Tec students present research at MIT on clothing rental

Six students from **Tecnológico de Monterrey Santa Fe campus** **worked on a research project** to **determine the environmental impact of the clothing rental business model as compared to the *Fast Fashion* model.**

Tec de Monterrey engineering students Agustín Ubierna, Sofía Fiorillo, Anayte Morales, Diego Sánchez, Laura García and María Bifaretti gave a **presentation to a postgraduate class in the Supply Chain master's program and at a** research seminar at the Massachusetts Institute of Technology (MIT)**.**

According to Agustín, the research project focuses on answering the question: **Which business model is more sustainable?**

***"We studied two innovative business models**. **Under the clothing rental model,** the user pays a monthly subscription to have access to a catalog and select a certain number of garments per month, usually 4 items.*

*"Other examples of this type of model would be Netflix, which affords access to the catalog upon payment of a monthly fee, **and P2P,** a company that connects users who want to rent with others who want to render services, such as Uber or* Airbnb*, which make business connections without actually owning any of the property,"* he explained.

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The impact of new trends on the fashion industry

The **main objective** of the project **was to understand the environmental impact of new trends in the fashion industry**. Recently, platforms offering clothing rental services, such as Rent the Runway and Wardrobe, have become popular.

*"It's been speculated that these types of platforms are a better alternative to buying clothes, but **there isn't really much evidence to back that up so far**. Because of this, we decided to do research on the subject.*

*"We wanted to be able to find out which works better **from an environmental and quantitative point of view**, renting clothes and raising awareness on sustainability issues among both companies and consumers,"* Diego said.

We carried out this analysis by estimating CO emissions, **??**and we discovered that **these platforms may have a lower environmental impact under different conditions and that it depends mainly on how often a garment is to be worn.**

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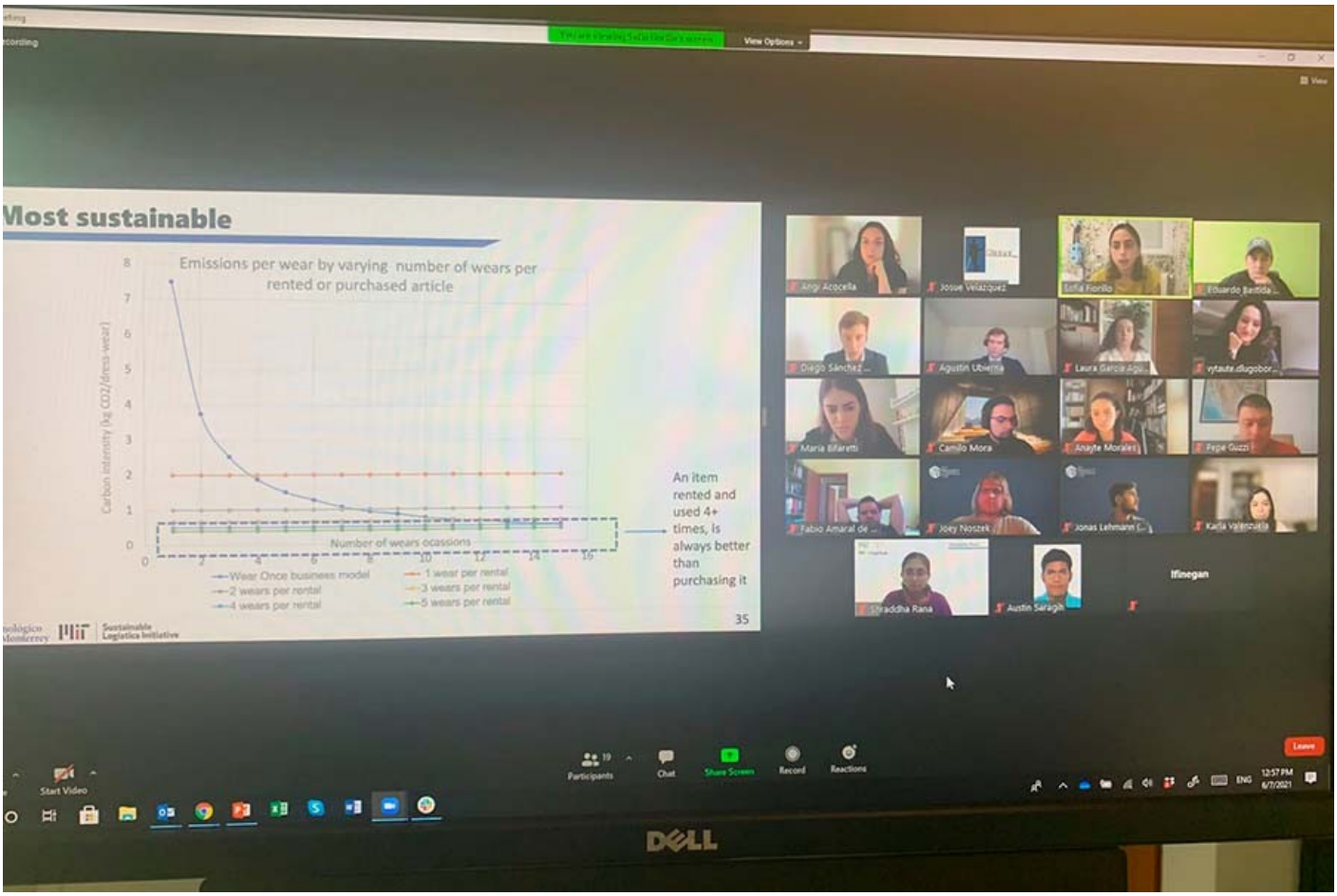
"If the person plans to wear it just a few times, typically three or less, ***it's better to rent the clothes, but*** *if the consumer plans to wear a garment a lot, it can have an adverse effect and generate a greater amount of emissions.*

"We were able to conclude from this that these new business models are good for special occasions*, such as a wedding or graduation where people avoid wearing the same garment on multiple occasions and that the traditional model works better for the clothes we wear from day to day,"* Diego emphasized.



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One of the main conclusions of the research is that **as a consumer you have a great impact on the sustainability of these business models,** Sofía said.

"In particular, ***the frequency with which we wear a certain item of clothing when choosing whether to rent or buy is a key decision*** *that translates into one business model having a smaller environmental footprint than others,"* she explained.

According to Agustín, **progress has been made on the quantification of the average number of times items are worn**, which varies according to the setting.

The project could have two future applications: first, any progress could be reported in scientific articles; and second, there is the possibility of working with rental companies to validate their assumptions.

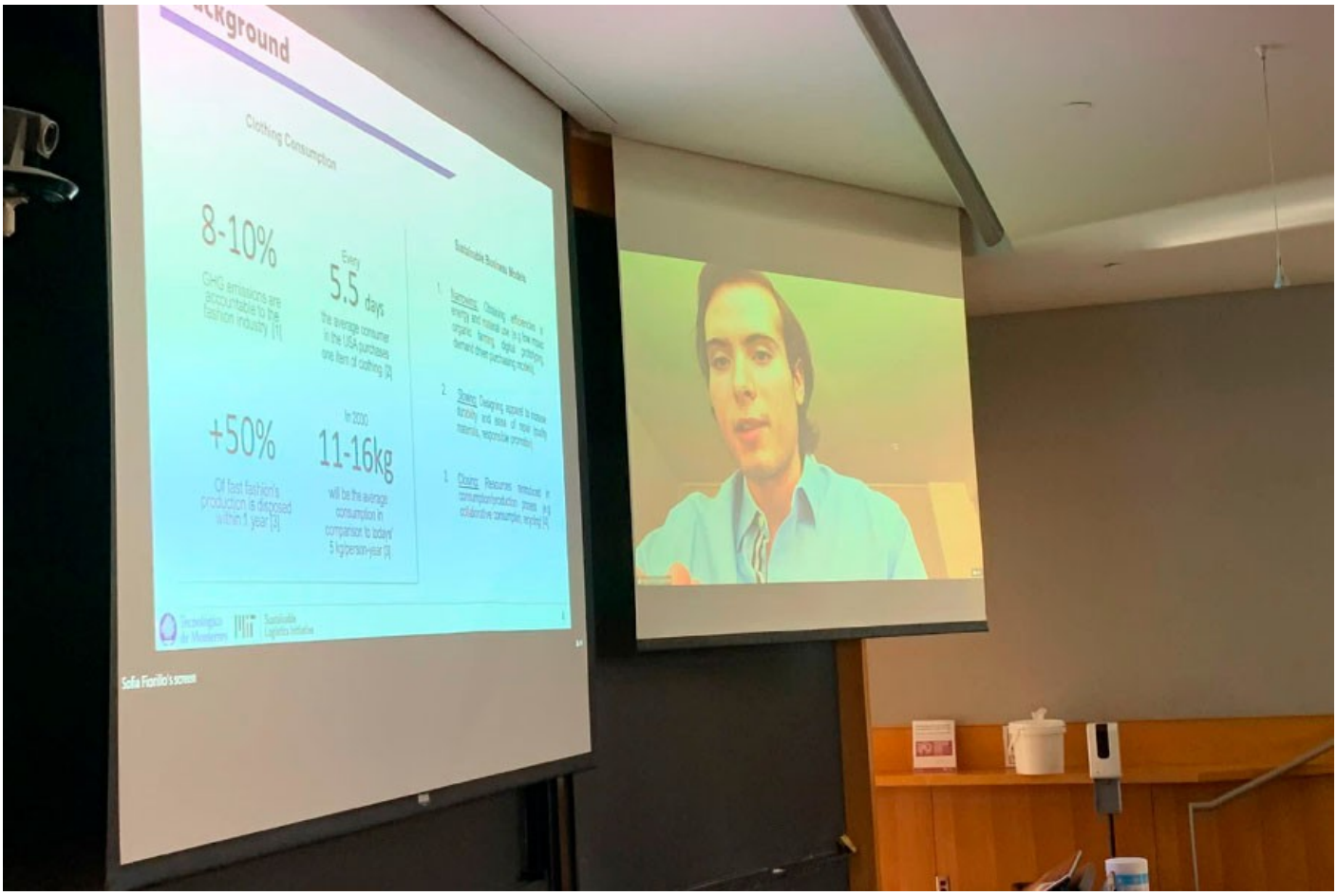
Something they never imagined

For Laura and María, being part of this team was incredible because the opportunity of having **renowned professors in the subject support and advise them was a privilege.**

"We can learn so much from professors such as Vytaute and Joshua and aspire to be like them one day. When we introduced ourselves to master's, doctoral, and postdoctoral supply chain students at MIT, we were nervous about ***what we university students could teach them that***

they didn't already know.

"However, it turned out to be an experience where we could listen to their comments, feedback and ideas, and discover different perspectives, but we could never have imagined ***how surprised they would be by our presentation****,"* they said.



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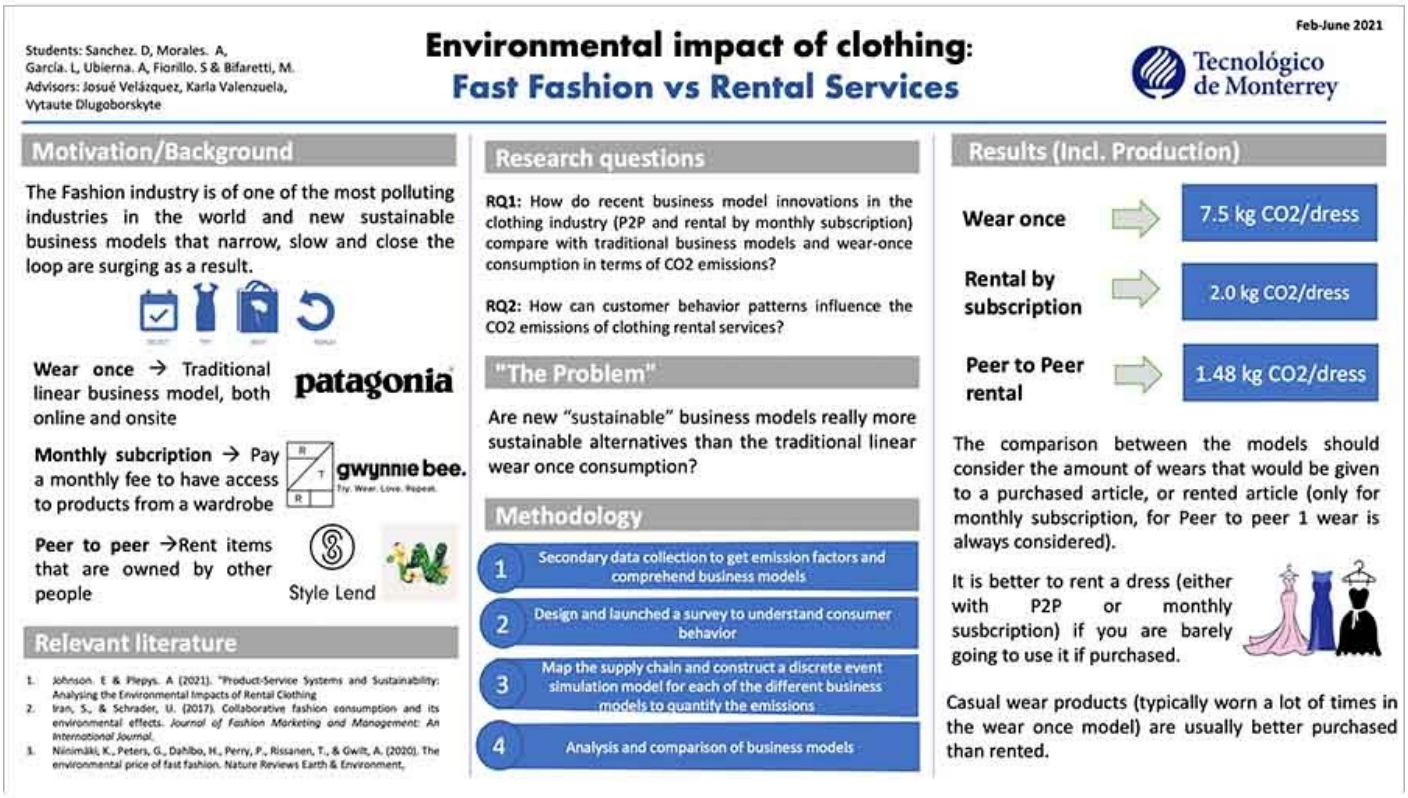
For her part, **Sofía** told us how the Tec has opened the door to projects like this and that, in fact, it was thanks to the collaborative relationship that exists between the institution and MIT that they were given this opportunity.

*"**The Tec gives us the necessary skills to face challenges** that require much more than just technical abilities,"* she pointed out.

In addition, **Anayte** said that in general **it was an integrating project in which they were able to apply much of the knowledge** they had acquired in the course of their **Industrial Engineering studies.**

*"We extensively **researched** the literature, mapped processes, searched for primary information sources like surveys and samples, and modeled simulations of discrete events to estimate the emissions produced by renting and buying clothes.*

*"**We not only gained technical knowledge but also strengthened our soft skills** such as presenting our work to different audiences, managing our time, and preparing a good executive summary,"* she pointed out.



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For her, **it was interesting to find that a lot of the emissions are attributed to the actions** and decision-making of the consumer, as opposed to what is conventionally believed: that everything falls on the companies.

"Decisions to consider include visiting a clothing store that's closer to you or renting from someone in your neighborhood, being sure about your rent-or-buy decision so that you're not constantly returning items, walking or using public transportation when possible, and avoiding express deliveries and shipments.

*"Although these rental models are not often seen Mexico yet, **this type of analysis emphasizes the human sense that the Tec seeks to create in us and it is what needs to be done at the end of the day before formulating a business model,"*** she emphasized.

The team wanted to thank their project advisors: Karla, Vytaute, and Joshua, as well as professors such as Irais Mora and Camilo Mora, who also supported the project throughout, as well as the Tec, which afforded them this opportunity.

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