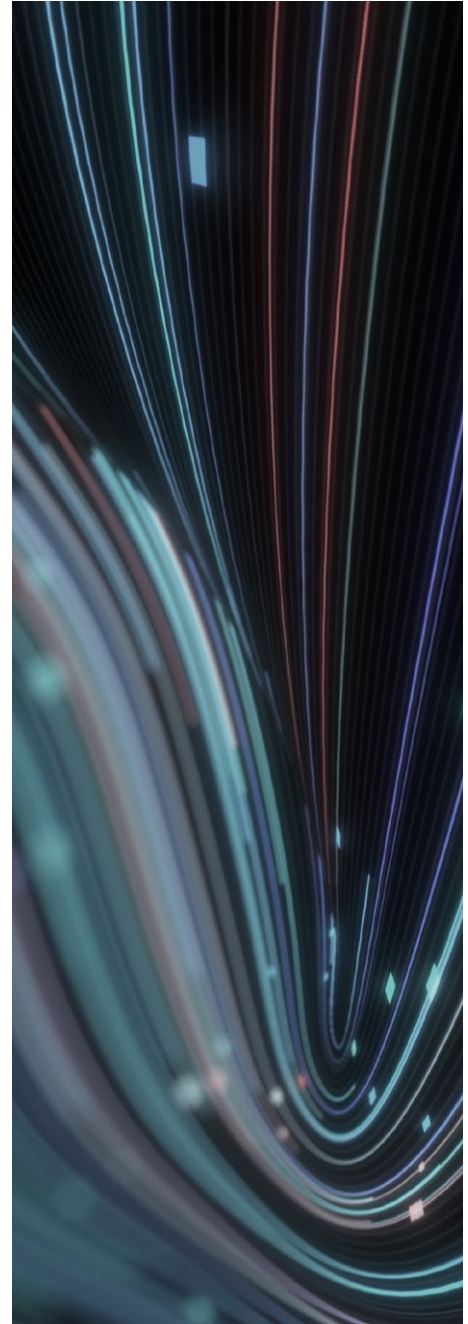
While understanding the value proposition, one can do either qualitative or quantitative measurement. For example, if a data product is created for internal use, one can map its cost vis-à-vis its adoption rate as a quantitative metric of success. Similarly, the change in productivity can be mapped against the cost for a data initiative on a factory floor to get an indication of the ROI.

Large language models (LLMs) enable companies to assess how a customer interaction is going in real-time and take immediate remedial actions. So, the investment in deploying a generative AI technology at a call center can quickly be quantified by using something like a net promoter score (NPS) to measure customer service quality.

If there is training or an investment in scaling digital capabilities, organizations should be able to measure that simply by measuring how many people completed the program.

Investment in creating data literacy can be assessed by measuring how data literacy helps make better decisions or how many new data-driven products were created.

On the other hand, responsiveness to feedback, ability to support business, anecdotal stories of improvements, and maturity of agile data product teams are a few instances of qualitative measurements of value creation.



ETHICAL USE OF CUSTOMER DATA

With increasing concerns around data privacy and ethical use of data, how can organizations ensure that they earn the trust of consumers when dealing with their data?

Data-driven decision-making is important, however, ensuring data privacy is equally important. It is imperative for organizations to not just think about the opportunity, but also responsibility that comes with data collection, storage, usage, etc. There are multiple ways to protect privacy - one can anonymize the data or use cutting-edge techniques such as differential privacy. How an organization respects or uses customers' personal data is a reflection of its culture and core values.

Organizations should work towards creating the right data policies and data catalog, building data literacy, and ensuring common understanding across the organization on these aspects.

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BUILDING AND SCALING A DATA ECOSYSTEM

With the ever-increasing quantity of data being captured and processed, what would be your advice to organizations looking at scaling up their data ecosystem?

The biggest question that organizations have to address and manage as they scale is knowing what to centralize and what to decentralize in terms of platform architecture, and most importantly, data governance.

Data is captured for some purpose such as decision-making, product creation, improving customer value, etc. So, organizations should first understand the kind of value they plan to create through data. The other aspect is how they propose to improve productivity in the process.

Decisions on areas such as big data, cloud, computing efficiency, data use, data management, data privacy, etc. should ideally be centralized.

Decentralization of areas such as production, customer service, etc., empowers people closest to the problem or opportunity to take the decisions since they are best equipped to figure out what is the most value added in that setting.





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