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WHITEPAPER

The FoodTech Landscape in Latin America

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PROLOGUE

Food systems are rapidly changing on a global scale due to the accelerated pace of climate change and our increasing vulnerability to its effects. Drastic shifts not only threaten the health of our planet and communities, they also present significant challenges for businesses worldwide. Multi-sectorial collaboration is essential to help build a more sustainable, regenerative and inclusive food system that caters to the needs of an ever-growing customer base of more than 7 billion people globally. The COVID-19 pandemic has only exacerbated these challenges and highlighted the opportunity areas and inequalities that underlie value chains.

At PepsiCo, our citizenship and sustainability agenda is fully integrated into the business through our vision of "Winning with Purpose", which allows us to accelerate our growth in the marketplace by integrating the purpose of doing even more for the planet and for the people. PepsiCo's sustainability strategy targets every stage of our complex value chain, from agricultural sourcing; to R&D and manufacturing; distribution; consumption and post-consumption.

As one of the world's leading food and beverage companies, PepsiCo sources more than 25 crops across 60 countries; distributing products in more than 200 countries and supporting over 270,000 direct jobs and an additional 100,000 throughout our agricultural value chain. In Latin America, PepsiCo is responsible for more than 70,000 direct employees across 34 markets, operating over 40 production plants and 24,000 sales routes.

Our size and scale afford us a unique opportunity and responsibility to help build a more sustainable food system. That is why we are working to transform the way we create shared value by operating within planetary boundaries. We are more conscious than ever that we have a special role to play to drive positive change at every level.

Technology is the key to this transformation. It not only allows us to face many of the challenges that lie ahead in a more accessible and efficient way, but also to become more competitive. Innovation is critical if we want to create accessible, sustainable and healthier supply chains.

However, truly accomplishing global change is a team effort, and all system players must work together. That is why we decided to partner with Endeavor to give visibility and create awareness about an essential piece in this effort: the FoodTech entrepreneurial ecosystem in Latin America. Entrepreneurs are transforming the industry in an incomparable way, streamlining different parts of the supply chain through innovative methods and technologies to create sufficient and healthier food products and services.

This study aims to provide an overview of FoodTech entrepreneurship in the region and shed light on the status of technology innovation for stakeholders to seize emerging opportunities and ward off challenges, and work together to catalyze digital transformation. The focus is on Mexico, where PepsiCo has had a strong presence for more than 110 years, but also on the four flagship countries of the FoodTech industry in Latin America: Argentina, Brazil, Colombia and Chile.

At PepsiCo, we do not intend to proceed with business as usual. We are determined to take big, bold steps to build more resilient communities and a more sustainable food system for all. In this context, the opportunity to establish win-win partnerships with key actors from this FoodTech entrepreneurial ecosystem will allow us to accelerate our efforts and to be better prepared for the challenges that lie ahead.

Roberto Martínez,
President *PepsiCo Mexico*

Technology is reshaping food systems worldwide in order to efficiently and sustainably meet the rising demand for food in the coming decades and the changes in consumer preferences brought about by the Covid-19 pandemic. While global actors have begun implementing emerging technologies across various stages of the value chain, many regional actors continue working with legacy food-system models. This lag in innovation locally makes the sector ripe for disruption.

The Covid-19 pandemic paved the way for new technologies to disrupt the Food Industry. The most obvious change was the surge in demand for online grocery and restaurant delivery services. Additionally, people are paying closer attention to their health, seeking more balanced diets and consuming more fruits and vegetables.

Activists are also seeking alternatives because of the ethical and environmental concerns of the meat and dairy industry. To keep up with innovation requirements, investment in FoodTech grew significantly in 2020 compared to the previous year.

The objectives of this study are to breach the information asymmetry for entrepreneurs, offer stakeholders a regional perspective on the FoodTech sector, and understand how technology implementation is benefiting the sector.

As a result of a preliminary investigation, Endeavor identified the countries with the highest number of companies operating in the sector: Argentina, Brazil, Chile, Colombia and Mexico. Based on this sample, Endeavor identified 323 operating FoodTech companies across the five countries. From this it was possible to obtain information on 102 FoodTech startups and scaleups through a survey and 20 in-depth interviews with various stakeholders in the ecosystem, including entrepreneurs, investors, fund managers and accelerators.

Endeavor, together with Pepsico, devised a matrix to classify different entrepreneurial ventures and identify the opportunities and challenges they have in common. To expand the scope of the project, Endeavor included companies all along the food and beverages supply chain.

PRODUCT & BUSINESS			SUPPLY CHAIN			COMMERCIALIZATION	
Innovation in the Traditional Sector	Organic, natural and healthy products	New Foods Tech	Packing & Packaging	Logistics & Data Mngmt	Transport & Distribution	E-Commerce & Marketplace	Sales
							

Source: Endeavor Intelligence, 2021.
*This is a matrix that breaks down the subcategories for companies of focus for the FoodTech research.
**N = 323 companies identified in these subcategories in Latin America.

Characteristics of the FoodTech community in the analyzed sample:

- **These companies employ more than 29,000 people and have raised 1.7 billion dollars in capital since 2011.**

- The top three categories represented are **Logistics and data management** (22%), Sales (17%), and **Organic, natural or healthy products** (16%).

Main findings:

- The three categories that, on average, have the most entrepreneurs scaling to employ 50+ people and also have the highest sales and CAGRs are found in **Logistics and data management, Sales** and **Transportation & distribution**.

- **Among FoodTech companies with less than 10 years of operation, only 24% have managed to scale and employ 50+ people. This small subset of companies are responsible for 83% of total jobs in the sector.** This indicates that this sector's productivity is concentrated in a small group of companies with innovative models that manage to scale and promote job creation. These companies typically have a B2B / B2B2C business model, operate locally, have access to capital and are founded in 2015.

- **26% of FoodTech startups in the sample have expanded internationally.** Companies in Chile (52%) and Argentina (49%) tend to expand their operations to other countries, whereas companies in Mexico (21%) and Brazil (15%) have mostly stayed within their borders. Companies with operations abroad have larger revenues than companies that do not.

  - The most popular destination for expansion for LatAm-based FoodTech companies is the USA, followed by Mexico, and then Brazil.
  - Argentina is the least popular destination for expansion.

- **Investment activity skyrocketed in the region over the past 10 years, with a total of 206 venture capital rounds worth 1.7 billion dollars. 2020 & 2021 combined make up 64% of the total amount invested since 2011.** Financing in the FoodTech industry is mostly driven by Venture Capital firms.

- **At a global scale, CVC activity quadrupled in 2020. Bimbo, Wayra & FEMSA are leading the CVC scene in Latam,** investing mainly in the Logistics and data management, Transportation & distribution, and Sales categories.

- **The leading 24 B2C FoodTech startups and scaleups in E-commerce and marketplaces, New foods and Organic, natural or healthy products hold a total community size of 1.03 million users and published a total of more than 97k content pieces (including "posts" and "stories") from January 2019 to June 2021.**

  - The typical social media audience for ***e-commerce and marketplaces*** is a Spanish-speaking female, aged between 25 to 34 and living in Mexico City.

  - The most efficient digital marketing targeting was carried out by companies in ***E-commerce and marketplaces*** and ***New Foods.***

  - Overall, content pieces were more likely to be promoted (paid for to increase exposure) than organic, suggesting that FoodTech startups heavily invest in their social media communities.

  - Different categories rely on different communication pillars to sell their products. Product attributes, or mostly health- and quality-related attributes of the product is the pillar that generates the most engagement. This pillar of communication generates 53% of interactions per 1k pieces of content and is the most used communication pillar.

- **Only 22% of entrepreneurs outsource tech development, suggesting a large majority of entrepreneurs (78%) are taking tech development into their own hands and have the capacity to do so.** The two categories that outsourced tech development the most were e-commerce and marketplaces and organic, natural or healthy products.

- **Competitiveness of companies in the food and beverage industry is closely linked to their ability to innovate through technology.** In order to evaluate the true impact of technology across the different FoodTech startups and scaleups business models, Endeavor examined these technologies and illustrated through case studies.

In summary, entrepreneurs are spearheading innovation across the supply chain and offering creative and disruptive food systems and products. Technology will continue to play a key role in food systems by: reimagining how food is produced, packaged, transported, distributed, commercialized and consumed; tackling critical negative byproducts of traditional food systems like food waste, ethical concerns, and environmental impact; and shaping healthier, sustainable and more equitable food supply chains.

INTRODUCTION

With a population expected to reach 750 million by 2030, Latin America will face a sharp rise in the demand for food in the coming decades. The ability to meet that demand in an efficient and sustainable way is key.

But the implications of food production in Latin America are not limited to the region. Latin America is the largest food producer on Earth, hosting 38 percent of the world's farmland and an estimated 25 percent share of global agricultural and fisheries exports by 2028.[1] Because of this, food production in Latin America has a direct impact on global affairs, such as food prices, climate change, food safety and security, and resource scarcity, to name a few.

Despite its global importance, the region faces significant challenges when it comes to food security, sustainability, and public health. A study by the Food and Agriculture Organization, FAO, revealed that Latin America and the Caribbean are responsible for 20% of the food that is lost or wasted in the world.[2] Moreover, the number of people in Latin America and the Caribbean that experience undernutrition or malnutrition has been rising since 2014, reaching 42.5 million in 2018. Simultaneously, the region's overweight population has been growing, with 60 percent of adults overweight in 2016, double the rate of 30 percent in 1975.

These prominent issues require technological innovation to address sources of inefficiency and resource mismanagement and better connect current supply chains. While many emerging technologies are being implemented across stages of the value chain, many regional actors continue working with legacy foodsystems models. This lag in innovation locally makes the sector ripe for disruption.

When the Covid-19 pandemic produced lockdown measures encouraging people to stay home and turning most jobs remote, the FoodTech industry had to ensure the smooth functioning of all food production operations to prevent global food shortages. Technological innovation became imperative to maintaining a well-connected and sustainable FoodTech value chain.

The Covid-19 pandemic also helped accelerate changes in consumer preferences and paved the way for new technologies to disrupt the Food Industry. For instance, online grocery and restaurant delivery received an influx of consumer demand as customers largely continued to avoid crowded public places such as grocery stores and restaurants.[3]

The pandemic also placed special importance on FoodTech from another angle: by placing health at the forefront of the public conversation. A survey conducted by Atlantia Search, a Mexican consumer research firm revealed that 74% of consumers changed their eating habits because of Covid-19. The leading trends cited in the survey were having a more balanced diet and consuming more fruits and vegetables.

"The greatest innovations are usually consumer-driven. Currently, we see 3 main categories of innovation drivers for the FoodTech startup scene: consumer trends, the pandemic, and demographic trends."

Gonzalo Perez-Taiman
Founder & Partner at *Arpegio*.vc - Venture Capital firm focused on early-stage technology food and agriculture startups

Moreover, a recent study conducted by multinational ingredients provider Ingredion, which surveyed consumers across Argentina, Brazil, Chile, Colombia and Peru, found that as much as 90% of the population want to eat more plant-based foods.[4] In the last five years, the plant-based industry has begun to attract big investors worldwide – also prompting giant food companies, such as JBS, Tyson Foods, Unilever, and Nestlé, to make acquisitions and invest in this market.[5] Companies such as Beyond Meat, Impossible Foods and Daiya Foods are currently the largest global players in plant-based foods; however, Latin American counterparts such as NotCo, Fazenda Futuro and Heartbest are not far behind.

Interest in animal-free products is not limited to health causes. Undoubtedly, reducing meat consumption is proven to be beneficial for health as research shows that people who eat red meat are at an increased risk of serious health conditions such as heart disease, strokes or diabetes.[6] But activists are also seeking alternatives because of the ethical and environmental concerns of the meat and dairy industry. First, industrial farming falls short of ethical standards. To illustrate, 80 percent of all antibiotics in the US are used on meat and poultry production to prevent animal diseases arising from unsanitary conditions.[7] Second, meat production contributes significantly to greenhouse gas emissions and climate change - specifically, livestock farming causes land and water degradation, biodiversity loss, acid rain, coral reef degradation, deforestation and emits 250 times more greenhouse gas per gram of protein than legumes such as beans or peanuts.[8,9] All of which increases our vulnerability to climate change, already accelerating at an alarming rate.

"Heartbest uses non-traditional infrastructure to produce cheese that requires ten times less space than that used for animal production. Traditional cheese takes more than 60 days to mature; our products take about three to five days, saving a significant amount of energy in cold-room storage. In all, we produce up to 98 percent fewer emissions than any animal-based product."

Aldo González
CEO & cofounder at *Heartbest Foods* - Mexican plant-based foods startup

To keep up with innovation requirements and consumer-driven trends, investment in FoodTech grew significantly in 2020 compared to the previous year. FoodTech raised $18.7billion in VC in 2020 across 848 deals, a 14% increase in capital invested from the $16.4 billion across 814 deals in 2019.[10,11,12]

Together, the aforementioned factors have elevated the importance of the growing ***FoodTech*** sector. The objectives of this study are:

1. To breach the information asymmetry for entrepreneurs and offer stakeholders a regional perspective of the FoodTech sector.
2. To understand how technology implementation is benefiting the sector.

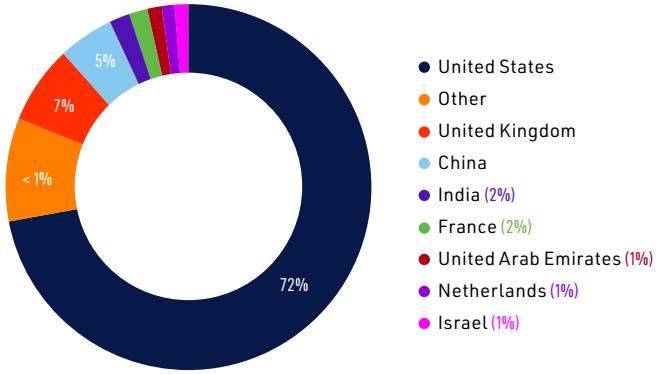
FOODTECH IN THE WORLD

Around the world, FoodTech startups and scaleups are making the food industry more efficient while working towards more sustainable solutions for the environment.[13] A decade ago, innovations such as lab-grown food and robot kitchen assistants would have been seen mostly in Sci-Fi movies. Today, they are among a handful of technologies transforming the food industry.

Technology is reshaping food systems worldwide, as reflected by the rising global investment in food innovation. In 2019, the global FoodTech market was valued at 220.32 billion dollars. It is anticipated to reach 342.52 billion dollars by 2027, according to Canadian market research firm Emergen Research.[14] Undeniably, the sector is growing at a fast pace across the world.

Investment in FoodTech companies is highly concentrated in the United States, accounting for 72% of total investment in the industry. The United Kingdom comes a distant second with 7%, and China third with 5%. During the period of 2016 to 2021 Venture Capital investment reached a new record 4B***, a growth rate of 6x since 2016. When evaluating capital according to industry, Food Products led the investments with 40%, mostly concentrated in producers of alternative proteins, which are made of plant-based food or animal cells utilizing technologies such as genetic engineering, biotechnology, fermentation and AI.

FOODTECH CAPITAL INVESTED BY GLOBAL REGIONS (2016 - 2021)



Source: Endeavor Intelligence Analysis, 2021.
*Data obtained from Pitchbook and Crunchbase, consulted in June 2021.
**N = From over 2,700 FoodTech companies identified Globally, over 1,000 have raised capital and most have been allocated in the United States, UK, and China. Over 5,000 deals in the period of 2016 to 2021.
***In our definition of FoodTech Categories (defined in next section) for this research, we don't consider food delivery providers.

A few examples of FoodTech scaleups succeeding at a global scale include Nuro, Zume, and Perfect Day. These three companies, all based in California, are among the top 10 startups in the world in total capital raised.

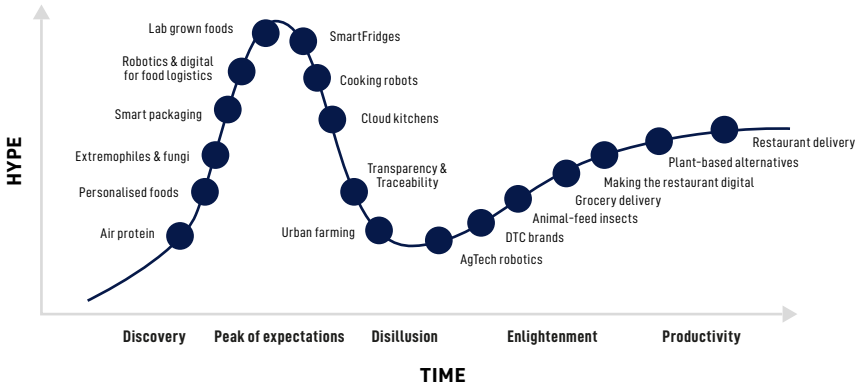
Nuro, founded in 2016 by former Google engineers Dave Ferguson and Jiajun Zhu, is a developer of a fully autonomous, on-road vehicle intended to transform local commerce through autonomous delivery. The company develops and operates a fleet of efficient, electric, and fully autonomous vehicles that are built to deliver local goods of all kinds. This enables retailers to deliver goods to customers quickly, affordably, and safely. Since its foundation, the company has raised a total of 1.53 billion dollars and reached a valuation of 5 billion USD.[15] In 2021, the company announced a Joint Venture with FedEx to create the next generation of autonomous delivery vehicles, allowing Nuro to further revolutionize transport and delivery through its technology.[16]

Zume, a scaleup focused on eco-friendly alternatives for the packing and packaging sector, was founded in 2018 by Alex Garden. Zume develops compostable plant-fiber-based products designed to replace single-use plastic. The company has created a biodegradable anti-leak range of food packaging products and offers its own distribution channel, contributing to a smarter and more sustainable food system. To date, the startup has raised a total of 445 million dollars and is expanding to 7 countries, mainly in East Europe and Russia. Moving forward, Zume has plans of expanding globally.[17,18]

Lastly, Perfect Day was founded by Perumal Ganshu and Ryan Pandya in 2014. The scaleup specializes in plant-based milk substitutes and proteins that mimic the nutritional offerings of cow's milk. Through the process of yeast fermentation of plant-based sugars, the startup produces milk made from ingredients that are sustainable, vegan, and free of antibiotics, cholesterol and lactose, providing customers with nutrient-dense and environmentally-safe dairy alternatives.[19] Since 2014, the company has raised a total of 361 million dollars and reached a valuation of 800 million. In 2020, the company achieved a regulatory milestone after being recognized by the FDA with its Generally Recognized As Safe (GRAS) status.[20]

In 2020, DigitalFoodLab mapped the most promising and impactful FoodTech trends in the world and condensed them into the following graph. DigitalFoodLabs' chart classifies trends under two axes: hype and time. Hype refers to how much enthusiasm there is surrounding the technology or trend (i.e. how many positive press or social media mentions). Time refers to the timeline that tech trends usually follow, from trigger (discovery), to expectation, to disillusionment, to enlightenment (when profitability and mass use can be reasonably expected), and finally to the plateau of productivity (when it has become common and profitable).[21]

DIGITALFOODLAB'S 2020 STATE OF FOODTECH TRENDS



Source: DigitalFoodLab, 2020.
*This comprehensive list of FoodTech trends includes ones that do not fall under this study's FoodTech classification matrix such as restaurant delivery.

Many of these trends that have already taken hold in other parts of the world are taking hold or gaining speed in Latin America. Below, we dive deep into some of these trends to create a portrait of global innovation.

LAB-GROWN/ CULTIVATED ANIMAL PRODUCTS

Traditional meat production is highly inefficient, as one kilogram of beef requires 25 kilograms of grain and roughly 15,000 litres of water.[22] Worldwide, the market for animal product alternatives is booming, and alternative methods of production are also starting to take center-stage. One of these production alternatives is cultivating meat in a laboratory. Indeed, to date, options from salmon, to rib-eye steak, to chicken, shrimp and essentially all of the top-consumed animal-based products are already being grown in a lab.

Upside Foods, a FoodTech startup based in Berkeley, California and founded in 2015 by Uma Valeti, Nicholas Genovese, and Will Clem is working to grow meat products in a lab. Co-founder Valeti, a cardiologist by training, understood from his profession the dangers that red meat poses to human health and spent a decade researching the potential of cell-cultured meat.[23] However, contrary to most alternative-source FoodTech companies, Upside Foods takes animal protein as the base of their products. Their process begins with animal stem cells extracted from cow biopsies fed on oxygen, sugar, and minerals. Over a couple of weeks, these cells develop into skeletal muscle in a bioreactor, and with the resulting muscle nearly indistinguishable from a typical meat cut and viable for consumption.[24] This innovative methodology delivers consumers an alternative that is identical to the original product, without the environmental implications. Upside Foods is supported by VCs such as SoftBank Group, food industry leaders such as Cargill and Tyson Foods and renowned investors such as Bill Gates and Sir Richard Branson, to name a few. Although the production process is still very costly, making the products unlikely to hit stores in the immediate future, technology has the potential to drive down production costs in the coming years and create a new era of lab-grown foods.

Similar to Upside Foods, San Francisco-based startup Wildtype is developing lab-grown salmon using salmon cells as a base. To cultivate the salmon cells, Wildtype adds a mixture of nutrients, sugars, salts, amino acids, and growth factor. The process aims to coax the cells to grow as they naturally would inside an animal's body. As a result, the process can yield animal tissue that contains muscle, blood, and fat, while avoiding common contaminants found in farmed fish such as mercury.[25] Additionally, avoiding the traditional fishing method prevents ripple effects in food chain disruption, keeping more species out of danger of extinction and maintaining environmental balance. Wildtype recently opened their first pilot plant in San Francisco.[26]

Another example of a startup focused on lab-grown food is New Wave Foods, a FoodTech startup based in Connecticut and founded in 2015. New Wave Foods is aiming to replace shrimp with vegan alternatives. The company claims that each year, the United States alone consumes 1.7 billion pounds of shrimp, and this is especially harmful to the environment as shrimp has a carbon footprint ten times greater than beef.[27] While the above-mentioned lab-grown meat and salmon start their production process with animal stem cells, these shrimp substitutes are grown from a combination of mung bean, seaweed, and other plant-based ingredients. The end product, New Wave Shrimp, is not only healthier and more environmentally friendly, but also suitable for people with shellfish allergies.[28] To date, New Wave Foods has received USD 18 million in investments.[29]

3D PRINTING FOOD PRODUCTS

Following a similar production process to the abovementioned lab-grown products, a few startups are implementing technology from an even earlier stage: by artificially creating animal cells using 3D printing. One pioneer in this field is an Israeli startup, Aleph Farms, founded in 2017. The company is printing beef steaks with a 3D printer to reduce the environmental impact of animal products.

The technology was developed working together with Israel's Technion University, showing the importance of promoting research partnerships among universities and startups. Aleph Farms prints the first layers of support cells, fat cells, blood cells, and muscle cells before placing them in an incubator to grow into the finished steak. This method of growing meat remains very costly and has yet to pass regulation standards worldwide; however, with the fast advancement of tech, it will not be long before these can hit stores.[30]

ROBOT KITCHEN ASSISTANTS

Automation technologies are becoming increasingly essential in today's business and manufacturing world, as they lower production costs and minimize human error. Automation can have a similar impact in the kitchen. An analysis conducted by McKinsey & Company evaluating 2,000-plus work activities for more than 800 occupations concluded that 73% of the activities food service workers perform have the potential for automation.[31]

Miso Robots, a California-based startup, uses AI and robotics to build automated kitchen assistants. The company constructs robots that are able to serve drinks or flip hamburgers automatically, and today they operate in the White Castle fast food chain in the USA.[32] Following Miso Robots' first iconic robot named Flippy, which is capable of flipping burgers, the company has released a second iteration capable of performing a wide array of tasks without any human supervision, such as scraping grills, draining excess fry oil, and removing residue from oil between frying, as it recognizes and monitors items like baskets and burger patties in real time. Finally, through artificial intelligence, Miso Robots can even integrate point-of-sales systems to route orders automatically and optimize which tasks to perform.

Hence, integrating robots in the kitchen not only increases efficiency in process and allows workers to focus more on strategic action rather than repetitive tasks, but can also reduce workplace hazards by taking the most dangerous kitchen jobs such as deep frying in hot oil away from human action.

BLOCKCHAIN FOR TRACEABILITY

Consumers' interest in a healthy lifestyle is not limited to healthy eating, it also extends to understanding the carbon footprint, sustainability and product origin of the foods they are eating. This has been evident in the increase of Farm-to-Fork/Farm-to-table restaurants, which promote serving local food through direct acquisition from the producer.

Technology can provide the tools to achieve product traceability. For instance, blockchain helps generate transparency and efficiency in maintaining records in the supply chain and thus improve food safety. Different players along the supply chain are connected by logging product information in the decentralized information system that blockchain provides.

A study conducted by consulting firm Deloitte on the benefits of blockchain for the fresh food industry,suggests that in addition to traceability, blockchain solutions can reduce market inefficiencies to create more value and reduce the food waste that was once considered a cost of doing business.[33]

Connecting Food, a Paris-based FoodTech startup, uses blockchain to ensure complete traceability from farm to fork, and helps identify supply chain problems in real-time.[34] The startup, founded in 2016, aims to help the food industry fill critical information gaps along its increasingly complex supply chain.

CLOUD/ GHOST/ DARK KITCHENS

Dark kitchens, also known as cloud kitchens, ghost kitchens, or even virtual kitchens, refer to the concept of delivery-only restaurants. Contrary to the many restaurants that were forced to close because of the pandemic, dark kitchens seized the opportunity and grew exponentially. Market research firm Euromonitor, estimated in 2020 that the US had 1,500 ghost kitchens, ahead of the UK with 750 but behind China's 7,500 kitchens and India's 3,500, and that the market for dark kitchens could become a $1 trillion dollar business by 2030.[35]

Even before Covid's exponential acceleration, this business model was already gaining momentum. In 2019, Uber founder Travis Kalanick launched CloudKitchens with $400 million in funding. That deal promoted a 6x growth in investment in this category in 2019.[36] CloudKitchens provides aspiring business owners with the necessary real estate, basic equipment, utilities, and even technology such as order pick-up and processing software and affiliation to delivery sites, encouraging a seamless transition for the food prepping business. To date, CloudKitchens is valued at USD 5.3 billion.[37]

These leading global examples set the standard for what Latin American startups can achieve by combining these emerging technologies with locally relevant business models and value propositions.

"The market in Latin America has yet to adopt many trends seen in the United States and Europe because of high prices. Having a value proposition that aligns with the Latin American market will increase accessibility over time."

Adolfo Ruillón
Co Founder at *Frizata* - the first digitally native FoodTech in the flexitarian frozen food space in LatAm

Latin America not only has the great advantage of geographic proximity to the United States, where the highest percentage of capital for startups and scaleups is concentrated, but also has a series of additional characteristics that benefit the region, such as human talent and resources. In the coming years, Latin America is expected to become a major player in the industry.

"Latin America has the potential to be a world power in the FoodTech industry. LATAM has several characteristics that make this possible, such as talent, production capabilities, infrastructure and natural resources. FoodTech is one of the industries that can really change the history of Latin America."

Bernardo Milesy
Founder & Managing Partner at *GLOCAL* - the first LatinAmerica Acceleration Fund focused in Agri Food Tech

METHODOLOGY

COUNTRIES OF FOCUS

As a result of a preliminary investigation, Endeavor identified that the countries with the highest number of companies operating in the sector are Argentina, Brazil, Chile, Colombia and Mexico. Hence, for purposes of the study, Endeavor decided to focus the analysis on these five countries, due to their importance and growing FoodTech ecosystems compared to their regional counterparts.

MAIN STATISTICS PER COUNTRY

MEXICO

- Population: **128 million** (2019)
- The food industry represents **7%** of the national GDP.
- Packaged food market in Mexico was estimated to reach **US$53B** in 2019, which makes it the 11th largest market in the world.
- Total number of unicorns: **3**

COLOMBIA

- Population: **50.34 million** (2019)
- The food industry represents **3%** of the national GDP.
- Colombia is now the largest South American market for the export of U.S. agricultural products, which totaled a record **US$3B** in 2018.
- Total number of unicorns: **2**

BRAZIL

- Population: **211 million** (2019)
- The food and beverage industry represents **11%** of the national GDP.
- US**$152**B food processing industry market estimate for Brazil in 2020.
- Total number of unicorns: **18**

CHILE

- Population: **18.95 million** (2019)
- The food processing industry represents **25%** of the national GDP.
- 2nd largest market in South America for U.S. processed food product exports.
- Total number of unicorns: **1**

ARGENTINA

- Population: **44.94 million** (2019).
- Food and beverages industry represents **3.5%** of the national GDP.
- The US represents **13%** of export product share in the country.
- Total number of unicorns: **7**

Source Endeavor Intelligence Analysis, 2021
*Data obtained from Food Export USA, National Institute of Statistics a Geography (Mexico), Competitive Intelligence Unit (Argentina), Natio Administrative Department of Statistics (Colombia), Chile Central Bank, Wo Integrated Trade Solution (World Bank).
Consulted in June 2021.

STARTUP CATEGORIES

In order to better understand the innovation in the industry, Endeavor together with PepsiCo devised a matrix to classify different entrepreneurial ventures and identify the opportunities and challenges they have in common.

To expand the scope of the project, Endeavor included companies all along the food and beverages supply chain. Some categories are not labelled as FoodTech per se, in the traditional interpretation of the word, but have a direct impact on the sector's supply chain — these include Sales, Transport & Distribution, and Logistics & Data Management. Innovation and, specifically, tech adoption in these categories makes the sector more efficient and productive.

"Our vision of the FoodTech supply chain includes all entrepreneurs that have a direct impact on our sector. Considering only entrepreneurs that develop new food products would leave out all these other entrepreneurs that use technology to streamline an incredibly complex and expansive processes. That is why we built this version of the supply chain that tries to encompass all types of companies in this fascinating and broad ecosystem."

Carlos de Lascurain
Strategy & Transformation Vice President
PepsiCo Mexico Foods

The classification places companies in a single category, and although some companies may overlap, Endeavor assigned companies to the category that best aligns with their mission, business model and tech innovation.

FOODTECH MATRIX & CATEGORY DEFINITIONS

	PRODUCT & BUSINESS			SUPPLY CHAIN			COMMERCIALIZATION	
	Innovation in the Traditional Sector	**Organic, natural and healthy products**	**New Foods Tech**	**Packing & Packaging**	**Logistics & Data Mngmt**	**Transport & Distribution**	**E-Commerce & Marketplace**	**Sales**
Examples	TIGOÛT, gazpaletas, DoceD'océ, Congelados del Sur, Procesa	Azucena, Siropa, Heartbest, dontworry, Holistik, Super Foods, Xilinat, Sin Secretos	NotCo, Totolines, The Live Green Co, fazenda futuro, Gricha, Qpod	ecoshell, GECO, Biofase	analytics, Arvolution, Kuona	nuvo cargo, net LogistiK, 99minutos.com, cargo	Jüsto, mercadoni, YEMA, frubana	wabi, pediidos, yalo
Description	Improve quality, reach of product, and experiences of customers.	There are existing trends to consume healthy foods	Trend to reduce livestock´s environmental impact.	Consumers care about packing/ packaging environmental impact.	Cost reduction by more efficient processes can improve sell-out prices.	Improve information flows in the distribution sector.	Grow comm. Channels across LATAM to reach more customers.	Improve communication on between suppliers, vendors and consumers.

Source: Endeavor Intelligence, 2021.
*This is a matrix that breaks down the subcategories for companies of focus for the FoodTech research.
**N = 323 companies identified in these subcategories in Latin America.

The categories are as follows:

- **Innovation in the Traditional Food Industry:** Startups and scaleups focused on innovating in traditional food products such as fishing, livestock through their composition, business model, means of distribution or personalization of products. These older companies have been able to revolutionize their processes time and time again to stay relevant in the 21st century.
- **Organic, natural, or healthy products:** Startups and scaleups applying technology to develop healthier and more organic food products (with less sugar, fats, etc.).
- **New foods:** Startups and scaleups that use high-tech solutions to develop new, often more sustainable types of foods.
- **Packing and packaging:** Sustainable packing and packaging alternatives for food and beverages. This typically consists of packaging that is created by new materials (ex: seeds or avocado shell packaging rather than plastic, aluminum, or paper).
- **Logistics and data management:** Startups and scaleups that improve internal processes through data-driven and data management solutions (AI, IoT, etc.).
- **Transport and distribution:** Innovation in the transportation and distribution of supplies and finished goods. These companies use technology to change or make these processes more efficient.
- **E-commerce and marketplace:** Startups and scaleups whose business model is based on the sale of products via digital media (e-commerce) and who aim to use those platforms to sell foods on a larger scale (online supermarkets). Do not include food delivery providers such as Rappi or Merqueo.
- **Sales:** The aim of these companies is to strengthen sales through high-tech solutions & better communication channels. These companies connect producers, sellers and customers in more streamlined and effective ways.

A more detailed explanation, including specific distinctions between the categories, is found in the annex of the study.

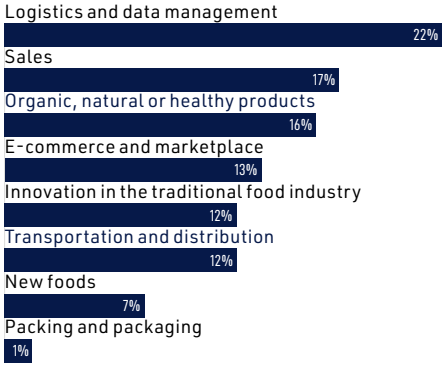
DATA COLLECTION AND SAMPLE SIZE

To ensure a complete and accurate portrayal of the sector, Endeavor used a comprehensive mix of primary and secondary sources. First, Endeavor carried out an initial mapping of the industry, from sources such as Crunchbase, LinkedIn, Pitchbook, and Endeavor's own entrepreneur network.

As a result, Endeavor identified a sample of 323 operating FoodTech companies across five countries in Latin America. **These companies employ more than 29,000 people and have raised 1.7 billion dollars in capital since 2011.**

According to the classification matrix, our sample is distributed as follows, with the top three categories being **Logistics and data management** (22%), followed by **Sales** (17%), and then **Organic, natural or healthy products** (16%).

DISTRIBUTION OF COMPANIES BY CLASSIFICATION



Source: Endeavor Intelligence, 2021.
*The information corresponds to data collected by Endeavor.
**N = 323 companies.

Second, Endeavor distributed a comprehensive survey to the identified companies, and was able to obtain additional information on 102 FoodTech startups and scaleups. Third, Endeavor conducted +20 in-depth interviews with various stakeholders in the ecosystem, including entrepreneurs, investors, fund managers and accelerators. The information collected through the survey and interviews was used as the basis of this study.

GENERAL FINDINGS

GENERAL FINDINGS

Before diving into each of the individual categories, we provide an overview of the scope and range of the FoodTech industry within each of the five countries studied.

INFOGRAPHIC MAP WITH INSIGHTS FOR EACH COUNTRY

ARGENTINA

- **41 FoodTech** startups and scaleups
- Innovation in the traditional food industry is the most represented subsector in the country **(22%)**
  Total jobs **2,270**
- **68%** of companies had access to financing.
  Total capital raised since 2011: **US$15M**
- **49%** of Argentina's companies have expanded into International Markets.

COLOMBIA

- **60 FoodTech** startups and scaleups
- Organic, natural or healthy products is the most represented category in the country **(28%)**
  Total jobs **3,304**
- **47%** of companies had access to financing.
  Total capital raised since 2011: **US$175M**
- **25%** of Colombia's companies have expanded into International Markets.

BRAZIL

- **123 FoodTech** startups and scaleups
- Logistics and data management is the most represented category in the country **(33%)**
  Total jobs **15,494**
- **54%** of companies had access to financing.
  Total capital raised since 2011: **US$828M**
- **15%** of Brazil's companies have expanded into International Markets.

MEXICO

- **68 FoodTech** startups and scaleups
- Organic, natural or healthy products is the most represented subsector in the industry **(22%)**
  Total jobs **5,819**
- **49%** of companies had access to financing.
- Total capital raised since 2011: **US$271M**
  21% of Mexico's companies have expanded into International Markets.

CHILE

- **31 FoodTech** startups and scaleups
- New foods is the most represented category in the country **(23%)**
  Total jobs **941**
- **71%** of companies had access to financing.
  Total capital raised since 2011: **US$348M**
- **52%** of Chile's companies have expanded into International Markets.

Source: Endeavor Intelligence Analysis, 2021.
*The information corresponds to data collected by Endeavor.
**N = 323 companies.

PRODUCTIVITY AMONG FOODTECH COMPANIES

Based on Endeavor's previous network-mapping experience, a "successful" entrepreneurial community becomes productive by generating companies that reach scale. In the vast majority of communities studied, the path is the same, with most of the job growth attributed to a small number of companies that reach scale and that have the following characteristics within their first 10 years of operation:

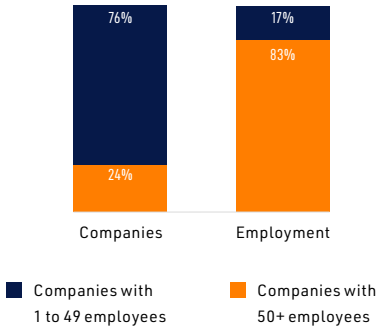
- Employ 50 people or more
- Have raised capital from institutional investors
- Have Market validation (expansion to other markets or part of international acceleration programs such as YC Combinator, 500 Startups, among others)

Additionally, other measures to be evaluated further in the study include sales and growth in recent years (3Y CAGR).

Endeavor has found by studying more than 50 entrepreneurial communities in the world that there is a positive correlation between higher sales and capital raised and job creation. Thus, to illustrate the impact and dynamism of the FoodTech Entrepreneurial Community in Latin America, Endeavor set to measure local dynamism as a measure of the proportion of entrepreneurial companies that reached scale, defined as 50 or more employees, compared to those that have not.

As a result of this analysis, Endeavor found that 24% of FoodTech companies with less than 10 years of operation and 50+ employees are responsible for 83% of total jobs in the sector. This indicates that this sector's productivity is concentrated in a small group of companies with innovative models that manage to scale and promote job creation.

DYNAMISM OF THE FOODTECH COMMUNITY COMPANIES



Source: Endeavor Intelligence, 2021.
*The information corresponds to data collected by Endeavor.
**N = 279 companies within their first 10 years of operation that generate 15,517 jobs.

Analyzing the typical characteristics of companies that have managed to scale in the sector is important. Specifically, Endeavor found these companies tend to have a B2B/B2B2C business model, operate locally, have access to capital and their median year of foundation is 2015. Additionally, companies that have scaled have a median of 101 employees, 100% CAGR and US$11M in yearly revenue.

CHARACTERISTICS OF COMPANIES THAT HAVE SCALED TO 50+ EMPLOYEES IN LESS THAN 10 YEARS

Founded in **2014**

Median number of employees: **101**

Median 3YCAGR: **85%**

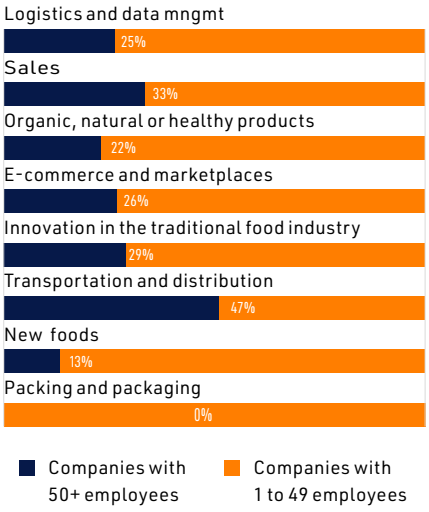
Median Revenue: **US $20M**

Source: Endeavor Intelligence, 2021.
*The information corresponds to data collected by Endeavor.
**N = 279 companies within its first 10 years of operation and generating 15,517 jobs.

On further analysis the disparity between the median and the average company in the sample shows the wide range of companies in the sector, from early-stage startups to scaleups.

Not all sectors have scaled to the same extent. For instance, while almost half (47%) of the companies in the transport & distribution sector have managed to reach scale, zero packing and packaging companies have done so.

EMPLOYMENT CONTRIBUTION AMONG FOODTECH COMPANIES BY SUBSECTOR



Source: Endeavor Intelligence, 2021.
*The information corresponds to data collected by Endeavor.
**N = 323 companies which generate 24,852 jobs.

Companies in the ***transport and distribution*** category have raised a total of US$305M in 24 deals, mainly to fund international expansion, which may justify the larger scale of companies.

Packing and packaging companies, in contrast, are lagging in terms of scale. This sector has received little capital, with only one company, Polynatural (2018), raising a significant investment round. Most companies in this sector are biotech companies, focused heavily on innovative packaging through eco-friendly materials, which adds another layer of complexity to their ability to scale and may in part explain the challenges in accessing capital.

"The packing and packaging sector, though extremely important, is technically complex. It is difficult for generalist investors to invest in these types of companies without a clear road to scale."

Alexandre Stephan
Partner at ***SP Ventures*** - Brazilian Venture Capital Fund, specialized in the AgFood value chain

Indeed, the technical challenges of this and other R&D-heavy sectors become a roadblock when considering scale-up, as they require large amounts of capital to cover expenses such as high production costs, extensive initial research, marketing of a new product, etc. With an unclear roadmap for scaling up, it is less likely for companies to receive capital from institutional investors, further hindering their chances of growth.

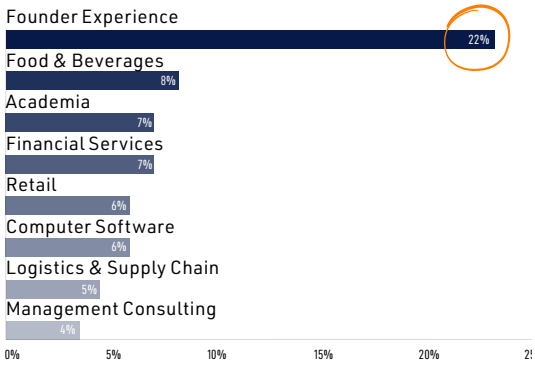
Lastly, Endeavor found that the entrepreneurs with the most prior experience tend to be overrepresented in high-growth companies. An analysis of 400 founders in Latin America showed that entrepreneurs who have successfully scaled their companies tend to have more academic and professional experience abroad and are more likely to have previously worked for or founded an entrepreneurial company.

BEFORE FOUNDING THEIR COMPANY

Source: Endeavor Intelligence, 2021.
*The information corresponds to data collected by Endeavor.
**N = 400 founders' profiles analyzed.

The most common industry background for founders who have scaled their companies is IT Services, followed by Food & Beverages and Academia. Lastly, 36% of successful founders have a postgraduate degree, more often than not (52%) in business.

FOODTECH FOUNDERS EXPERIENCE BY INDUSTRY



Source: Endeavor Intelligence, 2021.
*The information corresponds to data collected by Endeavor.
**N = 400 founders' profiles analyzed..

INTERNATIONAL EXPANSION

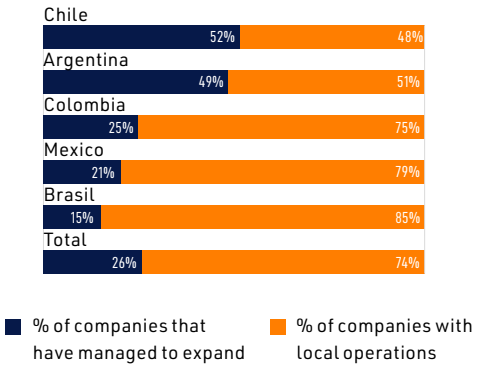
Another key factor to analyze to better identify challenges faced by entrepreneurs while trying to scale is the number of companies that have successfully managed to expand operations internationally. In total, 26% of FoodTech startups and scaleups in the sample have operations outside their country of origin.

"Geographic barriers are a concept of the past. Yes, there will be logistical and regulatory issues when expanding abroad, but more than ever, you can make it work."

Adolfo Ruillón
Co Founder at *Frizata* - the first digitally native FoodTech in the flexitarian frozen food space in LatAm

However, startups and scaleups in some countries are more likely to have expanded internationally. Specifically, out of the companies surveyed, 52% of the companies in Chile and 49% of the companies in Argentina have expanded their operations to other countries, whereas companies in Mexico and Brazil have mostly stayed within their borders, with 21% and 15% respectively, the lowest percentages of international expansion in our study.

ORIGIN (HQ) OF COMPANIES THAT HAVE EXPANDED INTO OTHER MARKETS



Source: Endeavor Intelligence, 2021.
*The information corresponds to data collected by Endeavor.
**N = 323 companies.

These results are self-explanatory when considering the size of these markets. With populations of 128 and 211 million, respectively, Mexico and Brazil have little incentive to expand rapidly to other countries, since their local market already presents a great opportunity for growth. On the other hand, startups and scaleups in Argentina and Chile, with smaller local populations and consequently smaller markets, often seek larger market opportunities abroad.

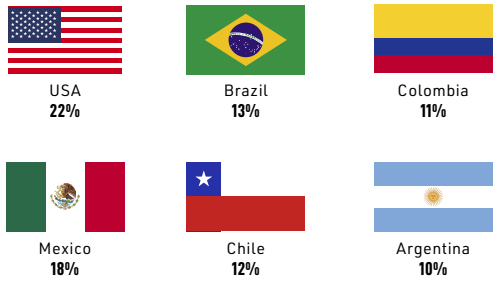
The most popular destination of expansion for LatAm FoodTech companies is the USA. Indeed, in terms of consumption habits, the U.S has adopted healthy-eating before its LATAM counterparts. The growth rate for the U.S. plant-based food market more than doubled in 2020, as sales surged 27% to $7 billion, according to the Plant Based Foods Association (PBFA).[38] Startups like Chilean NotCo, AI-powered FoodTech that produces plant-based foods, have refrained from competing in the market for some products, such as plant-based burgers, that they see as saturated.[39]

But this trend is not limited to plant-based foods. According to Digital Food Lab, a third of the global FoodTech unicorns are located in the United States.[40,41] In short, there is no doubt that the U.S is the benchmark in the Americas for growing FoodTech ecosystems, and a source of inspiration for Latin American startups and scaleups.

The second most popular destination for expansion is Mexico. Although its population and market size is second to Brazil, language barriers in the latter might make Mexico more appealing to other LATAM players.

Lastly, Argentina makes up the least popular destination for expansion out of the companies surveyed. Indeed, as mentioned before, since Argentina is currently the country with the second-highest number of startups and scaleups that seek expansion, it suggests that even local companies are seeking opportunities elsewhere.

MOST POPULAR DESTINATIONS TO EXPAND

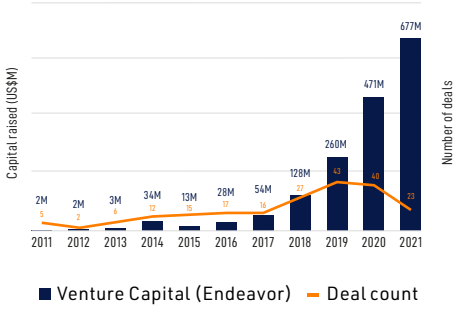


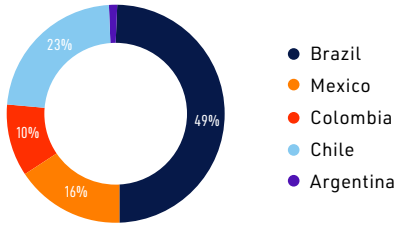
Source: Endeavor Intelligence, 2021.
*The information corresponds to data collected by Endeavor.
**N = 102 surveyed companies.

ACCESS TO FINANCE AND CAPITAL

Investment activity skyrocketed in the region over the past 10 years, with a total of 206 venture capital rounds worth 1.7 billion dollars. Although Brazil is the largest recipient of capital, new opportunities with innovative value propositions have caught the attention of regional and foreign investors leading to an exponential growth and distributing capital among countries such as Chile, Mexico, and Colombia.

VENTURE CAPITAL INVESTED IN FOODTECH COMPANIES ACROSS LATIN AMERICA





Source: Endeavor Intelligence, 2021.
*The information corresponds to data collected by Endeavor.
**N = US$1.7B in 206 deals.

In 2021 investment reached an all-time high, with 677 million dollars invested in 23 deals, representing 40% of the total amount invested since 2011. When compared to 2020, 2021 presents a larger amount of capital raised across fewer deals, where 471 million dollars were invested in 40 deals, showing larger investment per deal.

To date, 2020 & 2021 combined make up 69% of the total amount invested since 2011. It is important to reiterate that this analysis and these capital amounts do not include food delivery startups, such as Glovo or Rappi.

Given the momentum in the industry, VC investment in FoodTech startups and scaleups will undoubtedly continue to grow. The size of Series A investment rounds has increased overtime, as has the interest of foreign investors in the region. For instance, the Series A rounds of two iconic startups from the last decade, Cargo X (Brazil) and Frubana (Colombia) exemplify this trend. In 2016, Cargo X raised a Series A investment round of US$4M. Just a few years later, in 2020, Frubana was able to raise a Series A investment round of US$25M.

INVESTMENT COMPARISON: SERIES A ROUNDS

cargo

Year founded: **2013**
Subsector: **Transportation and distribution**
Stage: **Series A**
Capital raised in 2016: **US $4M**

frubana
CONECTANDO EL CAMPO

Year founded: **2018**
Subsector: **E-commerce & marketplace**
Stage: **Series A**
Capital raised in 2020: **US $25M**

Source: Endeavor Intelligence, 2021.
*Data obtained from Pitchbook, consulted in June 2021.

Additionally, Endeavor also analyzed the most iconic investment rounds in Latin America's FoodTech ecosystem. For that, Endeavor considered investment rounds by CargoX and NotCo, two startups, albeit in different categories, that have consolidated regionally. Again, investment rounds raised in 2021 are much larger than those raised in 2016.

INVESMENT COMPARISON: LARGEST INVESTMENT ROUNDS

cargo

Year founded: **2013**
Subsector: **Transportation and distribution**
Stage: **Series E**
Capital raised in 2016: **US $80M**

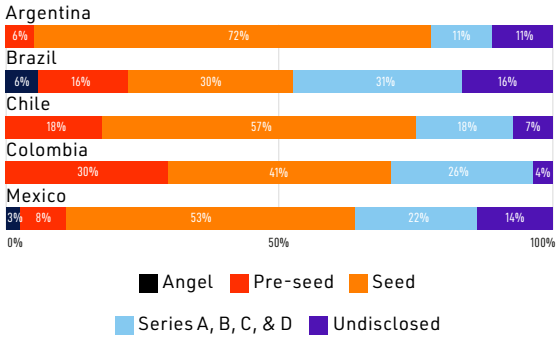
NotCo

Year founded: **2015**
Subsector: **New foods**
Stage: **Series D**
Capital raised in 2020: **US $235M**

Source: Endeavor Intelligence, 2021.
*Data obtained from Pitchbook, consulted in June 2021.

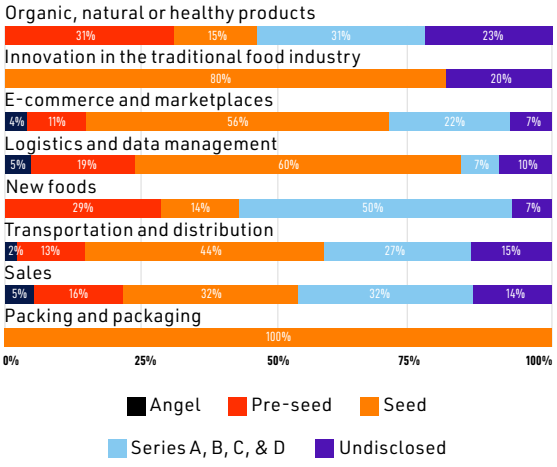
Overall, investment rounds raised in Latin America are concentrated in early-stage companies, and specifically in Seed investment rounds. This means that companies in Latin America are still in early stages of development, but it also means that local and foreign investment funds are still betting on them despite their smaller scales.

PROPORTION OF INVESTMENT STAGES BY COUNTRY



Source: Endeavor Intelligence, 2021.
*The information corresponds to data collected by Endeavor.
**N = 206 deals (Argentina: 18 deals, Brazil: 97 deals, Chile: 28 deals, Colombia: 27 deals, Mexico: 36 deals.)

PROPORTION OF INVESTMENT STAGES BY SUBCATEGORY



Source: Endeavor Intelligence, 2021.
*The information corresponds to data collected by Endeavor.
**N = 206 deals (Organic, natural or healthy products: 13 deals, Innovation in the traditional food industry: 5 deals, E-commerce and marketplaces: 27 deals, Logistics and data management: 42 deals, New foods: 14 deals, Transportation and distribution: 48 deals, Sales: 56 deals, Packing and packaging: 1 deal.)

However, despite the explosive growth in capital in recent years, there's still a long way to go for the region to reach global standards in investment and innovation. Latin America still lacks specialized purpose-driven VC funds that can give tailored advice to help grow the industry. And lastly, most funds in Latin America are still unable to make the riskier, earlier-stage investments that this industry requires, forcing entrepreneurs to look outwards to raise capital abroad.

"In LATAM, local funds still lack access to capital and LPs, especially to have the means for a more active participation in earlier-stage rounds. Local funds have an advantage because they can identify new opportunities and technologies that may go unnoticed by regional funds."

Hernán Fernández
CoFounder and Managing Partner at *Angel Ventures* - early-stage venture capital firm with offices in Mexico Colombia and Peru

CVC ANALYSIS

In the last ten years Corporate Venture Capitals (CVCs), or the investment of corporate funds directly into external startup or scaleup companies, have become an important source of capital for startups and an important part of the startup and scaleups ecosystem. In all, the top 10 food and beverage companies command nearly 40% market share, giving them outsized control over resources and influence in the market.[42]

Specifically, in Latin America, CVCs have been very active in FoodTech investments. Large corporations such as Bimbo, CocaCola and ABinBev all have specialized instruments to invest in startups and scaleups. Endeavor analyzed the portfolios of the main companies active in the FoodTech industry.

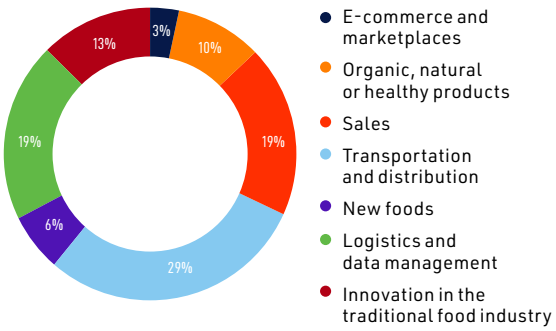
PORTFOLIOS OF MAIN CVC PLAYERS IN LATAM

Corporate	Portfolio
Grupo Bimbo	Rule Breaker, chaordic, Cornershop, rever, Rappi, MilisBío, Virtuelle, lefort, Jüsto, KICAO
FEMSA Ventures	NetPay, conekta, yalo, Jüsto, Virtuelle, Cargamos, Solística, Chiper
wayra (An initiative of Telefónica)	Atlantia search, winclap, decidata, INCREASE, DEVO
ABInBev	Rappi, lefort, Verqor
Coca-Cola	MIBO, wabi, winnin
ENGIE	99minutos.com, Enlight

Source: Endeavor Intelligence, 2021.
*Data obtained from ALLVP, Pitchbook, Crunchbase, consulted in April 2021.
**N = 6 Corporate Venture Capitals.

In analyzing their portfolios, Endeavor identified that their investments are mostly concentrated in the categories of *logistics and data management* as well as *transportation and distribution*, both sectors that, through their innovation in technology, can add distinct value to the business operations of these corporations.

DISTRIBUTION PER CATEGORY OF CVC INVESTMENTS IN LATAM



Source: Endeavor Intelligence, 2021.
*Data obtained from ALLVP, Pitchbook, Crunchbase, consulted in April 2021.
**N = 31 companies.

Another interesting insight from the analysis is the number of co-investments among corporations, such as the case of Jüsto (with both Bimbo Ventures and FEMSA Ventures investing) and Rappi (with both Bimbo Ventures and ABInBev investing), allowing collaboration to boost the growth of startups and scaleups.

Corporate Venture Capitals are different from regular VC investors, as they not only provide money, but ***smart money***. CVCs have great knowledge of the industry, being stakeholders themselves, and can offer guidance such as advice in legal and accounting matters, or infrastructure for laboratories, R&D, distribution and logistics centers.

And both sides can benefit from these investments in FoodTech startups and scaleups, with CVCs often reaping both financial and strategic rewards. For instance, startups and scaleups might better understand consumer patterns or have more ability to research new technologies, knowledge that can benefit the CVC's own business.

Such is the case of Bimbo Ventures investing in Rappi and Jüsto. In an episode of ***Momentum***, a podcast created by ***G2 Momentum Venture Capital Fund***, José Manuel Ramírez, Director of Bimbo Ventures, talks about the strategy, from its creation to choosing the startups and scaleups with which they partner globally. When mentioning Rappi and Jüsto, Ramirez states that these investments were made to learn about a target market that Bimbo did not have access to, specifically, consumption patterns in Mom & Pop stores. These startups and scaleups, which automatically collect customer preferences and shopping data, can understand and target their customers far more easily than in a physical store.[43]

Ramirez also details some guidelines that Bimbo adheres to in its CVC investments. For instance, they only make minority investments (cap of 5 MDD), although there are co-investments with other Corporates to increase participation. They largely focus on helping startups and scaleups achieve cost synergies. For instance, Ramirez argues that reducing logistics costs by 1% is more beneficial than a 1% increase in their return on investment.

In some cases, CVC investment could discourage potential co-investors who are wary of a potential M&A. However, M&A deals in this sector are on the decline globally, down 33% since peaking in 2015, suggesting corporations might be looking more towards partnerships and investments.[44,45]

This analysis serves to highlight the interest of large corporations and specialized funds in disruptive technologies. In this way, CVC's are increasingly seeking to invest in startups and scaleups that offer services or products with added and differentiated value.

CONSUMER TRENDS

To better understand consumer trends in the ***FoodTech*** sector and the communities driving its growth, Endeavor carried out a social-media analysis of the leading B2C ***FoodTech*** startups.

Bringing the right products to the right customers at the right time requires a deep understanding of customer needs — social media can be a useful tool to achieve this. Through social media, companies have the ability to identify which types of customers are interested in their products, determine if their media following aligns with their intended target audience and, most importantly, increase the loyalty of their customer base.

To evaluate brand interactions with consumers, Endeavor chose to focus on companies that followed a direct-to-consumer business model. Thus, Endeavor limited this analysis to companies in the three following categories in the initial classification matrix:

1. FoodTech - E-commerce and marketplaces
2. FoodTech - New foods
3. FoodTech - Organic, natural or healthy products.

These ***FoodTech*** startups hold a total community size of 1.03 M users and published a total of more than 97k content pieces (including "posts" and "stories") from January 2019 to June 2021.

To further provide context and a point of comparison, Endeavor specifically analyzed the social media page of a leading brand in ***e-commerce and marketplaces*** category based in Mexico City, from now on labelled as ***e-commerce benchmark***. From this specific company, Endeavor found the typical social media audience for ***e-commerce and marketplaces*** is a Spanish-speaking female, aged between 25 to 34 and living in Mexico City.

On a first analysis, Endeavor found that the overall maximum engagement rate, at 1%, is not as high as with other communities studied previously. The engagement rate is measured by the number of "likes", "comments" and "shares" that each publication has divided by the number of fans the page has on the set day of the publication.[46] The ***e-commerce benchmark*** also has a higher maximum engagement rate at 30%.

However, this low engagement rate is likely to increase, as total interactions to posts from ***FoodTech*** startups have increased dramatically in the last two years. From January 2019 to June 2020, total interactions to posts have increased by almost 13x, from 3,963 to 47,895.

We also saw variation in engagement across categories, Endeavor found that the category with the highest engagement, by a significant amount, is ***New Foods*** at 0.81%, followed by ***e-commerce and marketplaces,*** at 0.26%, and lastly, ***Organic, natural or healthy products,*** with a very low engagement rate of 0.07%. This insight may be explained by the nature of the sector — when introducing new products to a market, it is important to focus on engaging the target audience to create a loyal customer base and generate word-of-mouth advertising.

ENGAGEMENT RATE BY CATEGORY

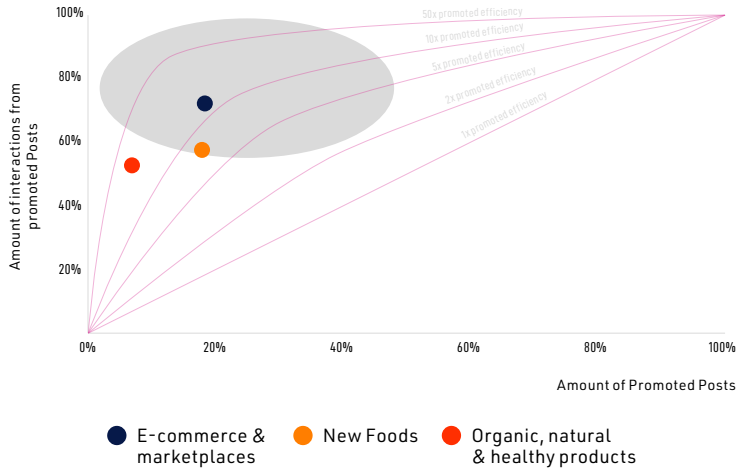
Engagement Rate. FoodTech - E-commerce / Marketplace	Engagement Rate. FoodTech - New Foods	Engagement Rate. FoodTech - Organic, natural and healthy products.
0.26% (+3,288%)	0.81% (+15.36%)	0.07% (-84.73%)
0.01% previous period	0.7% previous period	0.47% previous period

Source: Endeavor Intelligence, 2021.
*The information corresponds to data collected by Endeavor.
**N = 24 B2C FoodTech startups (11 E-commerce/Marketplace, 4 new foods and 9 organic, natural and healthy products).

Moreover, overall content pieces were more likely to be promoted (paid for to increase exposure) than organic. Specifically, 42% of publications were promoted, compared to the 28% of publications that were organic (the remaining posts were unclassified.)This suggests that ***FoodTech*** startups heavily invest in their social media communities, as is typically the case for direct to consumer brands.

To get a more detailed overview of the type of content being published, Endeavor distributed publications into the three previously mentioned categories. From this, Endeavor first evaluated ***promoted post efficiency***, to see how much of current paid advertising was reaching the right target group, and which category was taking the most advantage of digital marketing. Promoted post efficiency is measured by comparing the number of promoted posts (horizontal axis) to the number of interactions they receive (vertical axis). This graph indicates that companies have invested in around 20% of the publications and thus generate 60% -70% of the total interactions. Endeavor found the most efficient digital marketing targeting was carried out by companies in both ***e-commerce and marketplaces*** and ***new foods***, as they fell under "extremely beneficial promoted posts", meaning that from the current amount invested, an efficiency between 5x and 10x in engagement is achieved.

PROMOTED POST EFFICIENCY BY CATEGORY



Source: Endeavor Intelligence, 2021.
*The information corresponds to data collected by Endeavor.
**N = 4,470 FoodTech related posts.

How FoodTech startups communicate with their users is important to building larger communities and achieving greater levels of engagement with their existing communities. Understanding the language and specific key words they use when advertising is crucial to understanding their communication approach. After a closer look at social media posts, Endeavor classified content into three pillars of communication:

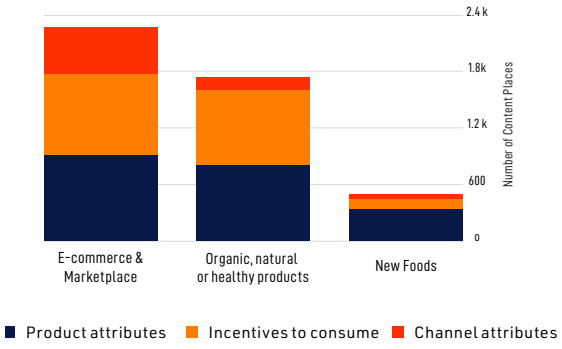
DESCRIPTION OF PILLARS OF COMMUNICATION

Pillar of Communication	Description	Keywords
Product attributes	Mostly health- and quality-related attributes of the product	gluten-free plant-based healthy tasty eco friendly
Incentives to consume	Posts encouraging consumption through different incentives, mostly economic related	discount coupon promotion cheap free recipe lottery gift
Channel attributes	Keywords that relate to the convenience and safety of consumption and delivery, especially emphasizing digital mediums	fast delivery without leaving your house safe easy platform app

Source: Endeavor Intelligence Analysis, 2021.

First, it is clear companies in different categories rely on different communication pillars to sell their products. For instance, companies in ***New foods*** startups must highlight their products' benefits and how they are better than existing alternatives when entering a new market. Startups such as Fazenda Futuro, HeartBest or NotCo, emphasize the better quality and benefits of their plant-based alternatives to animal products such as cheese or meat. Moreover, ***organic, natural or healthy products*** startups need to explain why their products are healthier than other options in the market and thus also rely on product attributes and incentives to consume. And finally, ***e-commerce and marketplace*** companies emphasize channel attributes the most out of the three categories, as their primary selling points are their platforms and mediums. However, this category also leans heavily into the other two pillars of communication, as it presumably also advertises the benefits and attributes of products being offered through their platforms.

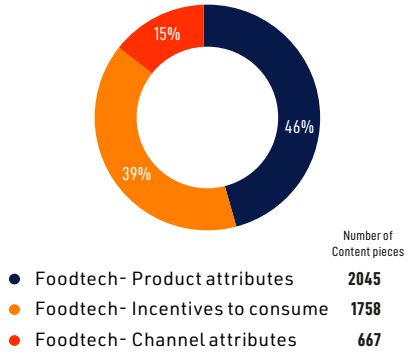
TOTAL CONTENT PIECES BY PILLAR OF COMMUNICATION



Source: Endeavor Intelligence, 2021.
*The information corresponds to data collected by Endeavor.
**N = 4,470 FoodTech related posts.

Overall, the pillar of communication mentioned most among our sample is product attributes (46%), followed by consumption incentives (39%), and lastly channel attributes (15%). This is an important insight, as it suggests that startups rely on the quality and health attributes of their products to differentiate from others. Although the three categories all rely most on ***product attribute*** language qualities, the ***new foods*** category relies on it the most as a percentage of its total content. ***Organic, natural or healthy products*** use an even split between ***product attributes*** and ***consumption incentives.*** ***E-commerce and marketplaces*** also rely heavily on ***channel attributes***.

DISTRIBUTION OF CONTENT PIECES BY PILLAR OF COMMUNICATION



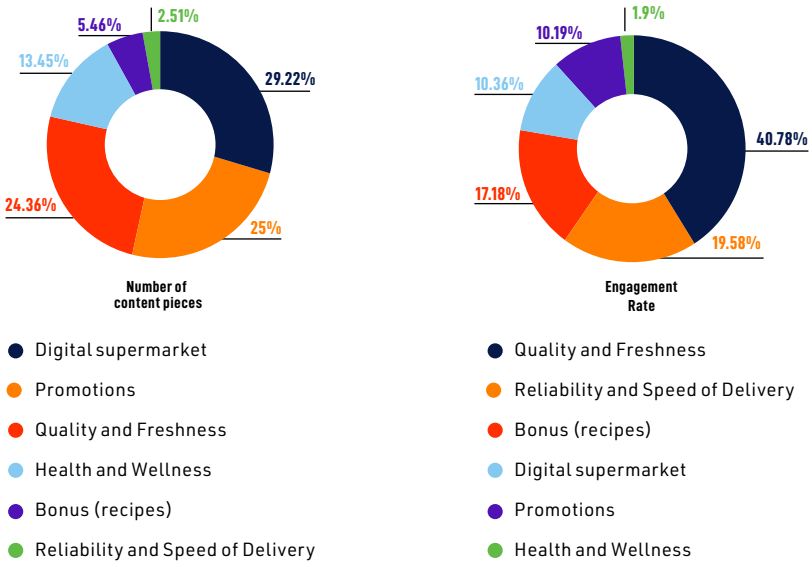
Source: Endeavor Intelligence, 2021.
*The information corresponds to data collected by Endeavor.
**N = 4,470 FoodTech related posts.

As a result, we found that product attributes, in addition to being the most used communication pillar, is the pillar that generates the most engagement, generating 53% of interactions per 1k pieces of content. Second came channel attributes, even though it is the least used communication pillar, and lastly, third came consumer incentives. This suggests that consumers are giving more importance to product differentiation, including properties and benefits, rather than incentives for consumption. This is an important insight, since brand positioning was labelled as one of the biggest challenges overall for entrepreneurs in the sector - generating engagement through efficient digital marketing is key to position brands.

To evaluate further the communication pillars, Endeavor evaluated the ***e-commerce benchmark's*** specific communication pillars in its digital marketing. The ***e-commerce benchmark*** sets an example for engagement since from 2019 to 2021 has increased the daily page reach from 154,131 to 939,577, almost sixfold.

Analyzing specifically the communication pillars used, Endeavor evaluated that the most emphasized type of promotion was highlighting the ***digital medium***, followed by ***promotions***, and third ***quality and freshness of products***. However, the most used communication pillar does not necessarily lead to the most engagement rate. In this case, the communication pillar that achieved the most interactions was ***quality and freshness of products***, again highlighting how emphasizing product attributes is important for marketing. The second most engaging pillar was ***experience and quickness [of the service]***, and third came recipes. This is interesting, since ***experience and quickness [of the service]*** and ***recipes*** were the least used communication pillars.

E-COMMERCE BENCHMARK SOCIAL MEDIA ANALYSIS



Source: Endeavor Intelligence, 2021.
*The information corresponds to data collected by Endeavor.
**N = 3,253 content pieces on Facebook and Instagram.

In summary, the brands studied employ multiple advertising techniques, as they operate in categories that are currently booming and highly competitive. In general, this analysis showed the importance of having good quality products and services trumped any other type of promotions, discounts or even added bonuses, as marketing that emphasized quality was the most engaging and yielded the best results.

UNDERSTANDING THE ECOSYSTEM: FINDINGS PER CATEGORY

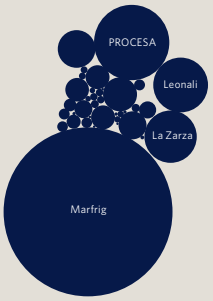
To give a more comprehensive analysis of the FoodTech entrepreneurial ecosystem, specifically opportunities and challenges faced by entrepreneurs, Endeavor analyzed data according to each category.

INNOVATION IN THE TRADITIONAL FOOD INDUSTRY

Startups & scaleups focused on innovating in traditional food products, through their composition, business model, means of distribution or personalization of products.

- Difference between Innovation in the traditional food industry and Organic, natural or healthy products/New foods?
- This sector is innovating in the processes for producing traditional foods, not creating healthier or completely new foods, which requires more R&D.
- These companies have been able to repeatedly improve their processes to stay relevant in the 21st century. Procesa Chiapas, for example, changed the sizing and branding of its packaging to make their tuna more affordable and widely-available to the mass market.
- Endeavor identified 38 startups and scaleups within this category in the Latin American region and gathered data from 18 companies through a survey and in-depth interviews.
- Examples of companies that are innovating in traditional food value chains or products are: Procesa Chiapas (2003), Guapaletas (2015), Don't Worry (2009) and Coexca (2002).
- What is the main competitive advantage over large food companies in regards to the establishments/consumers that buy their products? Entrepreneurs identified Quality of the product as the key differentiator in this category.

SAMPLE OVERVIEW (BIG PLAYERS) BY NUMBER OF EMPLOYEES



MEDIAN COMPANY

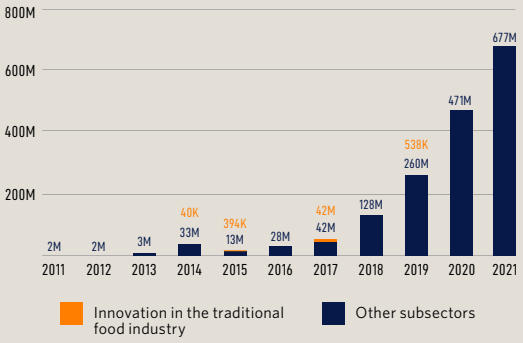
Founded in 2014	**13 Employees**	**Model: B2B2C**
US $250K revenue	**29% 3Y CAGR**	**Capital raised US $314K**

Source: Endeavor Intelligence, 2021.
*N=38 Companies identified and 18 surveyed companies.

ACCESS TO FINANCE

- 39% of the companies identified have managed to access capital. However, most of the financing came from their own resources, traditional banking, public markets, or even suppliers — not VC.
- The main reasons why companies in this sector do not have access to venture capital is, first, that investors are not betting on companies that don't have clear differentiation from their competitors, and second, that their scale potential is not aligned with the objectives of a VC fund.
- Median Capital Invested in these transactions is US$314k / Mean is US$2.6M (2014 - 2019).
- Coexca is one of the players in this sector that have managed to raise capital, raising over US$12M from a fund based in Denmark to consolidate and expand their operations to the Asian market.

VENTURE CAPITAL RECEIVED BY NEW FOODS COMPANIES



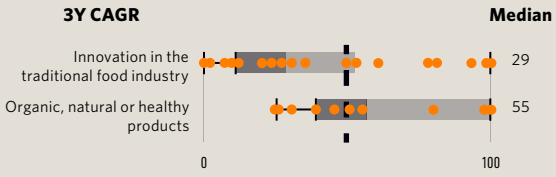
Source: Endeavor Intelligence Analysis, 2021.
*N= 161 companies, 206 deals.
Median Capital Invested US$314k / US$2.6M Mean.

coexca S.A.

Year founded: **2002**
Employees: **+501**
Total Raised: **US$12M**

REVENUE & GROWTH

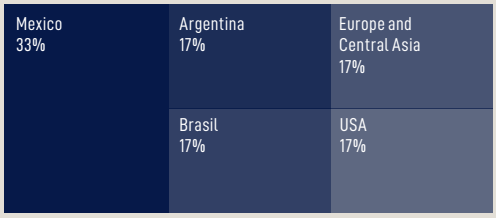
- All categories within FoodTech show double-digit growth in their 3Y CAGR; however, companies innovating in the Traditional food industry have the lowest average growth rate, with a 29% median. Most of the firms are located above this percentage, though, with an impressive four outliers showing growth between 60% and 100%.
- The vast majority of firms are below US$6.5M in revenue, concentrating near the median of US$250K. Two outliers stand out, with revenues of US$20M and above.



Source: Endeavor Intelligence Analysis, 2021.
*N= 18 companies.
**The graph shows the Compound Annual Growth Rate in revenues for the last 3 years (3Y CAGR).

INTERNATIONAL EXPANSION

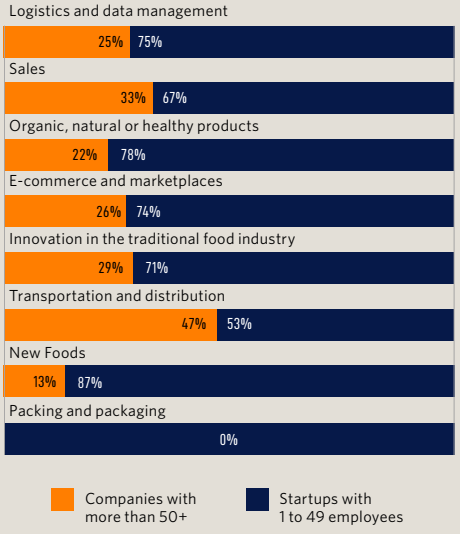
- 24% of 38 companies have managed to expand to other regions. Those that have expanded are HQ'ed mainly in Argentina, Colombia, Mexico and Brazil.
- Companies in Argentina and Colombia, prefer to expand to regional markets such as Mexico or Brazil over the US, as they offer sizable markets with less regulatory complexity and easier market penetration due to market trends and geography.
- Mexican companies, however, prefer to expand to the US. The USMCA allows a better market fit between the two countries that benefits both with:
  - Preferential access.
  - Trade facilitation and the use of new technologies.
  - Brazilian companies in this category have less of a need to expand, as mentioned before, as the country's large domestic market presents an opportunity to consolidate locally.



Source: Endeavor Intelligence Analysis, 2021.
*N= 18 companies.
**The graph shows the most popular locations to expand to (in order of popularity)

EMPLOYMENT CONTRIBUTION AMONG E-COMMERCE AND MARKETPLACES COMPANIES

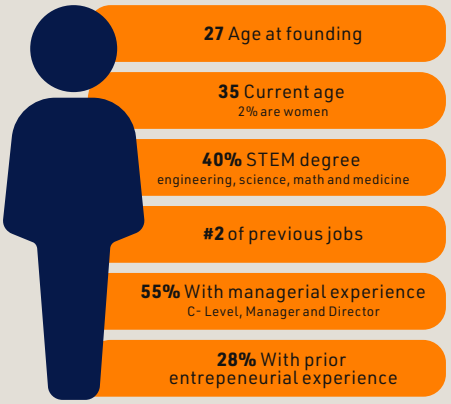
- 11 companies of Innovation in the traditional food industry have reached scale (companies that reached the size of 50 or more employees).
- This small group of companies are responsible for 97% of job creation, with 7,982 people employed.
- What kind of talent these entrepreneurs are looking for?
- Founders in this category don't have a preference between STEM and non-STEM profiles. Since innovation is not their main concern, but rather the consolidation of the brand, they mainly look for profiles in both fields, with background such as:
  - Business administrators (Non - STEM)
  - Food Engineers (STEM)
  - Marketing and communications (Non - STEM)
  - R&D Engineers (STEM)



Source: Endeavor Intelligence Analysis, 2021.
*N= 300 companies, 24,852 employees.
Median employees 13 / Mean 218 employees
(Innovation in the traditional food industry, 38 companies)

DEMOGRAPHICS OF INNOVATION IN THE TRADITIONAL FOOD INDUSTRY FOUNDERS

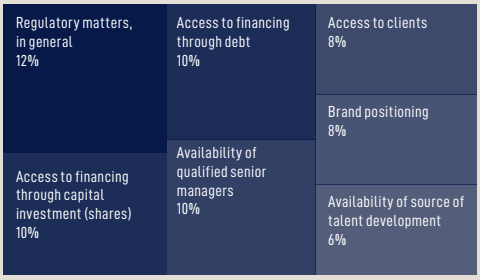
- Endeavor has shown in previous research the importance of prior work experience before starting a business — on average, founders of high-growth companies have more collective work experience than other founders.
- The fast-growing companies in Innovation in the traditional food industry are led by founders with more experience (15+ years). Work/Study abroad and previous entrepreneurial experience are more common among these founders, primarily in sectors like Food & Beverages, Information Technology & Services, Biotechnology and Food Production.
- The 'typical' founder for an Innovation in the traditional food industry company have an undergraduate degree in STEM or non-STEM, focusing mainly in engineering, business and economics.
- 40% hold a post-grad degree in a non-STEM field (39% in Business).



Source: Endeavor Intelligence Analysis, 2021.
*N= 40 founders profiles analyzed.

TO WHAT EXTENT DID E-COMMERCE AND MARKETPLACES FOUNDERS FIND THE FOLLOWING TO BE OBSTACLES TO THE OPERATION OF THEIR COMPANIES?

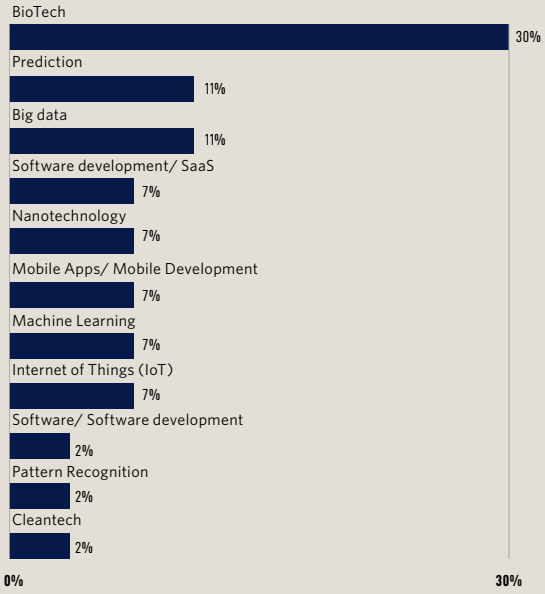
- As mentioned before, entrepreneurs in this category have responded to new challenges by optimizing across the value chain.
- However, entrepreneurs in this sector continue to struggle with regulatory issues. This problem encompasses various types of food regulations and varies across countries. Companies must adapt to different standards for food processes, safety and industrial hygiene, food components, and other regulations.
- Another important obstacle that entrepreneurs face in this category is access to capital — as seen in the previous section, these companies aren't able to raise significant amounts from VC funds due to concerns about scalability.



Source: Endeavor Intelligence Analysis, 2021.
*N= 15 surveyed companies.

TECHNOLOGY DEVELOPMENT: HOW ARE E-COMMERCE AND MARKETPLACES PRODUCING INNOVATION IN CONSUMER/NEW MARKETS?

- 77% of companies in this category have proprietary technology development; these firms focus their R&D on Biotech, prediction models and Big Data solutions.
- Although these companies are not completely changing the way food is consumed or changing their business model (like New foods companies), their R&D / innovations have enabled major cost reduction and exploration of new markets.



Source: Endeavor Intelligence Analysis, 2021.
*N= 15 surveyed companies.

An example of a company innovating in the traditional sector is Frizata, the first digitally native vertical brand (DNVB / D2C) foodtech in the flexitarian frozen food space in LatAm. Although frozen foods are considered a traditional industry, Frizata is the first tech-enabled company in Latin America that produces, commercializes, and distributes frozen food directly to the home. Frizata was founded in 2019 by Adolfo Rouillón and José Robledo in Argentina. Currently, Frizata has more than 50,000 customers and 200 employees.

"Prices are not a product of scale. Prices are mostly affected by the inefficiency of middlemen and extra steps in the supply chain. By eliminating intermediaries, Frizata brings accessible innovation — that is, affordable prices — to consumers."

Adolfo Ruillón
Co Founder at Frizata - the first digitally native FoodTech in the flexitarian frozen food space in LatAm

By controlling the end-to-end supply chain, Frizata avoids unnecessary logistics and intermediation costs and minimize food waste, at the time that they can innovate without traditional constraints. This generates savings that they apply to the quality of their products and also pass on to consumers, through prices up to 40% lower than those of supermarkets.

Frizata was born as a result of previous entrepreneurial ventures. Adolfo Rouillón and José Robledo, both serial entrepreneurs, first founded a software development company, which was acquired by CEMEX and became Neoris. Following that, they founded Congelados del Sur, a food design manufacturer company that develops frozen foods to big CPGs and retailers. Rouillon and Robledo observed the opportunity of combining technology and food expertise, and in 2019, they

founded Frizata, the first digitally native vertical brand (DNVB / D2C) foodtech in the flexitarian frozen food space in LatAm.

Frizata offers more than 75 products, ranging from vegetables to appetizers to veggies options, and by the end of 2021 they plan to offer more than 100 products. Additionally, in the last year, Frizata has expanded its line of products to become pioneers in the meat-free market with a unique product range. The FriBurger is the first burger in Argentina to be made from plant-based ingredients, to mimic the experience of ground beef, they also were the first to develop the FriNuggets, a healthy option for traditional chicken nuggets, made from plants and oats.

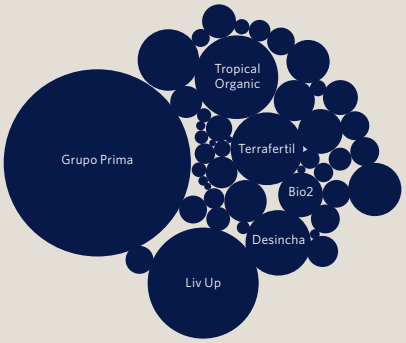
In 2020, Frizata surpassed USD10 million in turnover, and in 2021 they expect to grow more than 50%. In 2021 Frizata will start operations in Santiago de Chile, São Paulo (Brazil) and San Francisco, USA. The goal for the next 5 years is to expand to 40 cities across America, Europe and Southeast Asia. In the long term, Rouillón and Robledo have a vision of taking Frizata to 200 major cities in the world.[47,48,49]

ORGANIC, NATURAL OR HEALTHY PRODUCTS

Startups & scaleups applying technology to develop healthier and more organic food products (with less sugar, fats, etc.).

- Difference between Organic, natural or healthy products & New foods? As mentioned before, healthy and natural foods create innovation in the product itself. For instance, this category doesn't apply high level technology to create new products.
- This category also includes organic foods or healthier production of food (i.e. without the use of chemical fertilizers, pesticides, or other artificial agents).
- Endeavor identified 51 startups and scaleups within this category in the Latin America region and gathered data from 17 companies through a survey and in-depth interviews.
- Examples of organic or natural in the region are companies developing more healthy products, such as Liv Up (2016), Mora Mora (2014), Sketos (2014) and Comebien (2014).
- What is the main competitive advantage over large food companies in regards to establishments/consumers that buy their products? Entrepreneurs identified Marketing strategies and Health impact as key differentiators in this category.

SAMPLE OVERVIEW (BIG PLAYERS) BY NUMBER OF EMPLOYEES



MEDIAN COMPANY

Founded in 2015	**82 Employees**	**Model: B2B2C**
US $500K revenue	**55% 3Y CAGR**	**Capital raised US $1.5M**

Source: Endeavor Intelligence, 2021.
*N=51 Companies identified and 17 surveyed companies.

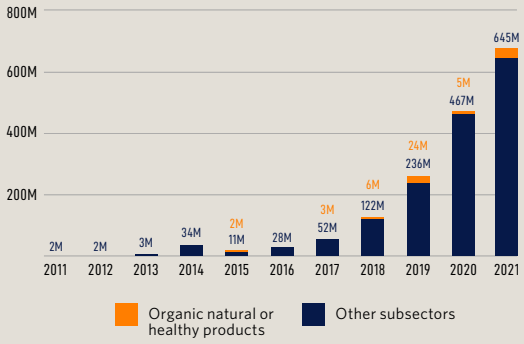
ACCESS TO FINANCE

- Organic, natural or healthy products companies have raised, in just the last 4 years, a total of US$67M in 9 deals.
- 39% of companies identified in this category have raised capital, primarily through pre-seed rounds.
- Median Capital Invested in these transactions is US$1.5M / Mean is US$7.4M (2018 - 2021).
- The leading company in investment rounds is Liv Up, Brazilian FoodTech scaleup, having raised an important amount of US$62.5M since 2017.
- The use of capital in this category is primarily for talent attraction, development of better products and technology implementation.

Year founded: **2014**
Employees: **+21**
Total Raised: **US$1.4M**

Year founded: **2016**
Employees: **+301**
Total Raised: **US$62.5M**

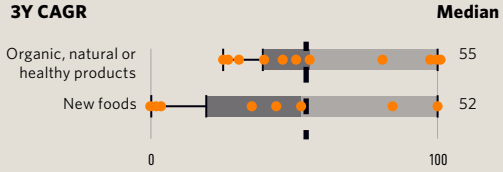
VENTURE CAPITAL RECEIVED BY NEW FOODS COMPANIES



Source: Endeavor Intelligence Analysis, 2021.
*N= 161 companies, 206 deals.
Median Capital Invested US1.5M / Mean US$5.5M.

REVENUE & GROWTH

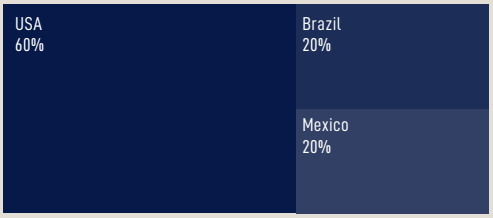
- Median 3Y CAGR for this category's firms is 55%, with most companies falling above the median, and with 7 companies with growth above 96%.
- The median revenue is US$500K, however most companies have revenue below the median.
- Three outliers stand out with revenues of US$1.5M and above.
- We can find similarities between this category and New foods in terms of revenue and growth.



Source: Endeavor Intelligence Analysis, 2021.
*N= 17 companies.
**The graph shows the Compound Annual Growth Rate in revenues for the last 3 years (3Y CAGR).

INTERNATIONAL EXPANSION

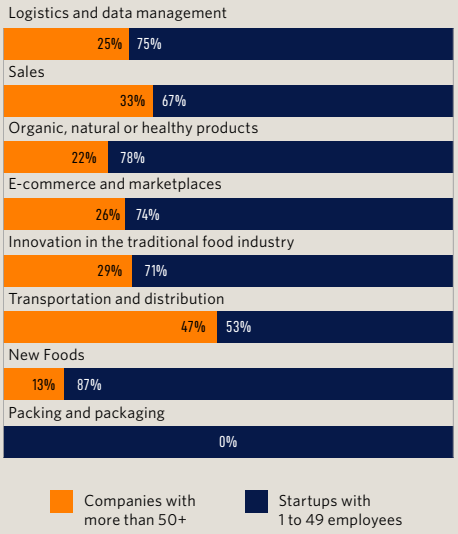
- 16% of 51 companies in this category have managed to expand. Those who managed to expand are HQ'ed in Mexico and Argentina and are mainly expanding to the US.
- Mexico and Brazil are also common expansion destinations given the size of their markets.



Source: Endeavor Intelligence Analysis, 2021.
*N= 17 companies.
**The graph shows the most popular locations to expand to (in order of popularity)

EMPLOYMENT CONTRIBUTION AMONG E-COMMERCE AND MARKETPLACES COMPANIES

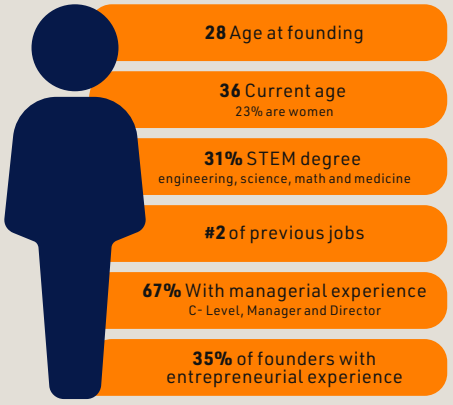
- 11 companies of Organic, natural or healthy products have reached scale (companies that reached the size of 50 or more employees).
- This small group of companies are responsible for 82% of job creation with 2,180 people employed.
- What kind of talent these entrepreneurs are looking for?
- Founders in this category tend to look for very specific skills in their teams, preferring non-STEM profiles that can help with brand positioning and business management, such as:
  - Administration and Business
  - Marketing and Communications
- They also hire in the following STEM fields, as they are seeking product development and tech-related profiles:
  - System / Computing Engineering
  - Information Technology
  - R&D Engineering



Source: Endeavor Intelligence Analysis, 2021.
*N= 300 companies, 24,852 employees.
Median employees 18 / Mean 57 employees (Organic, natural or healthy products, 51 companies)

DEMOGRAPHICS OF INNOVATION IN THE TRADITIONAL FOOD INDUSTRY FOUNDERS

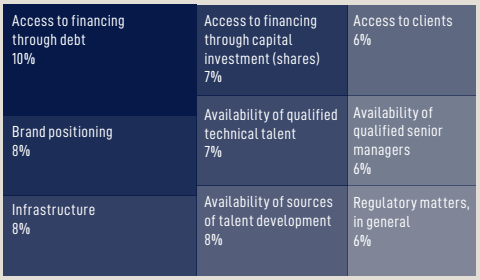
- Endeavor has shown in previous research the importance of prior work experience before starting a business — on average, founders of high-growth companies have more collective work experience than other founders.
- The fast-growing companies in Organic, natural or healthy products are led by founders with more experience (15+ years). Work/Study abroad and previous entrepreneurial experience are more common among these founders, primarily in sectors like Food & Beverages, Retail and Management Consulting.
- The 'typical' founder for an Organic, natural or healthy products company tends to have a non-STEM undergraduate degree.
- The most common major is business, followed by engineering, and finally social science.
- 36% hold a post-grad degree in a non-STEM field (37% in Business).



Source: Endeavor Intelligence Analysis, 2021.
*N= 48 founders profiles analyzed.

TO WHAT EXTENT DID E-COMMERCE AND MARKETPLACES FOUNDERS FIND THE FOLLOWING TO BE OBSTACLES TO THE OPERATION OF THEIR COMPANIES?

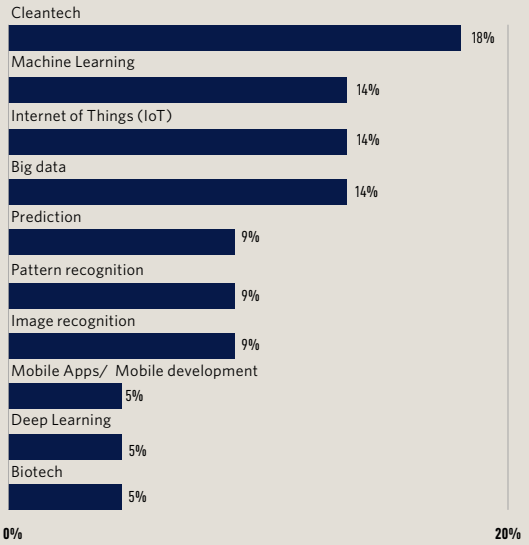
- The primary obstacle that entrepreneurs face in this category is access to debt financing.
- As with New Foods, these entrepreneurs have difficulties positioning their brand in the market.
- Companies also struggle with the distribution and logistics of their products. They must depend on providers of solutions in Logistics and data management and Transportation and distribution to overcome this challenge.



Source: Endeavor Intelligence Analysis, 2021.
*N= 17 surveyed companies.

TECHNOLOGY DEVELOPMENT: HOW ARE E-COMMERCE AND MARKETPLACES PRODUCING INNOVATION IN CONSUMER/NEW MARKETS?

- From the survey, we identified that 10 companies are innovating in their value chain, with 50% developing their own technology and the other 50% using third party products.
- The companies developing their own technologies are finding opportunities in Cleantech, Machine Learning, Internet of Things and Big Data to optimize their internal processes and deliver a better product in terms of operational efficiency and product.



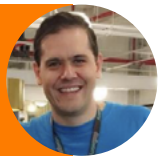
Source: Endeavor Intelligence Analysis, 2021.
*N= 17 surveyed companies.

Entrepreneurs Lorena Oyague, Santiago Arroyo and Diego Arroyo founded the Mexican company Don't Worry in 2009. Considering the prevalence of chronic diseases and the pursuit of healthier lifestyles, Don't Worry meets the growing demand for healthier alternatives.

After three years of product development and 600+ different formulas, in 2012, they launched their first products: sugar free 1-calorie meringues and a line of products for diabetics at HEB and Costco. Later, in 2017, they launched their second healthy alternative: quinoa bites.

"Innovation throughout the value chain is essential, from logistics networks to points of sale to e-commerce solutions. Demand for packaged goods is increasing, and it is a great opportunity for entrepreneurs to take advantage of trends and scale their businesses."

Santiago Arroyo,
CEO & cofounder at Don't Worry



The company markets its snack products in the main self-service chains in Mexico. In 2015, Don't Worry was named the best PyMe distributor of Grupo Walmart; in 2018, they reached 500 points of sale nationwide; and in 2019, they expanded internationally by entering the US market.

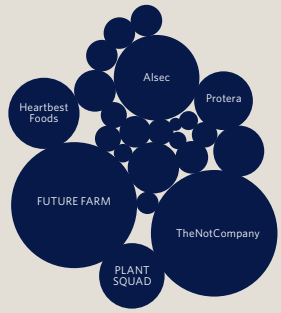
The founders are committed to continuous improvement and innovation, with the goal of fostering healthy lifestyles.[50]

NEW FOODS

Startups & scaleups that use high-tech solutions to develop new, often more sustainable, types of foods.

- Difference between Healthy & Natural and New foods Tech? Healthy and natural foods apply innovation to existing products, adapting or modifying these products to make them healthier — for instance with fewer chemicals, less sugar, etc. This category also includes organic foods and foods produced using a healthier process (i.e. without the use of chemical fertilizers, pesticides, or other artificial agents).
- New foods tech, in contrast, creates a product that is entirely new and replaces existing products. These high-tech solutions include cell-based meat, alternative proteins such as plant-based meat, insect-based products, mushroom-based products, functional food, and meal replacements.
- Endeavor identified 23 startups and scaleups within this category in the Latin America region and gathered data from 15 companies through a survey and in-depth interviews.
- Examples include companies developing alternative proteins using AI to mimic the taste and protein content of red meat and those producing plant-based food, such as Notco (2015), Fazenda Futuro (2019) Tomorrow Foods (2018) and Heartbest Foods (2017).
- What is the main competitive advantage over large food companies in regards to the establishments/consumers that buy their products? Entrepreneurs identified Environmental and Health Impact as key differentiators in this category.

SAMPLE OVERVIEW (BIG PLAYERS) BY NUMBER OF EMPLOYEES



MEDIAN COMPANY

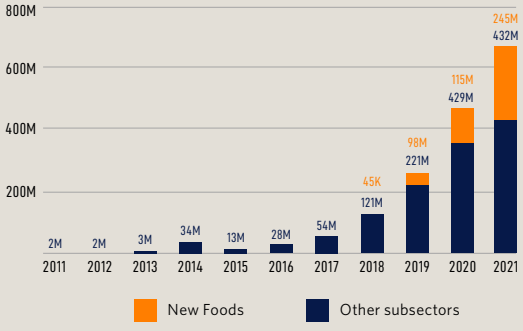
Founded in 2017	**6 Employees**	**Model: B2B2C**
US $125K revenue	**52% 3Y CAGR**	**Capital raised US $2M**

Source: Endeavor Intelligence, 2021.
*N=23 Companies identified and 15 surveyed companies.

ACCESS TO FINANCE

- New Foods companies have raised, in just the last 4 years, a total of US$399M in 14 deals.
- 65% of the firms identified in this category have raised capital.
- 2020 was a great year for early-stage companies, with financing rounds mostly distributed among Pre-Seed, Seed and Series A, and fewer rounds of Series B and above.
- Median Capital Invested in these transactions is US$3.8M / Mean is US$28.5M (2018 to 2021).
- The leading company in investment rounds is NotCo, Chilean FoodTech scaleup, having raised US$30M in 2019, US$85M in 2020, US$10M in the first half of 2021, and a US$235M Series D round in July 2021, which made NotCo the first FoodTech unicorn in the region.
- Most of the companies have raised capital to expand into international markets (primarily the US), to develop new products and categories, and to scale up operations.

VENTURE CAPITAL RECEIVED BY NEW FOODS COMPANIES



Source: Endeavor Intelligence, 2021.
*N=23 Companies identified and 15 surveyed companies.

fazenda futuro™

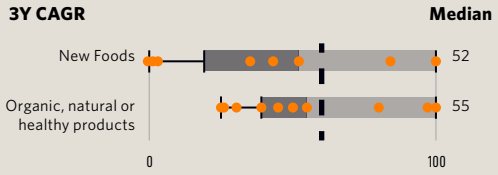
Year founded: **2019**
Employees: **+127**
Total Raised: **29M**

NotCo

Year founded: **2015**
Employees: **+250**
Total Raised: **363M**

REVENUE & GROWTH

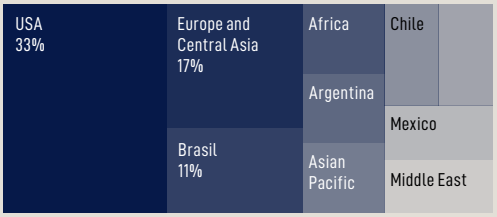
- As a reflection of the fast growth of FoodTech firms, the 3Y CAGR shows double-digit growth for almost all categories. For New Foods firms the figure is 52% — most companies are concentrated below the median, however there are an impressive six outliers with 100% growth.
- The vast majority of firms are below US$500K in revenue, with most concentrating in the range of US$125K. Three outliers have revenues above 1.5M.



Source: Endeavor Intelligence Analysis, 2021.
*N= 15 companies.
**The graph shows the Compound Annual Growth Ratein revenues for the last 3 years (3Y CAGR).

INTERNATIONAL EXPANSION

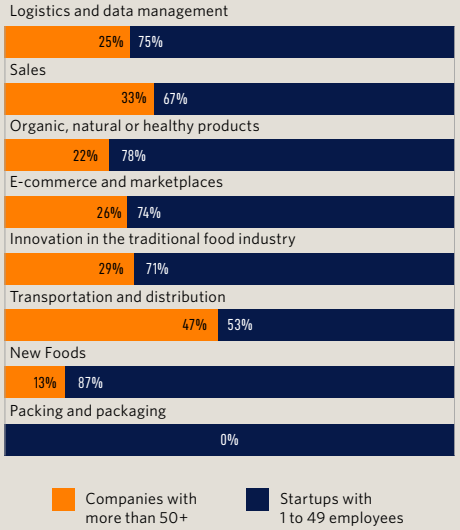
- As mentioned previously, most companies have raised capital in order to expand into other markets; so far, however, just 30% of companies have managed to expand internationally.
- The most popular destination is USA, given the size of the market and the high demand for these products.
- The most common countries of origin (HQ) of companies that have expanded internationally are Mexico, Chile and Argentina.



Source: Endeavor Intelligence Analysis, 2021.
*N= 15 companies.
**The graph shows the most popular locations to expand to (in order of popularity)

EMPLOYMENT CONTRIBUTION AMONG NEW FOODS COMPANIES

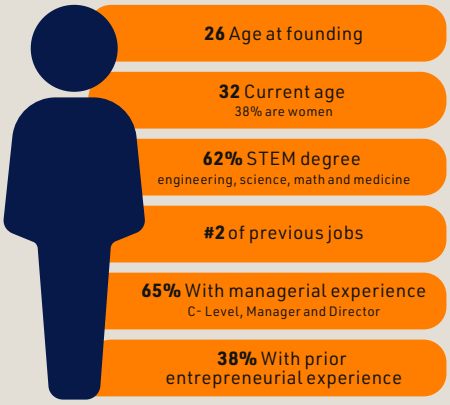
- Compared to other FoodTech categories, a lower proportion of New Foods firms have reached scale (defined as 50 or more employees) — just 3 companies in our analysis.
- These 3 scaleups alone account for 255 employees, 59% of total jobs in New Foods.
- What kind of talent are these entrepreneurs looking for?
- Founders in New Foods tend to look for very specific skills in their teams — since most of these firms invest in R&D and utilize AI in their business, they tend to hire more people with STEM degrees:
  - Food engineers
  - Biotechnology
  - Research and development engineering
  - Process engineering
- They also hire talent from non-STEM fields, to help with challenges in brand positioning and business management:
  - Administration and Business
  - Marketing and communications



Source: Endeavor Intelligence Analysis, 2021.
*N= 316 companies, 24,852 employees.
Median employees 6 / Mean 19 employees (New Foods, 23 companies)

DEMOGRAPHICS OF NEW FOOD FOUNDERS

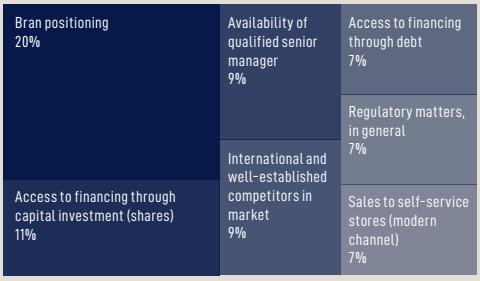
- Endeavor has shown in previous research the importance of prior work experience before starting a business — on average, founders of high-growth companies have more collective work experience than other founders.
- The fast-growing companies in New foods are led by founders with more experience (15+ years). Work/Study abroad and previous entrepreneurial experience are more common among these founders, primarily in sectors like Academia (researchers and professors), Food & beverages, Biotechnology and Financial services.
- The 'typical' founder for a New Food company tends to have a STEM undergraduate degree.
- The most common major is engineering, followed by business, science and math.
- 29% hold a post-grad degree in a STEM field (41% in science and math).



Source: Endeavor Intelligence Analysis, 2021.
*N= 37 founders profiles analyzed.

TO WHAT EXTENT DID NEW FOODS FOUNDERS FIND THE FOLLOWING TO BE OBSTACLES TO THE OPERATION OF THEIR COMPANIES? (SEE RIGHT)

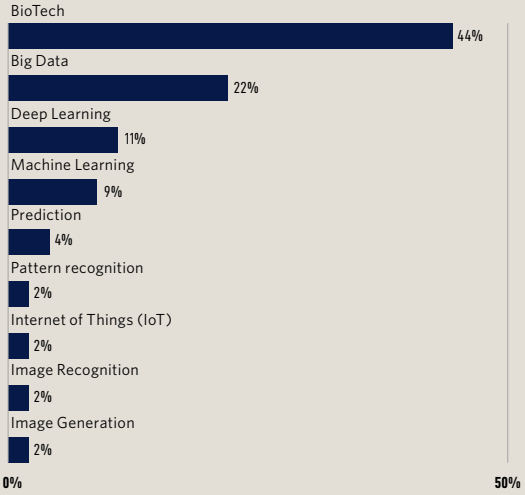
- Entrepreneurs in this category have been able to develop innovative products that resonate with consumers who value their differentiation and low environmental footprint.
- However, building and positioning their brand is the biggest obstacle to success, followed by access to finance and access to talent.
- Brand positioning is one of the most common obstacles pointed out by founders across the value chain.



Source: Endeavor Intelligence Analysis, 2021.
*N= 15 surveyed companies.

TECHNOLOGY DEVELOPMENT: HOW ARE NEW FOODS COMPANIES PRODUCING INNOVATION IN CONSUMER/NEW MARKETS?

- As previously mentioned, New Foods companies utilize many important AI applications in product development, such as discovering alternative proteins.
- 85% of entrepreneurs have proprietary technology development, applying technologies such as BioTech (substitution of animal proteins, bio-engineered foods, etc.), Big Data, and Machine Learning.
- As mentioned before, entrepreneurs in this categories are producing their own R&D, and as they grow and expand into new products and categories, seeking specialized talent is an obstacle.



Source: Endeavor Intelligence Analysis, 2021.
*N= 15 surveyed companies.

Chile's NotCo is a FoodTech startup that recently became Latin America's first FoodTech after having raised $235 million in a Series D funding round. Through an AI algorithm, NotCo reinvents animal-based foods using plant-based substitutes.

NotCo was founded in Chile in 2015 by three technologists: Matias Muchnick, Pablo Zamora and Karim Pichara.[51] NotCo's product development works by dissecting components of animal products to the molecular level and inputting them into an AI algorithm to find plant-based substitutes. The company's aim is to replicate organoleptic properties of animal products, and enable consumers to experience the same taste, texture, and cooking behaviors, while enjoying the nutritional benefits of eating their plant-based dairy alternatives.

To date, the producer of NotMayo, NotMilk (2% and whole), NotIceCream and NotBurger sells its products throughout the US, Brazil, Argentina, Chile, Uruguay, and Colombia, and is soon to be in Mexico, Peru, and Canada.[52]

The startup reached a $1.5 billion valuation after adding a $235 million Series D round to a previously raised amount of $130 million from big-name investors and VC's such as Jeff Bezos' Bezos Expeditions, Catterton Partners, Kaszek Ventures, Twitter co-founder Biz Stone, and 3G investment arm The Craftory, among others.

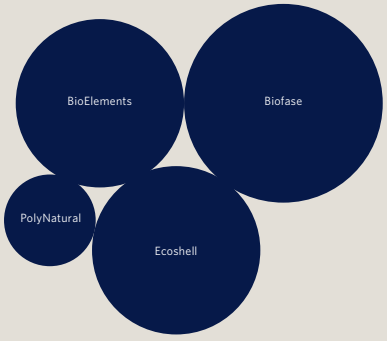
In June 2021, NotCo was ranked #1 in Latin America on Fast Company's prestigious annual list of the World's Most Innovative Companies in 2021.[53]

PACKING AND PACKAGING

Startups & scaleups that are developing sustainable packing and packaging alternatives for food and beverages.

- This primarily refers to packaging that is created using new materials (ex: seeds or avocado - shell packaging rather than plastic, aluminum or paper).
- Endeavor identified 4 startups and scaleups within this category in the Latin America region and gathered data from 2 companies through a survey and in-depth interviews.
- Although the small size of the sample in this category does not provide a complete picture of the packing and packaging ecosystem, research has shown that there are very few companies in this category. Packing and packaging companies are often unable to consolidate and become profitable as they require large initial investments.
- The low number of technology startups and scaleups in this category may be due to how difficult it is to scale and to compete on cost with traditional sources of packaging.
- Example of packing and packaging are companies that are employing biotechnological development are: Bioelements (2014), Biofase (2001), Polynatural (2016) and Ecoshell (2008).
- What is the main competitive advantage over large food companies in regards to establishments/consumers that buy their products? Entrepreneurs identified Environmental impact as the key differentiator in this category.

SAMPLE OVERVIEW (BIG PLAYERS) BY NUMBER OF EMPLOYEES



MEDIAN COMPANY

Founded in 2011	**21 Employees**	**Model: B2B**
Revenue undisclosed	**66% 3Y CAGR**	**Capital raised US $800K**

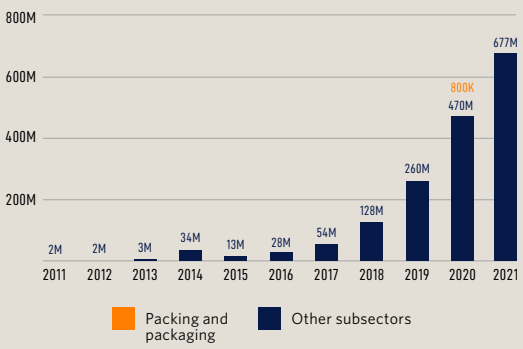
Source: Endeavor Intelligence, 2021.
*N=4 Companies identified and 2 surveyed companies.

ACCESS TO FINANCE

- Packing and packaging category is a mostly unexplored market for investors. The only publicly announced investment that has been made since 2011 was raised by PolyNatural in a Seed round from a local investor.

Year founded: **2014**
Employees: **1-10**
Total Raised: **US$800K**

VENTURE CAPITAL RECEIVED BY NEW FOODS COMPANIES

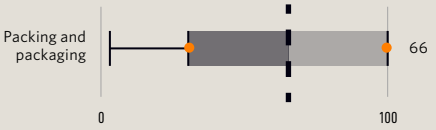


Source: Endeavor Intelligence Analysis, 2021.
*N= 161 companies, 206 deals.
Median Capital Invested US$800K / Mean US$800k.

REVENUE & GROWTH

- All the companies surveyed exhibit a double digit 3Y CAGR growth with a median of 66%.

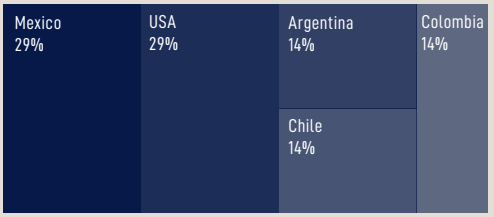
3Y CAGR **Median**



Source: Endeavor Intelligence Analysis, 2021.
*N= 2 companies.
**The graph shows the Compound Annual Growth Rate in revenues f or the last 3 years (3Y CAGR).

INTERNATIONAL EXPANSION

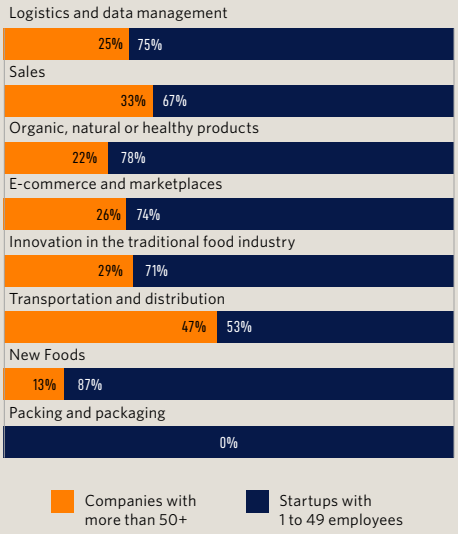
- 50% of the companies identified in the sample have managed to expand internationally.



Source: Endeavor Intelligence Analysis, 2021.
*N= 2 companies.
**The graph shows the most popular locations to expand to (in order of popularity)

EMPLOYMENT CONTRIBUTION AMONG E-COMMERCE AND MARKETPLACES COMPANIES

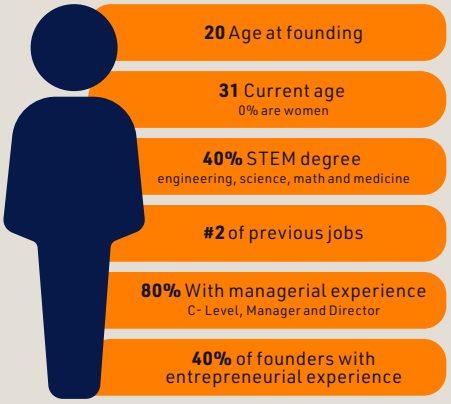
- As mentioned previously, this category is relatively new. None of the companies identified in Packing and packaging have managed to reach scale.
- What kind of talent these entrepreneurs are looking for?
- Founders in this category tend to look for very specific skill in their teams, primarily looking to hire people with STEM degrees, since R&D tends to be a key part of their business model:
  - Chemistry
  - Biotechnology
  - R&D engineering
  - Biology
  - Agronomic Engineering
- They also hire talent from non-STEM fields, to help with challenges in brand positioning and business management:
  - Administration and Business



Source: Endeavor Intelligence Analysis, 2021.
*N= 300 companies, 24,852 employees.
Median employees 21 / Mean 19 employees (Packing and packaging, 4 companies)

DEMOGRAPHICS OF INNOVATION IN THE TRADITIONAL FOOD INDUSTRY FOUNDERS

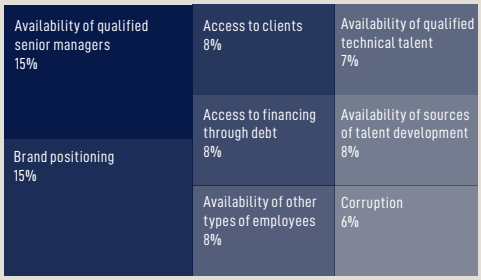
- Endeavor has shown in previous research the importance of prior work experience before starting a business — on average, founders of high-growth companies have more collective work experience than other founders.
- The fast-growing companies in Packing and packaging are led by founders with more experience (15+ years). Work/Study abroad and previous entrepreneurial experience are more common among these founders, primarily in sectors like non-profit organizations, Polymers, Biotechnology.
- The 'typical' founder for a Packing and packaging company tends to have a non-STEM undergraduate degree.
- The most common majors is Law, followed by engineering, and finally science and math. It should be noted this is a small sample of founders.
- 40% hold a post-grad degree in a non-STEM field (100% in Business).



Source: Endeavor Intelligence Analysis, 2021.
*N= 5 founders profiles analyzed.

TO WHAT EXTENT DID E-COMMERCE AND MARKETPLACES FOUNDERS FIND THE FOLLOWING TO BE OBSTACLES TO THE OPERATION OF THEIR COMPANIES?

- The main obstacle for firms in this subcategory is finding qualified senior managers.
- In our in-depth interviews, entrepreneurs said that the primary reason for this challenge is the cost of competing with big corporations to acquire qualified STEM talent.
- Entrepreneurs also have difficulties positioning their brand in the market, given limited interest from big corporations to implement these kinds of solutions in Latin America. These companies are aware of the need to revolutionize packaging, but know that it will be a long, expensive process.



Source: Endeavor Intelligence Analysis, 2021.
*N= 2 surveyed companies.

BioElements is a Chilean company that produces sustainable plastic, paper and cardboard packaging as a new alternative to traditional packaging materials. The company was founded in 2014 by José Ingnacio Parada, who, being environmentally conscious, began to avoid any type of plastic, and decided to work to create an ecological alternative. After two years of research and development, in 2016 Parada came up with a plastic alternative made of bio-based compounds, named BioE-8 Resin.

"The environmental impact of packaging using plastics or cardboard is too vast for simple solutions. Mechanical recycling has often been posed as the only solution, but we believe that using environmentally-friendly materials in the first place is a more fundamental solution. You have to show clients that there is a better alternative. It is not an easy job, but in the end it makes a worthwhile impact."

José Ignacio Parada de Fonseca,
CEO & cofounder at Bioelements -
Triple impact in the packaging industry

In 2020, Covid-19 led to the exponential growth of delivery services, undoubtedly worsening problems related to waste and packaging. Indeed, before the pandemic, e-commerce had penetrated around 5% of the regional economy; it is expected to reach almost 10% by the end of 2021.[54]

The company operates in Chile, Peru, Mexico and recently opened offices in Colombia and the U.S. It currently manufactures and distributes its packaging to 34 customers, including large companies such as Adidas and Mercado Libre, the largest e-commerce company in Latin America. BioElements' goal is to generate revenues of $50 million dollars by 2021, doubling the sales of previous years.[55]

BioElements has received the B-Corp certificate, awarded to companies which have outstanding Environmental, Social and Corporate Governance conditions. In the near term, BioElements expects to grow in the B2C market next year. Looking ahead, the company aspires to become a world leader in the production of biodegradable products.[56]

LOGISTICS AND DATA MANAGEMENT

Startups & scaleups that improve processes within the company through data-driven and data management solutions.

- Difference between Logistics and data management and Transportation and distribution?
- Transport and distribution generally happen through outsourced companies or third-parties, and food companies rely on those third parties to continually innovate and improve their service. They have little control over this part of the value chain.
- Logistics, on the other hand, refers to how resources are managed and move within a company's value chain, which requires innovation in internal processes. Companies in this space help other companies better manage internal their resources.
- Endeavor identified 72 startups and scaleups within this category in the Latin America region and gathered data from 18 companies through a survey and in-depth interviews.
- Examples of logistics and data management companies that optimize the internal logistics processes of food companies are: Cobli (2015), Moova (2018), Nowports (2019) and Teamcore (2015).
- What is the main competitive advantage over large food companies in regards to establishments/consumers that buy their products? Entrepreneurs identified Improvement in data collection and management and sales as key differentiators in this category.

SAMPLE OVERVIEW (BIG PLAYERS) BY NUMBER OF EMPLOYEES

MEDIAN COMPANY

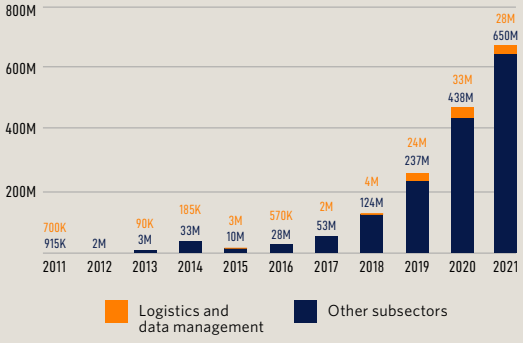
Founded in 2015	**21 Employees**	**Model: B2B**
US $1M revenue	**80% 3Y CAGR**	**Capital raised US $450K**

Source: Endeavor Intelligence, 2021.
*N=72 Companies identified and 18 surveyed companies.

ACCESS TO FINANCE

- Logistics and data management companies have raised, in just the last 4 years, total of US$120M in 30 deals.
- 65% the firms identified in this category have raised capital, with the majority of deals concentrated in the seed stage, leading to many small deals valued at less than US$4M.
- Median Capital Invested in these transactions is US$608k / Mean is US$4.2M (2018 - 2021).
- Companies like Nowports or Moova have raised capital in recent years to consolidate their presence across Latin America, grow their AI and data analytics teams, and integrate with more companies involved in the logistics industry.

VENTURE CAPITAL RECEIVED BY NEW FOODS COMPANIES



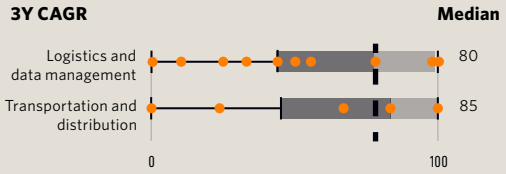
Source: Endeavor Intelligence Analysis, 2021.
*N= 161 companies, 206 deals.
Median Capital Invested US$450K / Mean US$3M.

nowports
Year founded: **2019**
Employees: **+101**
Total Raised: **US$32.6M**

MOOVA
Year founded: **2018**
Employees: **+101**
Total Raised: **US$5.5M**

REVENUE & GROWTH

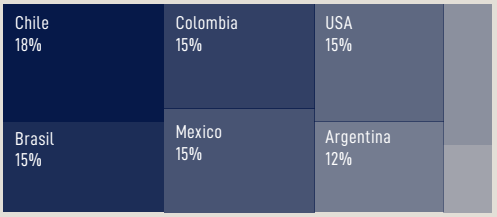
- For this subcategory, the companies have a median 3Y CAGR of 80%, with most companies concentrated above the median. For instance, 7 companies have had growth above 97% in the last 3 years.
- The majority of firms have revenue over US$1M however, the remaining companies have a median revenue of US$500K. Two outliers stand out with revenues above US$10M.



Source: Endeavor Intelligence Analysis, 2021.
*N= 18 companies.
**The graph shows the Compound Annual Growth Rate in revenues for the last 3 years (3Y CAGR).

INTERNATIONAL EXPANSION

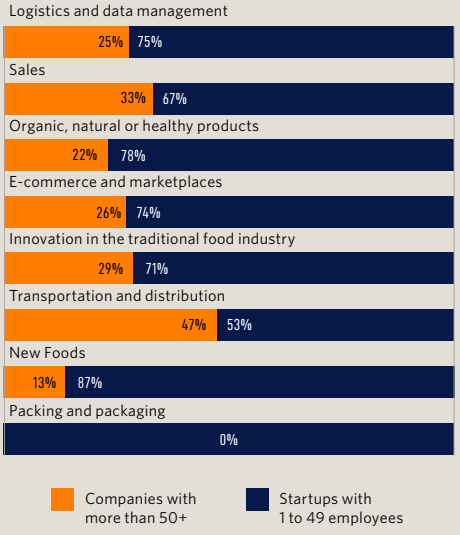
- 36% of 73 companies have managed to expand to other regions. Those that have expanded are HQ'ed mainly in Colombia, Mexico and Argentina.
- These companies have expanded to various countries in LatAm plus the USA, with no dominant destination.This suggests that expansion in logistics and data management is not dependent on market trends or opportunities. Instead, these companies expand wherever they can generate a customer base, and they do so more easily than other categories.



Source: Endeavor Intelligence Analysis, 2021.
*N= 18 companies.
**The graph shows the most popular locations to expand to (in order of popularity)

EMPLOYMENT CONTRIBUTION AMONG E-COMMERCE AND MARKETPLACES COMPANIES

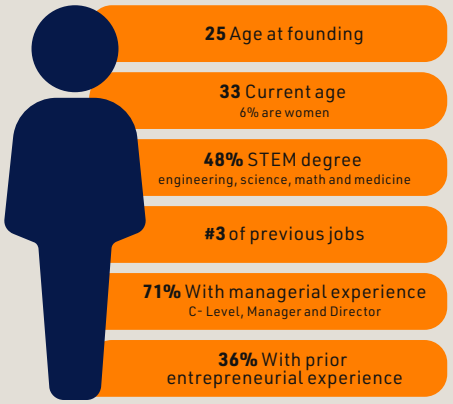
- 18 companies of Logistics and data management have reached scale (companies that reached the size of 50 or more employees).
- This small group of companies are responsible for 83% of job creation with 3,972 people employed.
- What kind of talent these entrepreneurs are looking for?
- Founders in this category tend to look for very specific skills in their teams, with STEM profiles that allow them to achieve better outcomes in tech R&D:
  - Systems / Computing Engineers
  - Information Technology developers
- They also hire in the following non-STEM fields, to help address challenges in brand positioning and business management:
  - Administration and Business
  - Marketing and communications



Source: Endeavor Intelligence Analysis, 2021.
*N= 300 companies, 24,852 employees.
Median employees 21 / Mean 66 employees (Logistics and data management, 72 companies)

DEMOGRAPHICS OF INNOVATION IN THE TRADITIONAL FOOD INDUSTRY FOUNDERS

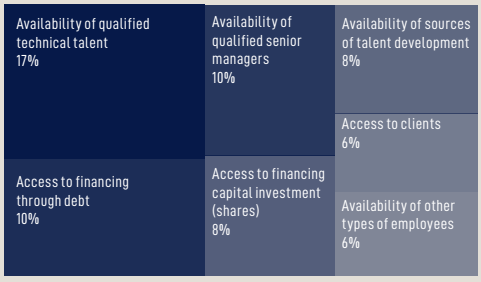
- Endeavor has shown in previous research the importance of prior work experience before starting a business — on average, founders of high-growth companies have more collective work experience than other founders.
- The fast-growing companies in Logistics and data management are led by founders with more experience (15+ years). Work/ Study abroad and previous entrepreneurial experience are more common among these founders, primarily in sectors like Information Technology & Services, Computer Software and Logistics & Supply Chain.
- The 'typical' founder for a Logistics and data management company tend to have a STEM undergraduate degree.
- The most common major is engineering, followed by business, and finally computer science.
- 36% holds a post-grad degree in a non-STEM field (56% in Business).



Source: Endeavor Intelligence Analysis, 2021.
*N= 104 founders profiles analyzed.

TO WHAT EXTENT DID E-COMMERCE AND MARKETPLACES FOUNDERS FIND THE FOLLOWING TO BE OBSTACLES TO THE OPERATION OF THEIR COMPANIES?

- For firms in this category, the primary obstacle is finding qualified technical talent and senior managers.
- In our in-depth interviews, entrepreneurs said that the primary reason for this challenge is the cost of competing with big corporations to acquire qualified talent.
- Another reason, according to entrepreneurs, is that regional universities do not adequately prepare graduates to fill the market's talent needs.



Source: Endeavor Intelligence Analysis, 2021.
*N= 18 surveyed companies.

Cobli, a fleet management and field services startup based in Brazil, is an example of how IoT can optimize logistics and field operations. Founded by Rodrigo Mourad and Parker Treacy in 2017, Cobli is the fastest growing fleet management system in Latin America with more than 3,000 clients across a wide set of industries such as vehicle rental, healthcare, telecom, agriculture, and food and beverage.[57]

The São Paulo-based startup works as a B2B SaaS, which uses IoT technology to monitor vehicles, allowing customers to track vehicles and send service orders to technicians in real time. The company connects vehicles to the internet through IoT hardware and turns vehicle data into information for fleet managers to better manage workflows, with features such as vehicle routing and dispatch, client delivery communications, proof of delivery notifications, and gas and insurance management.

The company has a team of 215 and will be more than doubling the headcount over the next 12 months to keep up with heightened demand. In 2019, Cobli raised a US$10 million Series A led by Fifth Wall Ventures, and in 2021, raised a US$35 million Series B led by Softbank.

"We are creating technology that gives every operation better visibility around productivity and cost savings as well as enabling them to give an incredible experience to their end customer."

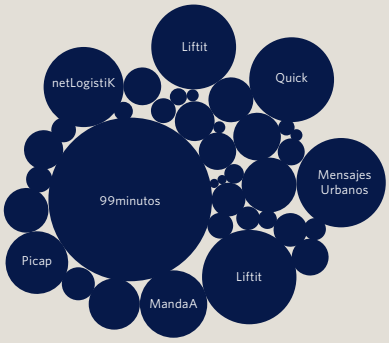
Parker Treacy,
Co-Founder & CEO at Cobli -
Brazilian fleet management startup

TRANSPORTATION AND DISTRIBUTION

Startups & scaleups that innovate in the transportation and distribution of supplies and finished goods, using technology to make these processes more efficient.

- Difference between Logistics and data management & a delivery platform?
- Logistics and data management startups and scaleups deliver to an end consumer. Transportation and distribution, on the other hand, is taking the products from the industry to a point of sale or distribution center.
- Endeavor identified 38 startups and scaleups within this category in the Latin America region and gathered data from 7 companies through a survey and in-depth interviews.
- Examples of transportation and distribution in the region are companies optimizing deliveries through Big Data, Machine Learning, Artificial Intelligence or Internet of Things (IoT), such as Cargamos (2019), 99 minutos (2014), Treggo (2016) and Cargo X(2013).
- What is the main competitive advantage over large food companies in regards to establishments/consumers that buy their products?
- Entrepreneurs identified Savings or improvement in the transport of supplies and the distribution of products to the point of sale or to the consumer as key differentiators in this category.

SAMPLE OVERVIEW (BIG PLAYERS) BY NUMBER OF EMPLOYEES



MEDIAN COMPANY

Founded in 2015	**38 Employees**	**Model: B2B2C**
US $2.5M revenue	**85% 3Y CAGR**	**Capital raised US $1.3M**

Source: Endeavor Intelligence, 2021.
*N=38 Companies identified and 7 surveyed companies.

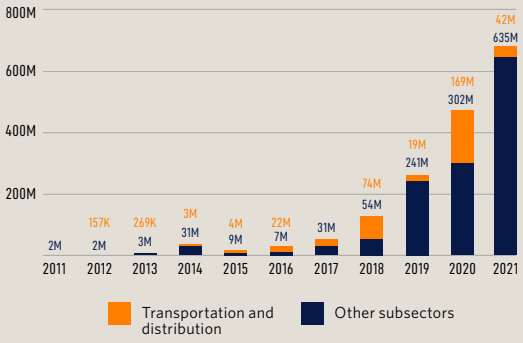
ACCESS TO FINANCE

- Transportation and distribution companies have raised, in just the last 4 years, a total of US$274M across 25 deals.
- 71% of the firms identified in this category have access to VC financing.
- 2020 was a particularly strong year for these companies in terms of capital invested, particularly in Seed rounds.
- Median Capital invested in these transactions is US$2.5M / Mean is US$11M (2018 - 2021).
- The leading company in investment rounds is CargoX, Brazilian FoodTech scaleup, having raised an important amount of US$178M.
- Most of the companies raised capital to expand their operations internationally and develop better technologies.

Year founded: **2013**
Employees: **+301**
Total Raised: **US$178M**

Year founded: **2014**
Employees: **+1001**
Total Raised: **US$47M**

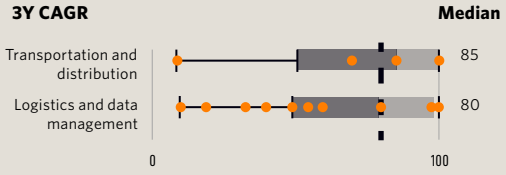
VENTURE CAPITAL RECEIVED BY NEW FOODS COMPANIES



Source: Endeavor Intelligence Analysis, 2021.
*N= 161 companies, 206 deals.
Median Capital Invested US$1.3M / Mean US$6.9M.

REVENUE & GROWTH

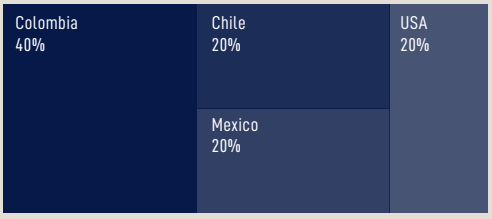
- Transportation and distribution firms had a median 3Y CAGR of 85%, with most companies above the median and three companies reaching 100% growth or above.
- The vast majority of firms have revenue above US$500K. Two outliers stand out with revenues above US$20M. .



Source: Endeavor Intelligence Analysis, 2021.
*N= 7 companies.
**The graph shows the Compound Annual Growth Rate in revenues for the last 3 years (3Y CAGR).

INTERNATIONAL EXPANSION

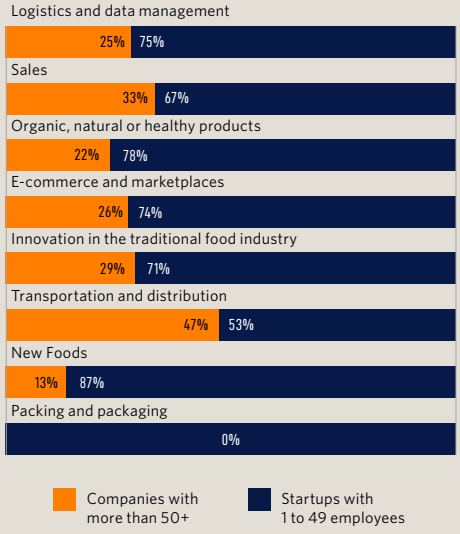
- Transportation and distribution is the category with the highest expansion rate.
- 37% of 38 companies have managed to expand their operations, with the most popular destination being Colombia.
- Those that have expanded are HQ'ed mainly in Mexico and Argentina. For demographic reasons, companies in Argentina tend to expand to Chile and companies in Mexico to the US.



Source: Endeavor Intelligence Analysis, 2021.
*N= 7 companies.
**The graph shows the most popular locations to expand to (in order of popularity)

EMPLOYMENT CONTRIBUTION AMONG SALES COMPANIES

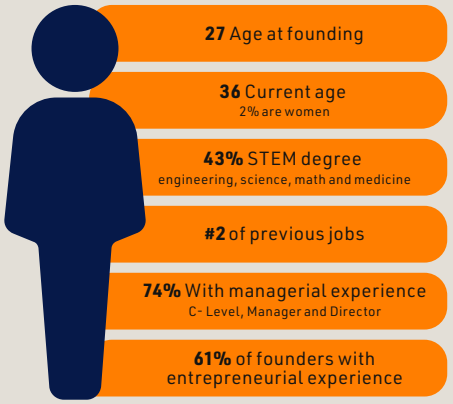
- 18 companies in transportation and distribution have reached scale (companies that reached the size of 50 or more employees).
- This group of companies is responsible for 91% of job creation with 3,390 people employed.
- What kind of talent these entrepreneurs are looking for?
- Founders in this category tend to look for very specific skills in their teams, since most of these firms invest in tech-development as part of their business model, seeking to hire employees with the following expertise:
  - Systems / Computing Engineering
  - Information Technology
- In the non-STEM field, founders tend to look for employees with the following degrees:
  - Administration and Business
  - Marketing and communications



Source: Endeavor Intelligence Analysis, 2021.
*N= 300 companies, 24,852 employees.
Median employees 38 / Mean 98 employees (Transportation and distribution, 24 companies)

DEMOGRAPHICS OF TRANSPORTATION AND DISTRIBUTION FOUNDERS

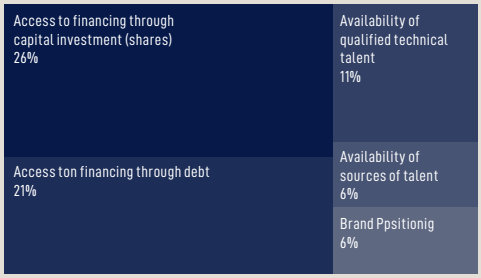
- Endeavor has shown in previous research the importance of prior work experience before starting a business — on average, founders of high-growth companies have more collective work experience than other founders.
- The fast-growing companies in Transportation and distribution are led by founders with more experience (15+ years). Work/ Study abroad and previous entrepreneurial experience are more common among these founders, primarily in sectors like Information Technology & Services, Logistics & Supply Chain, Financial Services and Retail.
- The 'typical' founder for a Transportation and distribution company tends to have a STEM undergraduate degree.
- The most common major among founders is engineering, followed by business, and finally social science.
- 33% holds a post-grad degree in a non-STEM field (57% in Business).



Source: Endeavor Intelligence Analysis, 2021.
*N= 54 founders profiles analyzed.

TO WHAT EXTENT DID E-COMMERCE AND MARKETPLACES FOUNDERS FIND THE FOLLOWING TO BE OBSTACLES TO THE OPERATION OF THEIR COMPANIES?

- The most common obstacle for entrepreneurs in this category is securing access to financing through capital investment (shares) or debt.
- Due to potential conflict of interest, VC funds prefer to invest in one company per category, limiting access to finance for the others.



Source: Endeavor Intelligence Analysis, 2021.
*N= 7 surveyed companies.

Cargo X, founded in Brazil in 2013 by Argentinean Federico Vega, is the biggest freight marketplace in Brazil, connecting businesses that need to ship freight with truckers who have excess capacity. Brazil's cargo market reportedly has an excess of between 300,000 and 350,000 vehicles, with trucks running empty 40 percent of the time. Indeed, reducing the number of empty trucks increases revenue for truckers and reduces costs for freight owners.[58]

Cargo X's success is reflected in the 12,000 companies using their platform, including big industry players such as Heineken and Unilever, and 1.2 million truck drivers using the application.[59]

CargoX initially gained momentum by being backed by Uber co-founder Oscar Salazar as an investor. Validation from Uber, which operates a similar marketplace model, highlights the great opportunity of information asymmetry in the Brazilian truck marketplace.

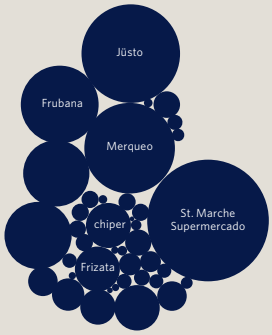
To date, CargoX has raised a total of 190.0M USD, including an USD 80M Series E investment round led by LGT Lightstone Latin America, with participation of Goldman Sachs, Valor Capital, Farallon Capital, among other renowned investors.[60]

E-COMMERCE AND MARKETPLACES

Startups & scaleups focused on the sale of products via digital media and the use of those platforms to sell foods on a larger scale (online supermarkets).

- Difference between Sales & E-commerce and marketplace Tech?
- Sales companies are connectors more than anything else. They use technology to connect companies with their customers and assist startups and scaleups in creating an online presence. In contrast, E-commerce and marketplaces sell their own food products in addition to housing other smaller, innovative food brands. These companies are born as digital-first and have built this into their business model.
- Endeavor identified 42 startups and scaleups within this category in the Latin America region and gathered data from 15 companies through a survey and in-depth interviews.
- Examples of leading E-commerce and marketplaces companies in the region are digital-first platforms for selling goods, such as Merqueo (2015), Jüsto (2019), Supermercado Now (2015), and Frubana (2018).
- What is the main competitive advantage over large food companies in regards to establishments/consumers that buy their products?
- Entrepreneurs identified Savings in the cost of supplies and distribution of products as key differentiators in this category.

SAMPLE OVERVIEW (BIG PLAYERS) BY NUMBER OF EMPLOYEES



MEDIAN COMPANY

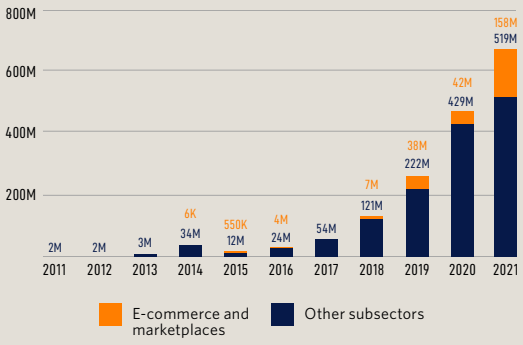
Founded in 2017	**12 Employees**	**Model: B2B**
US $500K revenue	**77% 3Y CAGR**	**Capital raised US $2.6M**

Source: Endeavor Intelligence, 2021.
*N=42 Companies identified and 15 surveyed companies.

ACCESS TO FINANCE

- Companies in this category have sparked the interest of investors, with 55% of firms identified having raised capital.
- E-commerce and marketplaces companies have raised, in just the last 4 years, a total of US$241M in 17 deals. In 2021, companies have already raised an important amount for the region, with US$157M across 4 deals.
- Median Capital Invested in these transactions is US$5M / Mean is US$14.1M (2018 - 2021).
- The leading company in investment rounds is Frubana, Colombian FoodTech scaleup, which has raised a total of US$102M since 2018.
- E-commerce and marketplaces companies seek financing to strengthen their platform technology, consolidate a local market, and facilitate access to suppliers — different from companies in other categories, which raise capital primarily for expansion.

VENTURE CAPITAL RECEIVED BY NEW FOODS COMPANIES



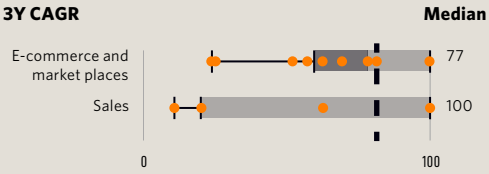
Year founded: **2018**
Employees: **+350**
Total Raised: US**$102M**

Year founded: **2019**
Employees: **+501**
Total Raised: **US$92M**

Source: Endeavor Intelligence Analysis, 2021.
*N= 161 companies, 206 deals.
Median Capital Invested US$2.6M / Mean US$11.5M.

REVENUE & GROWTH

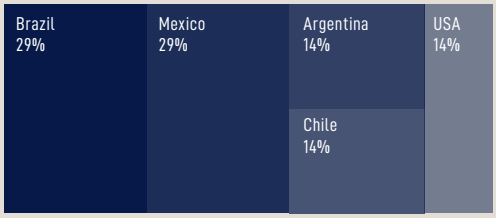
- Companies in the E-commerce and marketplaces category have a median 3Y CAGR of 77%.
- There are six companies in this category showing an impressive 3Y CAGR of 100%.
- The vast majority of firms have more than US $500K in revenue. Four outliers have revenues above US$12.5M.



Source: Endeavor Intelligence Analysis, 2021.
*N= 15 companies.
**The graph shows the Compound Annual Growth Rate in revenues for the last 3 years (3Y CAGR).

INTERNATIONAL EXPANSION

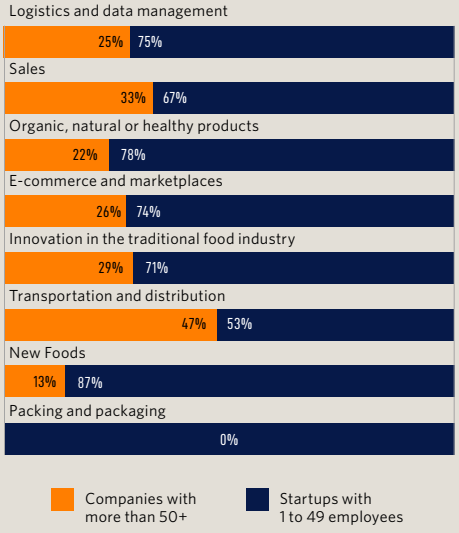
- 12% of 42 companies identified in the sample have managed to expand internationally. Those that have expanded are HQ'ed mainly in Colombia and Argentina
- This category has the lowest expansion rate of all.
- E-commerce and marketplaces firms prefer to use capital to consolidate a regional market and target a local customer base before expanding.
- Companies that do seek to expand prefer to do so across Latin America, mainly to Brazil and Mexico, before the US.



Source: Endeavor Intelligence Analysis, 2021.
*N= 15 companies.
**The graph shows the most popular locations to expand to (in order of popularity)

EMPLOYMENT CONTRIBUTION AMONG E-COMMERCE AND MARKETPLACES COMPANIES

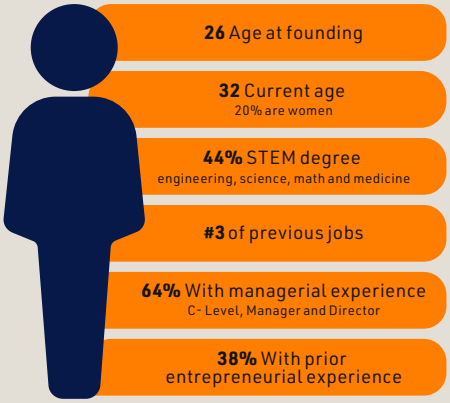
- 11 companies in the E-commerce and marketplaces category have reached scale (defined as 50 or more employees).
- These scale companies are responsible for 89% of job creation, with 2,728 people employed.
- What kind of talent these entrepreneurs are looking for?
- Founders in this category tend to look for very specific skills in their teams, preferring non-STEM profiles that can help position their brand:
  - Administration and Business
  - Marketing and communications
- Within STEM fields they tend to hire talent that can help build and improve their technology in Machine Learning:
  - Information Technology
  - Systems / Computing Engineering
  - Process Engineering



Source: Endeavor Intelligence Analysis, 2021.
*N= 300 companies, 24,852 employees.
Median employees 12 / Mean 77 employees (E-commerce and marketplaces, 42 companies)

DEMOGRAPHICS OF NEW FOOD FOUNDERS

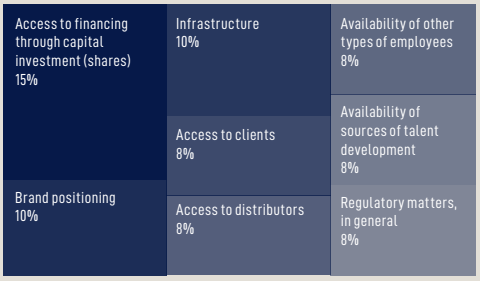
- Endeavor has shown in previous research the importance of prior work experience before starting a business — on average, founders of high-growth companies have more collective work experience than other founders.
- The fast-growing companies in E-commerce and marketplaces are led by founders with more experience (15+ years). Work/ Study abroad and previous entrepreneurial experience are more common among these founders, primarily in sectors like Information Technology & Services, Retail, Food & Beverages and Management Consulting.
- The 'typical' founder for an E-commerce and marketplace company tends to have a non-STEM undergraduate degree.
- The most common major is engineering, followed by business, and finally economics.
- 43% hold a post-grad degree in a non-STEM field (61% in Business).



Source: Endeavor Intelligence Analysis, 2021.
*N= 45 founders profiles analyzed.

TO WHAT EXTENT DID E-COMMERCE AND MARKETPLACES FOUNDERS FIND THE FOLLOWING TO BE OBSTACLES TO THE OPERATION OF THEIR COMPANIES?

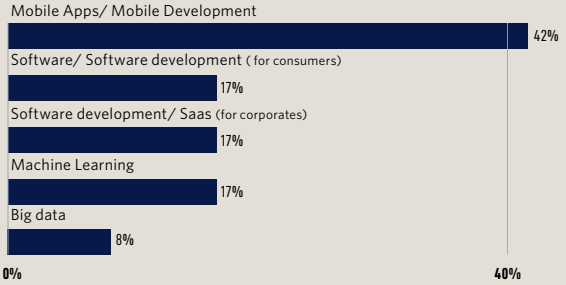
- Although 55% of the identified companies have been able to raise capital, raising capital through VCs is still the most common challenge cited by entrepreneurs. It is likely that investors who tend to focus on later-stage funding are not yet convinced by the track record / technology of these companies.
- Lack of resources has also made brand positioning and infrastructure the second most pressing obstacles.



Source: Endeavor Intelligence Analysis, 2021.
*N= 15 surveyed companies.

TECHNOLOGY DEVELOPMENT: HOW ARE E-COMMERCE AND MARKETPLACES PRODUCING INNOVATION IN CONSUMER/NEW MARKETS?

- Only four companies out of fifteen sampled are innovating in the value chain. These four companies develop their own technology, focusing on mobile applications and software to provide a better customer experience.
- Moreover, these companies also develop technology for Machine Learning and Big Data to understand the behaviour of customers and provide them with product alternatives that may fit their needs.



Source: Endeavor Intelligence Analysis, 2021.
*N= 15 surveyed companies.

Information asymmetry and a sizable disparity between the purchase and sale prices of agricultural products leave ample room for disruption in LATAM's food systems, and Fabian Gómez Gutierrez, founder of Frubana, noticed this opportunity.[61]

Coming from a family of farmers, Gomez was well aware that having multiple middlemen in the distribution chain slowed down the delivery of goods. But it was while working as an expansion leader for Rappi that Gomez realized the number of intermediaries was also contributing to severely inflated prices at the point of sale - harming both producers and consumers. [62]

Founded in 2018, Frubana is a B2B marketplace that connects restaurants directly with producers. During the Covid-19 pandemic, Frubana expanded from selling mostly produce to becoming a one-stop-shop for restaurants, adding value by saving restaurants the time of managing multiple suppliers at once.

In June 2021, Frubana raised US $ 65 million in a Series B investment round, led by GGV Capital, with the participation of Tiger Global Management, Softbank and Monashees, and Lightspeed Venture Capital. So far, Frubana has raised a total of $102M in funding over 3 rounds.[63]

In the next three years, Frubana aims to be a one-stop shop for more than 500k restaurants.[64] The startup currently operates in Mexico, Colombia and Brazil, with hopes to expand within those countries.

"From the beginning, Frubana was thought of as a regional platform for LATAM. It is our mission to create infrastructure where there is none. Where infrastructure exists, we use it; where it does not, we make it."

Fabián Gómez Gutiérrez,
CEO & founder at Frubana -
B2B marketplace and one stop shop
forrestaurants in LATAM

SALES

Startups & scaleups that strengthen sales through high-tech solutions & better communication channels.

- Difference between Sales & E-commerce and marketplace Tech?
- As mentioned previously, E-commerce and marketplaces companies operate digital-first platforms through which they sell both their own food products and products from other smaller, innovative food brands.
- Sales companies are connectors more than anything else. They use technology to connect companies with their customers and make it easier for startups and scaleups to create a presence online.
- Endeavor identified 55 startups and scaleups within this category in the Latin America region and gathered data from 10 companies through a survey and in-depth interviews.
- Examples of Sales companies in the region are ones that provide better intermediary sales solutions, such as Infracommerce (2012), Yalo (2015), Ecomsur (2011) and Olist (2014).
- What is the main competitive advantage over large food companies in regards to establishments/consumers that buy their products?
- Entrepreneurs identified Savings or improvement in the distribution of products to the point of sale or the consumer as the key differentiator in this category.

SAMPLE OVERVIEW (BIG PLAYERS) BY NUMBER OF EMPLOYEES

MEDIAN COMPANY

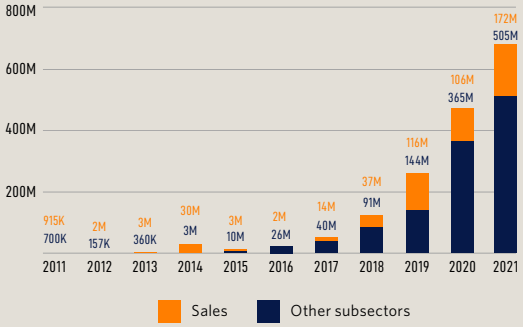
Founded in 2016	**18 Employees**	**Model: B2B**
US $312K revenue	**100% 3Y CAGR**	**Capital raised US $818K**

Source: Endeavor Intelligence, 2021.
*N=55 Companies identified and 10 surveyed companies.

ACCESS TO FINANCE

- Sales companies have long been VC-backed, primarily because of the Fintech revolution that started in 2012. In just the last 4 years a total of US$436M has been invested in the subcategory across 38 deals.
- 53% of companies identified in this category have raised capital, primarily in seed rounds.
- Median Capital Invested in these transactions is US$1.2M / Mean is US$11.5M (2018 - 2021).
- The leading company in investment rounds is Olist, Brazilian FoodTech scaleup, having raised a significant amount of US$134.5M since 2014.
- Sales companies use capital primarily to develop technology, attract talent, create new fintech products, and expand.

VENTURE CAPITAL RECEIVED BY NEW FOODS COMPANIES



Source: Endeavor Intelligence Analysis, 2021.
*N= 161 companies, 206 deals.
Median Capital Invested US$818k / Mean US$8M.

olist

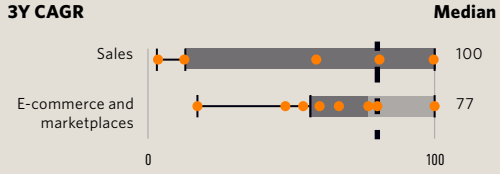
Year founded: **2014**
Employees: **+501**
Total Raised: **US$134.5M**

yalo

Year founded: **2015**
Employees: **+101**
Total Raised: **US$73M**

REVENUE & GROWTH

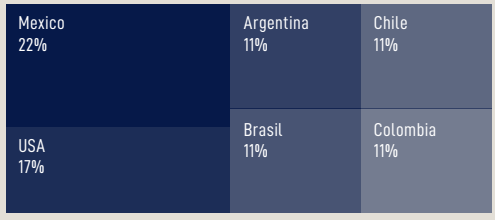
- Sales has achieved the highest average growth rate of all categories, with a median 3Y CAGR of 100%. Six companies out of ten have achieved >100% growth in the last three years.
- The vast majority of firms have revenue below US$500K. However, one outlier stands out with revenues of US$25M.



Source: Endeavor Intelligence Analysis, 2021.
*N= 8 companies.
**The graph shows the Compound Annual Growth Rate in revenues for the last 3 years (3Y CAGR).

INTERNATIONAL EXPANSION

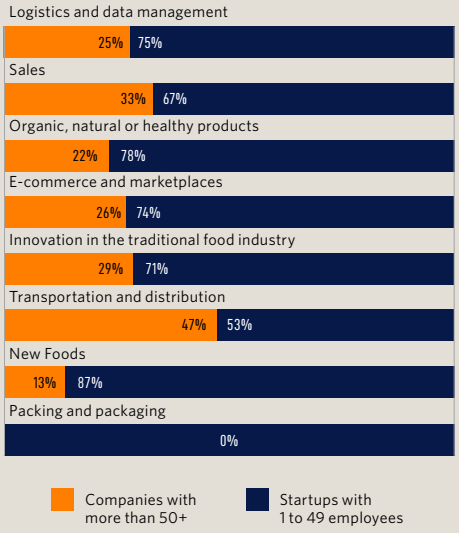
- 24% of the 55 companies have managed to expand their operations. Those that have expanded are HQ'ed mainly in Argentina, Mexico and Brazil.
- For companies from Argentina and Brazil, Mexico is the most common destination. This may be due to favorable local regulations for companies entering the market product of the recently implemented Fintech Law.
- The US is the second most popular destination for expansion.



Source: Endeavor Intelligence Analysis, 2021.
*N= 8 companies.
**The graph shows the most popular locations to expand to (in order of popularity)

EMPLOYMENT CONTRIBUTION AMONG SALES COMPANIES

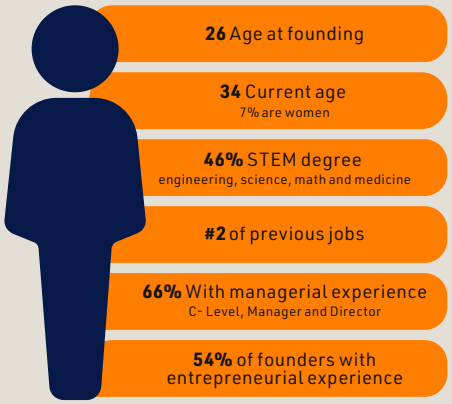
- 18 Sales companies have reached scale (companies that reached the size of 50 or more employees).
- This small group of companies is responsible for 90% of job creation with 4,345 people employed.
- What kind of talent these entrepreneurs are looking for?
- Founders in this category tend to look for very specific skills in their teams, since most of these firms invest in tech-development as part of their business model, seeking to hire employees with the following expertise:
- Systems / Computing Engineering
- Information Technology
- R&D Engineering
- Also in the non-STEM field they tend to hire in (since they are also the brand positioning and the business management):
- Administration and Business
- Marketing and communications



Source: Endeavor Intelligence Analysis, 2021.
*N= 316 companies, 24,852 employees.
Median employees 18 / Mean 90 employees (Sales, 55 companies)

DEMOGRAPHICS OF SALES FOUNDERS

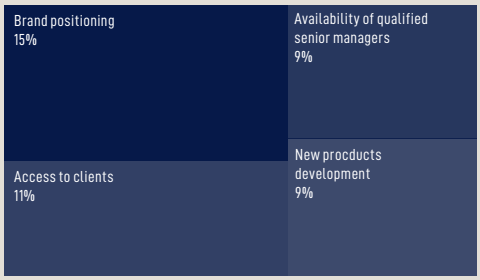
- Endeavor has shown in previous research the importance of prior work experience before starting a business — on average, founders of high-growth companies have more collective work experience than other founders.
- The fast-growing companies in Sales are led by founders with more experience (15+ years). Work/Study abroad and previous entrepreneurial experience are more common among these founders, primarily in sectors like Information Technology & Services, Computer Software and Financial Services.
- The 'typical' founder for a Sales company tends to have a non-STEM undergraduate degree.
- The most common major among founders is engineering, followed by business, and finally social science.
- 32% holds a post-grad degree in a non-STEM field (54% in Business).



Source: Endeavor Intelligence Analysis, 2021.
*N= 71 founders profiles analyzed.

TO WHAT EXTENT DID E-COMMERCE AND MARKETPLACES FOUNDERS FIND THE FOLLOWING TO BE OBSTACLES TO THE OPERATION OF THEIR COMPANIES?

- The biggest obstacle for Sales companies is brand positioning — that is, how they manage to reach new customers and how much they spend to acquire them (CAC).
- Another common challenge is the availability of qualified senior managers to develop new products. This talent is scarce locally, and therefore competitive and expensive to land.



Source: Endeavor Intelligence Analysis, 2021.
*N= 8 surveyed companies.

Yalo is a conversational commerce platform for messaging first economies with presence in LatAm, India, and Southeast asia.[65]

Yalo, which focuses on the consumer packaged goods (CPGs), retail, grocery and restaurant industries, creates conversational platforms, integrated into popular social messaging apps such as Whatsapp, Facebook Messenger and Instagram. This is crucial for sales, as it enables hyper-personalized experiences that generate consumer engagement and loyalty. Yalo believes that 90%+ of all companies' customer conversations can be automated. Moreover, Yalo also helps retailers integrate customer requests to point of payment and streamline orders with Customer Relationship Management systems (CRMs).[66] Altogether, having an integrated and dynamic platform for customer management helps companies better manage sales, and even generate a 5-15% increase in mobile orders, according to Yalo.

In 2021, Yalo raised $50 million in Series C funding, adding to a previous $15 million Series B and $10 million Series A. The company was the first in Latin America to receive an investment from B Capital Group, an investment fund founded by Brazilian billionaire Eduardo Saverin, one of Facebook's co-founders.[67,68,69]

Today, Yalo is being used in more than 41 countries and works with big-name multinationals such Pepsi, Aeroméxico, Coppel, Walmart, Nike, Nestlé, Unilever and Coca-Cola among many others.[70]

And Yalo is certainly going for more. According to the report "Conversational Commerce", published by Yalo with the support of BCG, the c-commerce market reached $56.6billion in revenue in 2020 and will more than double that amount by 2025.[71]

TECHNOLOGY INNOVATION IN THE VALUE OF CHAIN

Competitiveness of companies in the food and beverage industry is closely linked to their ability to innovate through technology. The benefits of implementing tech across the supply chain are numerous. For instance, technology can speed up traditional supply chain processes that are often complex, costly, inefficient and lack transparency. Additionally, technology can streamline the development process for new product ideas or products that have to undergo rigorous data collection, testing, and certifications to make it to consumer shelves.[72,73] Lastly, data can help bridge the gap between producer and consumer, allowing producers to better understand the products that customers want, and allowing consumers to understand where the product is coming from.[74]

"Consumer data helps us understand how to grow. By analyzing it, we can make the right products available at the right time, through the right channels for the right people."

Luis Mejia,
Head of Growth & Strategy at *Heartbest Foods* -
Mexican plant-based foods startup

Given the various challenges that the food industry faces, technology implementation was one of the most important pillars of this research. Endeavor included two questions in the survey on this subject, asking if entrepreneurs outsourced their tech development and what type of technology they were implementing to innovate.

Endeavor found that only 22% of entrepreneurs outsource tech development. This suggests that a large majority of entrepreneurs (78%) are taking tech development into their own hands and have the capacity to do so. As mentioned before, the two categories that outsourced tech development the most were ***e-commerce and marketplaces*** and ***organic, natural or healthy products.*** Furthermore, in aggregate, the most applied technologies by our sample were biotechnology, big data, mobile apps and machine learning. However, it is important to understand exactly how these technologies are being used and to what extent they are beneficial.

For this, Endeavor designed a simplified version of a Food & Beverage supply chain and identified various business model needs and opportunities where technology could provide solutions or simply make the process more efficient.

- **Supplies & Procurement:** step in the chain that includes acquiring raw materials for products and packaging, seeking to minimize costs and ensuring product quality.
- **Manufacturing & Warehouse:** step in the chain that consists of transforming raw materials into finished goods.
- **Research and development:** phase in which different innovations are developed aimed at bringing tangible improvements to the business: development of new products and reformulations to optimize costs in manufacturing, packaging, etc.
- **Sales and distribution:** step in which the sale of products to customers is carried out through: traditional channels (neighborhood stores, informal stores) and modern channels (supermarkets, convenience stores, etc.).
- **Transportation:** phase that involves taking the finished products to the point of sale or distribution centers.
- **Consumer/new markets:** phase that includes all activities that lead customers to buy the products or that help position the brand.

To evaluate the true impact of technology across the different FoodTech startups and scaleups business models, Endeavor set out to evaluate further how the main technologies are being implemented. The analysis is by no means comprehensive, but aims to explain what the main technologies are, how they work, and what benefits they bring, and to exemplify how startups and scaleups are currently using them.

MAIN TECHNOLOGY BY SUPPLY CHAIN STAGE

Type of technology	Supply chain Stage	Uses and benefits	Examples
Artificial Intelligence	Sales & Distribution	Optimize shelf display according to store objectives and sales goals	Kuona, Zippedi, Shelfpix
		Omnichannel integration (integration between distribution, promotion and communication channel).	frubana, SimpliRoute, wabi, Cargamos, infra commerce, intelipost, Frizata
	R&D	Mimic components of animal proteins, enabling the development of new foods with healthy alternatives and low environmental impact.	protera, NotCo
	Customer + new Markets	Conversational commerce (AI assistants) offering a hyper personalized experience in direct customer communication.	yalo, Vendo chat, zenvia
		Trendspotting and identifying opportunities to innovate based on end-user insights.	analytics, Justo
	Manufacture & Warehouse	Efficient stock management by predictive algorithms on customer insights, such as consumption patterns.	Justo, Zippedi

Big Data	Sales & Distribution	Automate data collection and indentify opportunities to innovate based on end-user insights.	TREGGO, SimpliRoute, superfüds, MI ÁGUILA
API	Sales & Distribution	Ease parternerships with third party sites by creating accessible operational software.	yalo, 99minutos.com, infra commerce, Vendo con chat, zenvia, MI ÁGUILA
Biotech	Customer + new Markets	Innovative environmentally-friendly and sustainable alternatives to conventional products.	protera, TOMORROW FOODS, Foxy natural, NotCo, HEARTBEST, michroma, fazenda futuro
Augmeneted Reality/ Virtual Reality and Robotics	Sales & Distribution	Ease visualization of store display through virtual reality and automatic management of stock with robots	ZIPPEDI
Telematics	Transport & Distribution	GPS tracking for route optimization and real time information on the fleet for efficient and safe transport services.	99minutos.com, TREGGO, COBLI, liftit, SimpliRoute, intelipost

Source: Endeavor Intelligence, 2021.
*The information corresponds to data collected by Endeavor.
**N = 4,470 FoodTech related posts.

Below, Endeavor aimed to explain in greater depth what exactly these technologies are and how some of the abovementioned startups and scaleups are implementing them in their daily operations.

ARTIFICIAL INTELLIGENCE

Artificial intelligence (AI) refers to the development of computer systems able to perform tasks that normally require human intelligence, such as visual perception, speech recognition, decision-making, and language translation.[75] AI is built to enhance human's ability to perform these tasks.

In an industry where new product development requires several levels of iteration, artificial intelligence has the power to automate data analysis. Most importantly, AI allows systems to learn from previous situations and continually improve.[76] AI relies on processing data, learning from that data, and acting based on input data. Thus, the more information collected, the better the algorithms will work.

AI has several applications along the value chain that aim to automate processes of data collection, interpretation and resulting action. A few examples of how AI can make ***Sales & Distribution*** processes more agile include: streamlining omnichannel integration across suppliers, better connecting systems to increase product traceability from producer to consumer, and allowing couriers to link shipments and speed up delivery times through algorithms.

Mexican B2B logistics provider startup Cargamos.com, founded in 2018 by Ivan Ariza Fabián Antorveza and Everton Viana, uses AI to make supply and demand operations more efficient by decentralizing operations using predictive models. Currently, Cargamos.com offers a network of 300 "darkstores," or micro-distribution hubs, in 15 cities across Mexico. In January 2021, Cargamos raised 4MDD led by Corporate Venture Capital FEMSA Ventures and VC Mountain Nazca to continue expanding its network.[77]

Beyond just helping products reach the end consumer more efficiently, AI can also improve selling point efficiency by optimizing and extending shelf life. For instance, Kuona Analytics is a machine learning web platform that helps CPG brands and retailers maximize their profits by utilizing AI software to optimize product pricing according to store, sales goals, prediction of the sale, and execution. Through AI, Kuona is able to automate both data extraction/assembly and the resulting recommendation.[78] Kuona was founded in Mexico in 2013 by Agustín Magaña and Jose Maria Sanroman de la Garza, and is currently based in Los Angeles, California.[79]

Some startups, such as Opi Analytics and Yalochat, are using AI technology to improve sales. Opi Analytics, a B2B technology startup founded in 2011 by Alejandro Maza and Alberto Tawil in Mexico, uses machine learning models and predictive algorithms to find relationships in the data that help companies identify opportunities, predict behavior and optimize their operations.[80] Additionally, Opi helps companies gain a better understanding of their market and competition by integrating and interpreting millions of data points on consumer behavior and economic activity. Together, Opi's tools help global companies generate competitive advantages from advanced analytics.

Finally, predictive algorithms can also benefit *Manufacture & Warehouse* management. Such is the case with Mexican first 100% online supermarket, Jüsto. The e-grocery operates without physical stores and saves consumers time and money by eliminating intermediaries. Founded in 2019 by Ricardo Weder, Jüsto carefully selects the products to transport directly from trusted producers to clients' homes.[81] Jüsto uses an AI driven algorithm to forecast demand and try to reduce food waste in supply centers. By forecasting future demand based on previous sales, Jüsto is not only able to better plan procurement, but also to better manage existing stock by offering incentives such as discounts to purchase leftover supply.

"Technology provides a big opportunity to make production more efficient. 65% of fresh produce is lost using traditional channels. Through technology we can provide real-time information to suppliers so they can have better insights and reduce food waste."

Ricardo Weder,
Founder & CEO at *Jüsto* -
Mexican digital native supermarket

In summary, by collecting data points, analyzing them, converting them into actions, and automatizing this process, AI is able to optimize processes all along the supply chain.

BIG DATA

Big data, as the name suggests, refers to larger and more complex data sets, which are often too complicated for traditional systems to process.[82] Big data is complementary to AI, as AI's accuracy depends on the amount of information inputted, with more being better, while large and complex datasets require software capable of interpreting the data and delivering results.[83] To this end, a few FoodTech startups and scaleups have been able to integrate Big Data collection into their operations to gather intelligence about their consumers.

Such is the case of Treggo, an Argentinian last-mile delivery company, founded in 2016 by Joaquin Wagner, Matias Lonardi, and Nicolas Torchio. Treggo automates data collection on customer behavior, for instance by capturing individual successful delivery schedules to increase the probability of on-time delivery on subsequent purchases or recording past purchases to offer the same products in subsequent deliveries. Treggo works as a B2B/B2B2C logistics provider for companies as big as Mercado Libre and charges a delivery fee for every successful delivery.[84]

"Technology is Treggo's main pillar. Last-mile delivery is the most expensive and inefficient part of the supply chain, and consumers increasingly want faster and cheaper shipping. To seek efficiency, you need to find a balance between time and cost, and this is done by automating processes with big data and artificial intelligence."

Matias Lonardi,
CEO and cofounder at *Teggo* - Argentinian last-mile delivery startup

APPLICATION PROGRAMMING INTERFACE (API)

An Application Programming Interface, or API, is a set of functions and procedures that allow for the creation of applications that access data and features of other applications, services, or operating systems.[85] In other words, APIs make it possible to move information between programs.

APIs make possible the sharing of information with third-party sites, by "exposing" some limited internal functions and features without giving developers direct access to the behind-the-scenes code.[86] This gives companies complete control over what is shared and what is not. APIs may be critical for smaller and specialized FoodTech companies, especially those that outsource any part of their supply chain, as they will likely interact with other companies along different stages of the value chain.

99 Minutos, Mexico-based B2B last mile delivery service, uses APIs to facilitate partnerships with third-party sites. 99 Minutos was founded by Alexis Patjane in Mexico City. In December 2020, 99 Minutos had already carried out 14 million successful deliveries. In addition to implementing GPS real-time tracking to better manage its fleet, being the first logistics company in Latin America to electrify its fleet, and achieving 25% of its deliveries with zero emissions, 99 Minutos develops APIs to ease the integration of customer pages with the 99minutos.com platform. In short, offering other companies a simple transition to 99-minutos' platform is crucial for their success, as they provide logistics for more than 3,800 stores, with approximately 40 joining every week.[87]

VIRTUAL AND AUGMENTED REALITY AND ROBOTICS

The logistics sector is ripe for efficiency improvements. Over the last few years, both augmented reality (AR) and virtual reality (VR) have made their way into the logistics process, promising to make workers more efficient, improve the customer's experience, and minimize errors.[88] Virtual reality refers to computer-generated environments that can be interacted with or immersed within. In contrast, augmented reality adds to the reality you would ordinarily see rather than replacing it.[89] In other words, augmented reality projects elements on to a live view, while virtual reality offers complete immersion. Today, the terms are often used interchangeably.

Zippedi, a Chilean logistics startup whose core competency is AI for the retail industry, also enables retailers and suppliers to leverage Augmented Reality, Virtual Reality and robots for store management. Zippedi was founded in 2017 by Luis Vera, Ariel Schilkrut, and Alvaro Soto. The startup makes it possible for retailers to digitize their shelves, control them through an app with real-time notifications, and collect data to gain insights for future sales. Zippedi uses virtual and augmented reality to provide retailers with actual shelf images from the shopper's perspective to ensure product availability and correct pricing. Lastly, catalyzed by the threat of Covid-19, Zippedi deployed robots for retailers to manage inventory while maintaining social distancing. Currently, Zippedi's robots can travel more than 20 thousand miles and scan a total shelf surface the size of San Francisco.[90]

TELEMATICS (SATELLITE AND GPS TRACKING)

Telematics is a method of monitoring cars, trucks, equipment and other assets by using GPS technology and on-board diagnostics (OBD) to plot assets' movements on a computerized map. Also known as fleet tracking or GPS vehicle tracking, telematics is now an essential management tool for many commercial and government fleets.[91]

BIOTECH

Biotechnology is defined as the set of techniques, processes and methods that use living organisms or their parts to produce a wide variety of products.[92]

Although biotech is the most innovative sector within the FoodTech industry, it is often the one that faces the most obstacles when scaling up. R&D is costly, laboratories or testing spaces are limited, finding suppliers is often difficult, and if products are made for consumption, they have to undergo a series of certifications and regulations before entering the market, which are usually not prepared to evaluate innovative ingredients. Specifically, there is no legal framework to evaluate biotech, tissue engineering, cell culture techniques, amongst other processes for food application.

"The development of suppliers for FoodTech companies is a prerequisite for growth in this sector that is missing worldwide. Latin America has a major opportunity to be part of the global value chains of this emerging industry."

Sofía Giampaoli,
MSc. Pioneer entrepreneur in cultivated meat in Latin America

Despite these challenges, several Latin American entrepreneurs are developing highly innovative products using biotechnology. Like the aforementioned NotCo, Fazenda Futuro, and Heatbest, Chilean startup Protera Bio develops plant based substitutes for traditionally animal-sourced products. However, Protera Bio differs from the former in that it operates with a B2B business model, providing companies with alternative ingredient solutions to produce healthier and more natural products.

Protera Bio was founded in 2018 by Leonardo Álvarez and Francia Navarrete and has raised a total of $5.6M in funding over 2 rounds, the latest being raised on June 10, 2020 from a Series A round.[93] Protera sells a predictive algorithm named MADI™ that calculates millions of amino acid combinations and simulates protein patterns in a matter of seconds. Protera aims to tackle some of the world's critical problems through protein engineering. For instance, Protera released a product called Protera guard, designed to extend food shelf-life and replace chemical preservatives, and thus tackle chemical contamination and food waste.[94]

Another example of startups using biotech to produce healthier and more natural products is michroma. Michroma was founded by Mauricio Braia and Ricky Cassini in 2019, in Argentina. Michroma uses synthetic biology to ferment filamentous fungi and develop proprietary strains capable of producing high-performance ingredients in bioreactors. Through their unique process, Michroma produces natural colorants that are sustainable, vegan, antioxidant and PH- and thermo-stable, thereby producing natural ingredients in a sustainable, scalable, and cost-effective way.[95]

RECOMMENDATIONS

PUBLIC SECTOR

GOVERNMENT

The government has the power to promote ecosystem growth by defining policies, regulations and concentrating resources on programs that stimulate innovation. It has the responsibility to define policies and concentrate resources on programs of its choice. Indeed, all FoodTech startups and scaleups, regardless of category, are affected by government investment and regulation, and thus can benefit from supportive actions, incentives and programs that encourage entrepreneurship.

In this section, Endeavor outlines some detailed actions, ranging from broad to specific, that governments can take to benefit the entire ***FoodTech*** startup ecosystem.

- **Straightforward regulatory processes for new products.** Governments should develop a clear regulatory framework to allow new products to enter the market, especially those with new ingredients and novel packaging, which many New Foods startups and scaleups produce. In this area of regulation, Singapore sets the bar worldwide. Aside from having simple processes for establishing companies and clear intellectual property rights, The Singapore Food Agency ("SFA") has published a framework titled Requirements for the Safety Assessment of Novel Foods. In this framework, "novel foods" refer to foods and ingredients that do not have a history of safe use and may also include compounds that are chemically identical to naturally occurring substances, but are produced using new technologies. In summary, Singapore's government provides incentives and a regulatory framework that helps nurture disruptive innovation at all stages of the value chain, and has contributed to the country's booming AgriFoodTech sector.[96]

- **Simplify and improve access to STEM disciplines.** Entrepreneurs suggest educational programs have not kept pace with the speed of the industry. As a result, entrepreneurs find it challenging to hire talent in specialized, field-specific disciplines such as biotechnology or the intersection of artificial intelligence and natural sciences. To do so, national educational authorities can prioritize STEM disciplines in statewide curriculum guidelines, and most importantly, allocate resources to work with external organizations and experts to train teachers and build robust STEM programs nationally.

"The government has work to do in tech education. Educational programs have not kept pace with the speed of the industry. Tech expertise is incipient and most professionals in the area are self-taught. It is especially difficult to find experts in artificial intelligence and biotechnology."

Leonardo Álvarez,
CEO & founder at *Protera Bio*-Chilean protein engineering biotech startup

- **Fiscal incentives for FoodTech industries**. For instance, companies in the New Foods category, which mostly focus on creating plant-based substitutes for animal-sourced products, are competing against traditional industries such as milk, poultry and cattle raising. These industries often receive large tax incentives meant to safeguard local production, whereas New Foods startups and scaleups face high taxes in their production. Fiscal incentives for these companies would lower their production costs and allow them to sell more affordable products and reach a larger market share.

- **Incentives to encourage local production.** Producing locally is an advantage of bio-manufacturing. Decentralized production not only generates jobs for the local population, but also favors procurement of local sourcing and can often translate to reduced environmental costs if less transport is required to get to the end consumer. To encourage production processes to be run locally instead of being outsourced, there are several initiatives a government can take. For instance, the government in France carries out several initiatives to encourage local production, ranging from financing the construction of production plants to a program that matches unoccupied pilot plants with startups and scaleups that are willing and able to use them for free.[97,98]

- I**nvestment in R&D centers.** For startups and scaleups that are just starting, Research and Development implies high costs, especially in technical fields such as BioTech. The government could ease the burden of upfront R&D costs by funding independent research centers or increasing funding for universities. For example, a successful case of collaboration between academia and the private sector is the warehouse management robot of the Chilean startup Zippedi, created by a team of academics from the Catholic University (UC) with funding from Corfo and Conicyt.[99]

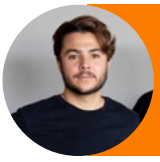
PRIVATE SECTOR

VC FUNDS

Venture Capital activity has played a fundamental role in the rapid growth and expansion of entrepreneurs. In this section, Endeavor outlines some detailed actions, ranging from broad to specific, that the private sector can take to benefit the entire ***FoodTech*** startups and scaleups ecosystem.

- **Create more purpose-driven VCs.** VC funds strive to be the first line of support for entrepreneurs. Purpose-driven VCs, as opposed to trend-driven ones, hold an industry specific portfolio. This gives VCs knowledge of the industry, allowing them to be the first line of support for entrepreneurs. Industry-specific portfolios also allow for increased collaborations among startups and scaleups, facilitated by VCs.

"My advice to VCs is that it is time to be purpose-driven and not merely trend-driven. Globally, VCs are being built with purpose as a foundation. It's obvious when funds are just looking for the next trend."



Aldo González
CEO & cofounder at *Heartbest Foods* - Mexican plant-based foods startup

- **Invest in early-stage companies**. Often, FoodTech companies need initial investment to jumpstart their operations or research and development. For instance, Beyond Meats was only able to start developing their line of products after receiving investment from Bill Gates and Tyson Foods.[100]

CORPORATE PARTNERSHIPS AND CVCS

Endeavor firmly believes that entrepreneurs' strengths are corporates' weaknesses and corporates' strengths are entrepreneurs' weaknesses. For instance, what entrepreneurs might lack in scale and reach, they have in innovation and new ideas. What corporations lack in flexibility to test and design new products might come easily to entrepreneurs. Hence, they should work together to benefit from each other's strengths.

To promote collaboration between the two sides, Endeavor sought to understand the perspective of each when considering a partnership. For this, Endeavor asked the following questions in the survey: 1. ***What could your company provide for a big company/corporation?*** And 2. ***How could a big company/corporation help you meet your business goals?***

The answers were as follows:

SURVEY RESPONSES FOR STARTUP-CORPORATE COLLABORATION

What could your company provide for a big company/corporation?

What entrepreneurs could provide:
- Innovation
- New products
- Loyal consumers/customers
- New customers

How could a big company/corporation help you meet your business goals?

What entrepreneurs look for in bigger companies:
- Distribution
- Marketing
- Sales
- Customer + market access

Source: Endeavor Intelligence, 2021.
*The information corresponds to data collected by Endeavor.
**N = 82 responses.

Entrepreneurs believe they can offer innovative thinking and action to companies/corporations, and they value the market expertise, access, and established distribution networks that companies/corporations can offer in return. Thus, these partnerships can be win-win.

One way of creating this strategic partnership is through creating investment vehicles, or Corporate Venture Capitals as mentioned above. In the last few years, corporate investment in startups and scaleups has increased exponentially. At a global scale, CVC activity has quadrupled in 2020 to 107 deals at $3.2B, rising from 66 deals with $770M capital committed in 2019.[101]

Beyond the financial incentives, these corporate-startup partnerships have evolved in recent years to being true strategic partnerships, as they offer access to customers, resources and industry expertise, and even opportunities to reduce operational costs.[102]

For instance, in January 2021, PepsiCo announced a Joint Venture coined as The PLANeT Partnership, LLC with Beyond Meat, a company that develops plant-based protein to create and scale new snack and beverage options. Beyond Meat was founded in Los Angeles in 2009, when Ethan Brown decided to quit his job as a clean energy executive to develop plant-based meat substitutes that resembled meat. After receiving funding from big-name investors such as Bill Gates and Tyson Foods, Brown began developing the company's first line of products.[103] Currently, Beyond Meat generates 406.8 million dollars in yearly revenue, and is the number-one selling refrigerated, plant-based meat alternative brand in grocery stores and food services across the US.[104]

As of December 31, 2020, Beyond Meat had products available at approximately 122,000 retail and foodservice outlets in over 80 countries worldwide.[105] With the partnership announced in 2021 with PepsiCo, it could be assisted by the company's distribution network across more than 200 countries worldwide. This collaboration exemplifies how startups and corporations can successfully complement each other, as it combines Beyond Meat's leading research and technology in plant-based protein development and PepsiCo's commercial capabilities with the joint objective of creating new healthier products.[106]

Indeed, corporate-startup partnerships have proven successful under the correct guidelines. Thus, after researching successful partnerships, Endeavor has detailed a series of recommendations to help construct these investment vehicles and build mutually beneficial relationships:

- **Establish clear guidelines that encourage growth when investing in startups and scaleups.** Although CVC investment is a large area of opportunity for both parties, it can potentially bring some drawbacks in the absence of clear guidelines to mitigate those risks. For example, some investors might be discouraged from participating in an investment round where a CVC is present, which risks not raising the funds needed for a startups and scaleups' growth. Thus, clear guidelines should be set to avoid misaligned incentives between VCs and CVCs.[107] Some specific details entrepreneurs should consider when receiving investment from a CVC are:

  - Terms sheets made by rounds led by CVCs should not prevent other investors from participating in future rounds.[108]
  - Careful evaluation of anti-dilution and anti-competition clauses to prevent the development of a corporate "in-house" innovation process using the "know how" acquired from the startup or scaleups.
  - Limit board member seats, since board members have access to most of the company's information. This corporate governance clause is granted to who is leading the round or is a majority investor. However, CVCs are usually minority investors.
  - Alternatively, entrepreneurs could consider right to information protection clauses where no administrative or financial documents are granted to protect the data.

- **Find a clear fit between the corporate and the entrepreneur**[109] More than capital, entrepreneurs and corporates alike should seek added value and a strategic partner. There should be a clear fit for the industry and aligned vision. For instance, if the corporation has entrepreneurial DNA in their inner operations, it is more likely that they will understand the startups and scaleups' obstacles and provide more valuable feedback, and thus build a better match.

CONCLUSIONS

"Sustainable food systems are not only essential to ensure global access to food but also an important driver of economic development worldwide. In Latin America, we are proud of the incredible resilience of the broad and diverse ecosystem of businesses that encompass the food sector (from mom-and-pop stores and startups to producers, suppliers and retailers) and are committed to enable our whole value chain to ensure its sustainable growth."

Paula Santilli
CEO PepsiCo Latin America

In summary, entrepreneurs are spearheading innovation across the supply chain and offering creative and disruptive food systems and products. The Covid-19 pandemic accelerated the rise of new technologies that are disrupting the Food Industry, highlighting the inadequacy of the legacy foodsystems models still being used by many regional actors . This lag in innovation locally makes the sector ripe for disruption.

Globally, the FoodTech industry is booming. Global startups and scaleups are setting the standard for FoodTech innovation that Latin American startups and scaleups can replicate with locally relevant business models and value propositions.

Competitiveness of companies in the food and beverage industry is closely linked to their ability to innovate through technology. Artificial intelligence, big data, biotech, and telematics are just a few types of technology being implemented all throughout the supply chain to tackle the various challenges that the food industry faces. Moreover, a vast majority of entrepreneurs (78%) are taking tech development into their own hands, demonstrating that barriers to creating technology may be falling.

Many entrepreneurs introducing new products to Latin American markets consider brand positioning a challenge. Effective digital marketing is critical to boosting market adoption. Specifically, marketing that emphasizes the quality of the product or service yields the best results.

Industry players play a fundamental role in the rapid growth and expansion of entrepreneurs. Financing in the FoodTech industry is mostly driven by Venture Capital firms, and although investment in the sector has skyrocketed in the past years, entrepreneurs in the region, except those in Brazil, still consider access to capital the biggest obstacle for growth. In recent years, many entrepreneurs have been seeking investment opportunities abroad.

Additionally, CVC's are increasingly seeking to invest in startups and scaleups, offering strategic partnerships and benefits such as access to customers, resources and industry expertise, and even opportunities to reduce operational costs.

Finally, the government has the power to promote ecosystem growth by defining policies, regulations and concentrating resources on programs that stimulate innovation.

Technology will continue to play a key role in food systems by: reimagining how food is produced, packaged, transported, distributed, commercialized and consumed; tackling critical negative byproducts of traditional food systems like food waste, ethical concerns, and environmental impact; and shaping healthier, sustainable and more equitable food supply chains.

METHODOLOGY, BIASES AND LIMITATIONS (2021)

- **Project Objective.**
  To breach the information asymmetry for entrepreneurs and offer stakeholders a regional perspective of the FoodTech sector. Also, to understand how technology implementation is benefiting the sector.

- **Limitations.**
  This study was conducted by Endeavor Mexico, A.C. All information contained herein was obtained from different public and private sources. This study contains estimations and benchmarks to help understand the entrepreneurial community, and should be interpreted with this in mind. Further, this document was prepared for information purposes only; therefore, advice from qualified professionals is essential to make well-informed decisions.

- **Sample selection.**
  The companies included in this mapping were identified by Endeavor using various public and private sources to identify the most relevant companies in the ecosystem. This analysis is by no means comprehensive. The sample was categorized in the following segments:

  - **Innovation in the Traditional Food Industry:** Startups and scaleups focused on innovating in traditional food products such as fishing, livestock through their composition, business model, means of distribution or personalization of products. These older companies have been able to revolutionize their processes time and time again to stay relevant in the 21st century.
  - **Organic, natural or healthy products:** Startups and scaleups applying technology to develop healthier and more organic food products (with less sugar, fats, etc.).
  - **New foods:** Startups and scaleups that use high-tech solutions to develop new, often more sustainable types of foods.
  - **Packing and packaging:** Sustainable packing and packaging alternatives for food and beverages. This typically consists of packaging that is created by new materials (ex: seeds or avocado shell packaging rather than plastic, aluminum or paper).
  - **Logistics and data management:** Startups and scaleups that improve internal processes through data-driven and data management solutions (AI, IoT, etc.).
  - **Transport and distribution:** Innovation in the transportation and distribution of supplies and finished goods. These companies use technology to change or make these processes more efficient.

  For purposes of this study, "tech companies" means "A company that uses technology to add value to the food and beverages supply chain."

- **Information bias.**
  All companies in the FoodTech ecosystem map were grouped under the most relevant category corresponding to the products and/or services they offer. However, one single company may fall into more than one category.

Data on raised capital were collected from internal sources, and from external sources such as Pitchbook and Crunchbase, that in some cases did not have information. Companies that raised capital but whose total funding amount was not disclosed to the general public were removed from the sample.

For more information on the methodology or the research instruments, please write to contacto@endeavor.org.mx.

- **Data collection.**
  An online survey was prepared specifically to be answered by FoodTech founders and CEOs, covering the following topics: original place of formation, year the company was founded, number of direct employees, sector of operation, average income, total funding, marketing strategies, customer and team demographics, and operational obstacles of the company.

- **Demographic analysis of founders.**
  A secondary analysis investigated a sample of 400 LinkedIn profiles of male and female entrepreneurs in the FoodTech sector. The following variables were considered for the analysis:

- **Work experience:**
  - Title
  - Time holding that title (measured in years)
  - Location of the company
  - Skills

- **Education:**
  - Type of Degree (Bachelors, Masters or Postgraduate)
  - Field of Study
  - Duration
  - Location

Estimates for current age, age when the company was formed, and years of experience, are based on the premise that the person was 18 years old when he/she enrolled in university and 23 years old when starting the first formal employment outside of university.

As this analysis is based on the content provided by each entrepreneur in their LinkedIn profiles, it is possible that information regarding their education and work experience might be incomplete or misleading.

- **Social Media Analysis.**
  This research includes an analysis of the activity of 24 FoodTechs. Companies were selected according to their level of activity and social media following during the period from January 2019 to June 2021. Posts were mainly categorized based on the communication pillar most relevant for each of them, however if a post matched more than one category, it could be classified under more than one communication pillar.

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