



Tec students propose solutions for small businesses to MIT

A group of students from the **Tec de Monterrey** have collaborated with the [MIT Low Income Firms Transformation \(LIFT\) Lab](#) to develop **solutions and proposals** for improving **small businesses in Mexico**.

Engineering students from **13 Tec campuses** participated in the **collaboration**, **conducting a study** on the **challenges and behaviors** of **small businesses** in **various parts of Mexico** over one semester.

Noteworthy research projects were presented at the **Tec's Santa Fe campus** on **Thursday, February 16**, and the event featured a **panel** of **Massachusetts Institute of Technology (MIT) researchers**.

The **MIT LIFT Lab** is a **research center** that aims to **alleviate poverty** in **developing countries** through **initiatives** to ensure **SME growth** in the region.



Small steps to big changes for microenterprises

The **challenge**, entitled “**Innovating the Traditional Retail Channel in Latin America,**” aimed to **create improvement proposals for Mexican microenterprises**, based on a **quantitative study**.

*“The goal was **to develop improvement proposals through statistical techniques using data**. The students used **their data and that collected by their classmates in order to make these proposals**,”* said Karla Valenzuela, Director of the School of Engineering and Sciences at the Santa Fe Campus.

For his part, **Josué Velazquez, Director of the MIT LIFT Lab**, highlighted the **importance of the data** collected in transforming **microenterprise supply chains**.

*“We wanted to give them the **opportunity to look at the data** and be able to **use techniques**, begin an **applied project**, and at the same time, for the **results** to have an **impact**.”*

“Eventually, what we really want is to implement the ideas and translate them into action.” Karla Valenzuela

“What I love is that this could result in something that other students see in their textbooks or syllabuses in the future, and that’s very inspiring,” Velázquez added.

Over 15 final proposals were presented for the challenge during the event, and the students had the opportunity to travel to Mexico City to share their findings with the MIT LIFT Lab research team.

“We laid out the steps to be followed by entrepreneurs and small business owners in order to survive and keep the economy of our state (Querétaro) alive,” said **Santiago Silva, a Mechatronics Engineering student at the Querétaro campus.**

“I think we also provided a lot of support for MIT students who are studying for their master’s degrees and it was mainly validating part of their work,” added his teammate, **Kevin Miranda, a Mechatronics Engineering student.**



Generating solutions from education

The **collaboration with MIT** was carried out through the **Tec21 Educational Model**, with the **MIT LIFT Lab** serving as a **training partner** for the “**Introduction to Data Science Projects**” **Engineering Training Unit**.

*“A few months ago, the **MIT LIFT Lab** approached us to **develop a project** in which students could **participate** and discover the **problems the country is facing through this experience**.”*

*“We looked for a **training unit**, and the **Tec21 Educational Model** allows us to bring in a **training partner** and a **real problem** to implement techniques and tools for **students to learn**,” said **Kara Valenzuela**.*

According to the director, the **first pilot** was carried out with students from the **Santa Fe Campus**, but the **training unit** was offered nationwide to 3rd semester **engineering students** studying **Innovation and Transformation**.

“We had over 1,000 students involved in the project and over 20 professors. That was last semester’s assignment, to get to the data collection phase.”



Tec and MIT making a difference together

Josué Velazquez explained that the **connection with students** aimed to create **experiential learning experiences**, enrich MIT **postgraduate research**, and **generate value for the region**.

*“We were interested in **generating a learning experience** where students would be **out on the field** and could **better understand the Mexican context**, particularly in this sector, which is the most **important** from an **economic point of view**.”*

*“What’s more, **this project** is **servicing as the engine for research** we’re doing at MIT. **We use the data** so that researchers can do **analysis to transform the traditional***

microbusiness channel,” he explained.

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According to **Karla Valenzuela**, the project **generated value for industry** and provided students with the **opportunity to make a difference**.

“I would say that the biggest impact is for the students, who realize that what they do, what they look at, what they can contribute, can really make a difference, and a big difference. That’s the most valuable part.”

“What this gives us are students who are really interested in this type of problem and really bring value to the people and microenterprises that need it most,” shared the director.



For her part, **the director** also said that **they will seek to replicate this** collaboration **exercise in the future.**

“We will aim to do it every year, for the MIT LIFT Lab to be the training partner for this training unit and for this analysis to enable postdoctoral MIT students to generate further initiatives and detailed analysis.”

*“Eventually, **what we really want is to implement the ideas**, and translate them into action,” she concluded.*

The **winners of the challenge** were **students from the Querétaro campus**, with their **“MicroBigChange” proposal** to implement **new technologies** and **improvements** to microenterprises in **Santiago de Querétaro.**

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