SCDI AI Business Lab

Swedish Center for Digital Innovation (SCDI) is a research center consisting of researchers from the University of Gothenburg, Umeå University and Stockholm School of Economics that focus on research, teaching and societal outreach activities related to digital innovation. More specifically, SCDI's work can be said to target specifc needs that exist in businesses, public organizations, and society. First, it aims to help actors understand the implications that arise from digitizing current operating and business models. Second, it assists in, and helps accelerate and manage digitalization, digital innovation and digital transformation. Finally, SCDI aims to help build capacity for existing and future coworkers and managers in relation to digital competence. Currently, around 50 researchers are active members of SCDI across the three educational institutions.

As one of SCDI's latest intitiatives, the SCDI AI Business Lab has recently been launched at Umeå University. The AI Business Lab is a platform for external partners (e.g., public and private organizations) to work practically with researchers and students to explore, design and develop concrete technical artifacts and to build technical capabilities. More specifically, it targets the issue of how organizations can gain tangible business value out of Artificial Intelligence (AI) solutions. The aim is to assist in transferring knowledge between researchers, students and practitioners and to other stakeholders since the researchers reuse the knowledge in other projects and make aspects of it available through scientific publishing.

History

SCDI was started by Professor Jonny Holmström (Umeå University) and Professor Rikard Lindgren (University of Gothenburg as a project run at the Department of Informatics at Umeå University and the Department of applied IT at Gothenburg University in 2013. Thanks to a donation of 5 MSEK from Carl Bennet AB, the project could develop towards a more formalized research center.

Since then, SCDI has grown to include Stockholm School of Economics as its third node, extending both its number of researchers and expertise. It has engaged in collaborations and launched initiatives that aim to directly assist public and private organizations with issues related to digitalization, digital innovation and transformation. Examples of such efforts include executive education programmes held with company directors and managers in companies such as Volvo and SKF, SCDI researchers working actively to assess and raise the digital maturity of the Municipality of Sundsvall, and the development of a concept for blockchain-based loan management system for the Swedish municipal loan agency in 2018.

More recently, the SCDI AI Business Lab was established with the help of a 2,7 MSEK support from the Kempe foundation in April 2020. During that year, the lab developed means and methods for collaboration and knowledge exchange, attained the technical resources and human expertise needed to explore the business value of AI together with external partners. As a part of these preparations, the lab has engaged in a close collaboration with Peltarion, a provider of a powerful yet easy to use AI-platform. Currently, the lab is engaged in a pilot project with the large forestry company Holmen Skog to both explore pathways to AI business value and improve means for value cocreation.

Collaborating with the SCDI AI Business Lab

There are several ways for private and public organizations seeking to collaborate with the SCDI AI Business Lab, including:

- **Student projects**
  Short term (around 1-2 months) projects where students work with external partner organizations as live cases as part of their education.
- **Research projects**
  Short to long term projects where the lab and an external partner seeks to advance knowledge on a specific aspect related to the business value of AI that is relevant to both the external partner and to the research frontier.
- **PhD Student projects**
  Long term projects (around 4-5 years) where a PhD student engages deeply with an external partner organization to gain both domain and AI-related knowledge that can be leveraged to both solve complex practical problems and generate cutting-edge research.
- **Post Doc projects**
  Long term projects (around 2 years) where a Post Doc engages deeply with an external partner organization to gain both domain and AI-related knowledge that can be leveraged to both solve complex practical problems and generate cutting-edge research.
- **Executive education**
  Educational programs held for representatives of external partner organizations. May vary in length, intensity and content depending on the needs and requirements of the external partner.

Project process

While collaborative projects may take different forms depending on contextual needs and requirements of the participating partner, the following represents a general description of how an ideal collaboration project may unfold.

- **Phase 1: Project Workshops**
  The lab arranges workshops where lab and external partner representatives define use cases & success criteria as a starting point for continued collaboration. One or more use cases are explored and validated based on the availability and useability of data. If successful, phase 1 generates clear candidate projects to pursue in further phases.
- **Phase 2: Mentoring**
  A group of representatives from the partner organization is mentored by SCDI researchers and AI-specialists. Through cocreation, use cases are further evaluated and turned into business cases to identify and understand their commercial viability. The output of this phase is a working group centered on a potentially viable business case.
- **Phase 3: Pilot**
  The working group creates and tests models designed to realize the business case.
- **Phase 4: Production**
  The pilot is deployed and tested on the Peltarion AI-platform.
- **Phase 5: Implementation, Dissemination and Advocacy**
  If successful, the AI-solution is implemented and used in the partner organization. The process and outcomes are documented, and knowledge is disseminated.

Future development and improvements

The SCDI AI Business Lab launched during the pandemic, and so possibilities for extensive collaboration with external actors have been limited. So far, pilot projects have been run remotely through digital means, yet the ambition is to establish the lab as a platform for

physical meetings centered on exploring the business value of AI as well. For this to realize, SCDI and the lab will need to establish more and stronger relationships to public and private actors and offer them knowledge and expertise that they find valuable.

Keeping up with digitalization, and AI specifically, is to chase a continuously moving target. Therefore, the SCDI AI Business lab strives for continuous improvement both in terms of the expertise and the technical resources it can offer, but also in other methods and tools it can use to better assist external partner organizations. To that end, current efforts within the lab have been focused on the development of an AI readiness framework that can be used to assess an organization's ability to deploy AI technologies to enable digital transformation. The framework carries the potential of enabling a web-based tool for assessing AI readiness and advising on prioritized investments.