

Empowering Communities through Collaborative Social Innovation: The SR University Model

SR University's Collaboratory for Social Innovation (CSI) embodies the university's commitment to fostering a regional innovation ecosystem through social responsibility. By integrating academic excellence with industry relevance, the CSI aligns closely with the university's vision of accelerating transformation within the community through innovative solutions. This initiative, guided by SR University's mission to produce technically competent, industry-ready, and socially conscious leaders, has become a vital component in addressing societal challenges through collaborative efforts with industry, government, and non-profit organizations.

The CSI was established to bridge the gap between the university and community needs. This center was set up to focus on developing socially impactful technologies. One of the most notable initiatives under this CSI is introducing open elective courses on social innovation. This program enabled students to engage directly with community challenges, designing and developing products that could make a tangible difference in people's lives.

Curriculum and Pedagogy: Designing for Social Impact

The CSI offers a more focused open elective course titled "**Design for Social Impact.**" This course is central to the Collaboratory's activities and embodies the university's mission to engage in path-breaking research that benefits society. The course integrates design thinking with a multidisciplinary approach, enabling students to form teams that tackle societal issues by creating viable product solutions.

The process begins with a societal survey and problem identification phase, where students engage with community members to understand their needs. These insights lead to the development of need statements, which are then addressed through innovative product design. The interdisciplinary nature of the teams ensures that a wide range of technologies, including IoT, AI, machine learning, mechanical design, and fabrication, are employed to create high-fidelity prototypes.

Ethnographic Strategy and Community Engagement

The CSI's innovation approach is rooted in ethnographic research, identifying hidden challenges faced by communities through demographic and geographic surveys. This hands-on method ensures that solutions are not only technically sound but also socially relevant.

One of the core strengths of CSI is its partnership with NGOs and community organizations. Collaborations with the university's NSS unit further support CSI in reaching out to communities. These partnerships enable the identification of real-world problems and ensure that the solutions developed have a direct impact. For example, the "**Grain Collecting Apparatus**" developed for farmers in Ananthasagar village showcases how the Collaboratory translates community needs

into innovative products. Other notable innovations include the **"Pluckersky-Cotton Flower Plucking Machine"** and the **"Easy Plough Machine for Horticulture Farmers,"** which reduce manual labour and increase efficiency in agriculture.

Technology-Driven Social Innovation

The CSI emphasizes integrating advanced technologies into social innovation. Products like the **"Language Translator and iTutor,"** which breaks language barriers and facilitates learning, and the **"Wireless Smart Message Display (SMD),"** which enhances communication in remote areas, reflect SR University's commitment to leveraging technology for social good.

A notable aspect of the CSI's efforts is its focus on sustainable and scalable solutions. For example, the **"Health Care Booth for Village"** uses machine learning for voice-based interactions, making healthcare more accessible in rural areas. Similarly, the **"Nutrients Applicator and Seed Sowing - Multipurpose Agriculture Apparatus"** and the **"Soil Testing Kit"** address agricultural challenges, enabling farmers to make informed decisions and optimize their yields. Additionally, the **"Mechanical Pesticide Spray Apparatus for Dry Land Farmers"** demonstrates the Collaboratory's dedication to developing affordable, user-friendly technologies.

Innovation, Intellectual Property, and Entrepreneurship

The CSI not only focuses on product development but also encourages students to consider the broader implications of their innovations. Intellectual property (IP) management is integral, with several patents filed for products developed under CSI, enhancing the university's reputation as a hub for cutting-edge research.

The Collaboratory also fosters entrepreneurship among students, guiding them through product development and market analysis to explore startup opportunities. Several student-led enterprises have emerged from CSI, furthering the university's mission to produce industry-ready leaders who are socially conscious.

Impact and Future Directions

The impact of CSI is evident in the successful projects and products deployed in the community. Between 2020 and 2023, 154 students were involved in developing various innovative products, with **22** patents published, **one** of them granted. The CSI collaborated with NGOs like **Sopar Balavikasa, Sai Seva Trust, Sahrudhya Old Age Home, Siri Society, Sneha NGO, Forum for Better Warangal,** and **ASSIST, Andhra Pradesh,** and provided **32** innovative solutions to communities. These efforts resulted in **12 MSME** registrations, and CSI received an award from the Indo-Universal Collaboration for Engineering Education (IUCEE) for its contributions to community development.

CSI aims to expand its impact by exploring new avenues for collaboration and innovation. This includes scaling up existing projects, exploring new technological frontiers, and enhancing the integration of social responsibility into the curriculum. By focusing on community needs and leveraging interdisciplinary collaboration, CSI plays a significant role in transforming the regional innovation ecosystem.

The CSI at SR University stands as a testament to the power of collaboration between academia, industry, and the community. Through its innovative approach to problem-solving and its commitment to social responsibility, the CSI not only embodies the university's vision and mission but also serves as a model for other institutions seeking to make a meaningful impact on society. As it continues to grow and evolve, the CSI will undoubtedly play a pivotal role in shaping the future of social innovation in the region and beyond. The programs conducted and the patents published and granted by the CSI are available at <https://sru.edu.in/centers/csi>.