



Tecnológico de Monterrey Impact Study 2023

Global Economic and Social Impact of
Tecnológico de Monterrey Alumni



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About this Report

During the celebrations of the Institution's 80th anniversary in 2023, this report highlights the contributions of Tecnológico de Monterrey alumni across a range of metrics, including entrepreneurship, scientific advancement, and professional achievement in both the commercial and not-for-profit sector.

To measure these contributions, Tec de Monterrey applied a survey of its alumni community in the first quarter of the year. The proceeding data was used to provide an estimation of the economic and social impact their graduates have had on Mexico and around the world, since Tec's foundation in 1943.

Of the population of 292,159 alumni who received the survey and graduated since the 1950's, a total of 25,358 responded, corresponding to a response rate of 9%. To assess the broad economic impact of Tec de Monterrey graduates, an extrapolation of this survey sample was made to estimate the impact of those graduates who did not respond.

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Foreword



David Garza Salazar

President, Tecnológico de Monterrey

The impact our graduates have had in Mexico and around the world is a pillar of Tecnológico de Monterrey's legacy. They bring to life the dream of Eugenio Garza Sada and a group of leaders who founded this Institution, motivated by the ideal that "education can achieve anything."

On the occasion of its 80th anniversary, Tec is proud of the community it has built and its success in fulfilling its purpose of transforming lives. David Garza Salazar, Rector and Executive President of Tecnológico de Monterrey, shared that "our more than 350,000 EXATEC members reflect the values and the multiple academic initiatives and innovations we have promoted to provide excellent education. Their contributions to society are the legacy we are building for the future."

The talent and impact of the alumni community, known to us as EXATEC, position Tecnológico de Monterrey as a platform that generates significant value through science and research, entrepreneurship, and social development. "It makes us proud to know that the education they have received in our classrooms and campuses has enabled these achievements and contributions. The impact they have made over 80 years commits us to continue promoting academic and teaching innovation, strengthening collaboration between institutions and organizations, and fostering the creation of greater cutting-edge knowledge," stated Alejandro Poiré, Vice President for Outreach and Engagement.

The present Social and Economic Impact Study conducted by Quacquarelli Symonds provides a reference to the contributions of the alumni on a global scale in various fields and industries. The findings regarding their professional journey, their contributions to society, as well as some testimonials and success stories, represent a part of the importance and the essence of the EXATEC community.



Nunzio Quacquarelli

Founder and President, QS Quacquarelli Symonds

It is with great pleasure that I introduce the Global Economic and Social Impact Report of Tec de Monterrey Alumni. The QS mission is to enable motivated people anywhere in the world to fulfil their potential through educational achievement, international mobility, and career development. The collection of narratives and data presented in this report underscores the profound alignment between our mission and the extraordinary accomplishments of our alumni.

The insights derived from the 80th Anniversary Alumni survey are grounded in robust data, revealing an impressive tapestry of achievements that Tec de Monterrey alumni have woven. This report brings to light several principal messages that vividly illustrate the impressive contributions of Tec de Monterrey Alumni. It showcases their pivotal role in diverse spheres, including employment generation, the establishment of for-profit and non-profit enterprises, active participation in boardrooms, ground-breaking contributions to research and innovation, direct contributions to Mexico's GDP, and, most importantly, the promotion of human flourishing.

Report Highlights

The rate of entrepreneurship is growing, with more alumni starting businesses earlier in their career

Tec de Monterrey alumni have always had an entrepreneurial streak, with 43% of alumni reporting having started at least one for-profit company, while 8% have founded at least one non-profit organization. This trend shows no signs of abating, with 22% of those graduating after 2010 having started a business within five years of graduation – the highest rate of any graduating cohort. These businesses are standing the test of time too – 67% of alumni-created businesses are still in operation today, reflecting not just ambition, but an entrepreneurial prowess which has resulted in sustained business success.

Tec de Monterrey alumni continue to fill boardrooms and executive positions within Mexico and throughout the world

Along with starting businesses, alumni are routinely tasked with helping to steer the direction of existing ones – 15%, or around 40,000 alumni, report having sat on at least one board or advisory council, while 6% report currently serving as the CEO or managing director of a company, reflecting the influence that Tec de Monterrey alumni have in the highest reaches of the corporate world.

Most businesses created by Tec de Monterrey are small, although their sheer volume means that they are a significant force for job creation and economic output

The volume of organisations created by Tec de Monterrey alumni – an estimated 220,000 business and 32,000 non-profits, has had a substantial role in job-creation within the Mexican economy. Overall, an estimated 3.6 million jobs have been created by alumni throughout the life of the Institution, and an estimated \$260 billion USD in revenue is generated each year by alumni-founded companies.

Tec de Monterrey alumni embody the spirit of philanthropy, as evidenced by their volunteering and other charitable activities

Along with helping to boost the overall economy, Tec de Monterrey alumni also have a strong social conscience, and a history of giving back to the community through social entrepreneurship, charitable giving and volunteering. Along with the 460,000 jobs created by alumni within the non-profit sector, 49% of alumni report making regular charitable donations to social organisations and report an estimated 1.3 million hours per month of total volunteering time.

Sustainability, climate change and social responsibility are a pressing issue for most alumni, who feel that their time at Tec de Monterrey has given them the skills needed to confront these challenges

Many alumni are focused on creating a more socially and environmentally sustainable future and attribute their studies at Tec de Monterrey as having equipped them with a 'sustainability mindset' to help them approach these challenges. 49% of alumni believe that they are currently contributing directly to protecting the environment or combating climate change in their daily lives, while 47% agree that their time at Tec de Monterrey 'contributed to a greater sensitivity' about the environment and climate change.

Alumni have a strong track record of creating new knowledge through academic research, publishing and industrial innovation

The success of Tec de Monterrey alumni in the corporate and social sectors is matched by the institution's record of academic research, knowledge creation and publishing. Between 2005 and 2022, the number of publications authored by Tec de Monterrey students and academic staff increased from 350 to 2,302 – a more than seven-fold increase, while the number of SNI-accredited researchers has increased from 195 to 588 over the same period. In terms of alumni, 42% report being published in at least one medium since graduating, including in books and academic journals. As a result, Tec de Monterrey now sits in the top 200 of the QS World University Rankings®, and in the top four of the QS Latin America and the Caribbean University Rankings®.

According to alumni, the future of Tec de Monterrey is in adapting to the challenges to come, particularly regarding digital transformation, artificial intelligence, and climate change

Alumni are typically positive in their appraisal of the skill development they experienced during their time at Tec de Monterrey – 79% agree that their studies equipped them for the workforce better than graduates of other universities. However, despite the successes of the past, Tec de Monterrey alumni understand that change will be necessary to adapt to the challenges of the future, commonly highlighting the importance of 'digital transformation' and the rise of artificial intelligence specifically as a paradigm-shifting emergence, which will require adaptation of teaching, learning and research practices to stay relevant and up to date.

Tec de Monterrey alumni are flourishing in their everyday lives, recording high average scores on the 'Human Flourishing Index'

When assessed on a 10 point 'Human Flourishing Index', which scores respondents across several different domains, Tec de Monterrey alumni broadly score very highly, with average scores of over 8 out of 10 for 'Character and Virtue', 'Close Social Relationships', 'Meaning and Purpose', 'Mental Health', 'Happiness and Life Satisfaction' and 'Physical Health'. This reinforces that Tec de Monterrey produces not just academically accomplished graduates, but well-rounded individuals who are equipped to thrive in all areas of the human experience.

Introduction to Tec de Monterrey

History of the Institution

Instituto Tecnológico de Monterrey y de Estudios Superiores de Monterrey (ITESM), better known as Tecnológico de Monterrey, or simply Tec de Monterrey, was founded in 1943 by a group of successful entrepreneurs from the city of Monterrey, led by Eugenio Garza Sada. While Monterrey was suffering from a lack of higher education institutions, Mexico was experiencing rapid economic growth, which demanded qualified human capital. This shortage was aggravated by the temporary closure of the state university, following ideological conflicts in the late 1930s. Motivated by these factors, the founders created a high-quality polytechnic alternative, dedicated to “the sciences and arts, necessary for the material struggle for life”.

On September 6 1943, classes began at Tec de Monterrey in an old, rented house in downtown Monterrey. 227 students enrolled in the four schools with which the Institute opened: the High School, the Technical Studies School, the Engineering School, and the Accounting School. However, by 1947, Tec de Monterrey had grown significantly, and moved to its first university campus in the south of Monterrey, where there were already more than a thousand students.

The University’s rapid success was mostly due to its commitment to academic excellence, rigor in teaching, and innovation in the educational process. This collection of driving principles soon made the institution stand out. Tec de Monterrey distinguished itself with innovative undergraduate programs, including industrial engineering and business administration, previously unavailable in Mexico. Additionally, the adoption of the semester system marked a significant change in the academic landscape.

Tec de Monterrey was the first university in Latin America to hire faculty members on a full-time basis – a groundbreaking decision at that time. This move encouraged the development of research and enabled closer contact with students. The construction of a university campus with facilities comparable to those of US universities helped enrich student life with cultural, recreational and sporting activities. Moreover, Tec de Monterrey was the first academic institution in Mexico to create a system of student residences, which strengthened its appeal to international students.

These ideas earned the institution the opportunity to become the first extraterritorial member of the Southern Association of High Schools and Colleges (SACS) of the United States in January 1951, just over seven years after its inauguration. Being a SACS member increased Tec de Monterrey’s national and international prestige, paving the way for its ongoing internationalisation program that has been its hallmark up to the present.

In 2023, there were 89,586 students in all education levels: 27,832 from PrepaTec (high school), 54,762 undergraduate and 6,992 graduate students. By that date, more than 355,000 students (undergraduate and postgraduate) had earned their degrees. The faculty comprises just over 11,378 professors, 718 of whom belong to the National System of Researchers in Mexico.

Tec de Monterrey, together with its academic community, carries out its activities in accordance with the following institutional values:

- Innovation: we are passionate about disruption that generates value.
- Integrity: we practice freedom with responsibility.
- Collaboration: we work together to reach our vision.
- Empathy and Inclusion: we always put people first.
- Global citizenship: we work for a sustainable world.

Creation of an Entrepreneurial Culture

Tec de Monterrey was founded by successful and exemplary entrepreneurs with a vision of wealth creation and regional transformation through leadership, education, audacity, and new venture formation. Therefore, entrepreneurship has been in the 'DNA' of the Institution since the beginning.

For nearly 45 years, Tec de Monterrey has been offering academic entrepreneurship programmes aimed at developing entrepreneurial spirit in students. By the end of the 1970s, the University board agreed that students should develop entrepreneurial skills and aptitudes rather than merely aspiring to find a position in existing companies. Consequently, in 1978 the Entrepreneurship Programme was launched, designed to prepare entrepreneurs by facilitating real-life experience in new venture development, where students were able to generate and exploit entrepreneurial ideas. This has since multiplied and evolved into a wide range of courses, seminars, 'minor' degrees, and two full undergraduate degrees specialised in entrepreneurship.

Initially conceived as an educational learning experience, and as a response to needs raised by students, it quickly grew into a range of services and specialised infrastructure, which focused on new venture creation and business development. Thus, the 'entrepreneurial ecosystem' of Tec de Monterrey was born.

The initial inception of more than 32 business incubators in the early 2000s was followed by a network of eight business accelerators, the development of 15 technology parks by 2015, and currently the creation of coworking and maker spaces in every campus. All of these initiatives have been enhanced with government-industry liaison programmes, regional clusters, the formalization of an experts network (mostly Tec de Monterrey successful alumni), and access to venture capital resources. Campuses have been transformed into real-life business environment labs. To integrate all the resources of incubation, acceleration, and new venture creation programmes, as well as the infrastructure across the Institution's campuses. Many of these programmes have evolved over time, for example the earliest incubators are now 'Entrepreneurship and Innovation Zones' and technology parks are evolving into 'innovation districts'.

Regarding the entrepreneurship education strategy educational model, and in addition to the development of traditional professional competencies of teamwork and creativity, among

others, Tec de Monterrey's newer educational model is designed to cultivate four key entrepreneurial skills in every undergraduate student:

- Opportunity identification.
- Resourcefulness.
- Resilience.
- Overcoming the fear of failure.

This model is achieved through several undergraduate entrepreneurship programmes, reaching around 30,000 students every year, and ensuring that every student, regardless of their major or career choice, experience on courses devoted and embedded with entrepreneurship education:

- More than 130 'learning units' (courses) consider entrepreneurship as a learning objective and competency development.
- Two full bachelor's degrees in entrepreneurship, one at the Business School and other at the Engineering School.
- Seven minors or certificates in entrepreneurship.

Locating Tec de Monterrey on a Global Scale

In the 21st century, the international reputation of a university plays an important role in its economic and social impact. Reputation not only draws a global cohort of students and academics, it also attracts new research projects and funding which, in turn, generates innovation, business, employment, and a greater output of resources. Accredited by the Southern Association of Colleges and Schools Commission on College in the USA and experiencing consistent rankings success, Tec de Monterrey is increasingly gaining recognition for its contributions to science and business, both in Mexico and across the world.

University Rankings

Tec de Monterrey has cemented itself among some of the world's most prestigious institutions, securing a place within the top 200 in the QS World University Rankings® 2023 and placing second in Mexico. This success shows a remarkable uptrend in both the QS World and QS Regional University Rankings®, climbing 29 spots internationally since 2018. Currently, it ranks fifth in Latin America, with the highest spot being third in the region over the last five years.

In the QS World University Rankings® 2023, Tec de Monterrey performs best in the 'Employer Reputation' indicator, earning an impressive score of 92.8 out of 100. This criterion, rooted in the perceived quality of university graduates by international employers, underscores the institution's strong connection with employers on a global scale. The 'Employment Outcomes' indicator, with a score of 85.5 out of 100, further reinforces Tec de Monterrey's strong aptitude and commitment to developing graduates' skills and fostering meaningful connections with employers worldwide.

In the QS University Rankings®: Latin America, Tec de Monterrey continues to shine, with its strongest indicators including a perfect score of 100 in ‘Employer Reputation’. This is followed by strong scores of 98.7 out of 100 in both ‘International Research Network’, and ‘Citations per Paper’. These high scores indicate Tec de Monterrey’s strong regional research partnerships and the well-deserved recognition of research papers authored by its researchers.

The university’s outstanding performance in the ‘Employment Outcomes’ rankings indicator is a testament to its dedication to graduate employability. Tec de Monterrey has soared to the 26th position worldwide in the QS Graduate Employability Rankings® 2022, a 50% increase from 2019, the last time it was reported. Tec de Monterrey is also ranked first in Mexico and the Latin American region.

QS Stars

In an effort to recognize its unique strengths, Tec de Monterrey introduced QS Stars,™ a rating system based on a detailed international audit. This system delivers a comprehensive assessment of an institution in a number of key areas. In addition to its impressive rankings, Tec de Monterrey has earned a perfect Five Stars Plus rating in QS Stars™ positioning itself not only as a world-class institution, but an elite university capable of competing on the global stage. The exceptional results can be seen in the table below:

Indicators	Stars Rating
Overall	5 Stars +
Teaching	5 Stars
Employability	5 Stars
Internationalisation	5 Stars
Academic Development	5 Stars
Specialist Criteria: Social Sciences & Management	5 Stars
Innovation	5 Stars
Inclusiveness	5 Stars
Online Learning	5 Stars

Featured within the top 400 in the QS World University Rankings by Subject® 2022, Tec de Monterrey is recognized as an international university of excellence, offering a wide array of courses. The university is ranked 20th in the world in Marketing, 24th in Business and Management Studies and 37th in Social Sciences and Management. Tec de Monterrey also excels in Engineering and Technology, as well as in Computer Science and Information Systems, ranking 72nd and 86th in the world respectively. Furthermore, it is ranked within the top 100 in Art and Design (between 51 and 100), and 92nd in Accounting and Finance.

Research and Innovation

Tec de Monterrey has embarked on a remarkable journey of research and innovation over the past two decades, as evidenced by a steady but substantial increase in scientific publications authored by both professors and students since 2005. Similarly, the number of researchers accredited in the Mexican Research System (SNI) has consistently increased over the last 17 years, with 2021 recording the most accredited researchers from Tec de Monterrey in the system at 665 researchers.

Notably, the individual output of these researchers has also increased, with an average of 1.8 publications per researcher in 2005 growing to an average of 3.9 publications per researcher in 2022 – an increase of over 100%.

This, in turn, is also reflected in the increasingly reputable position of Tec de Monterrey in international rankings, which reflect academic and reputational excellence.

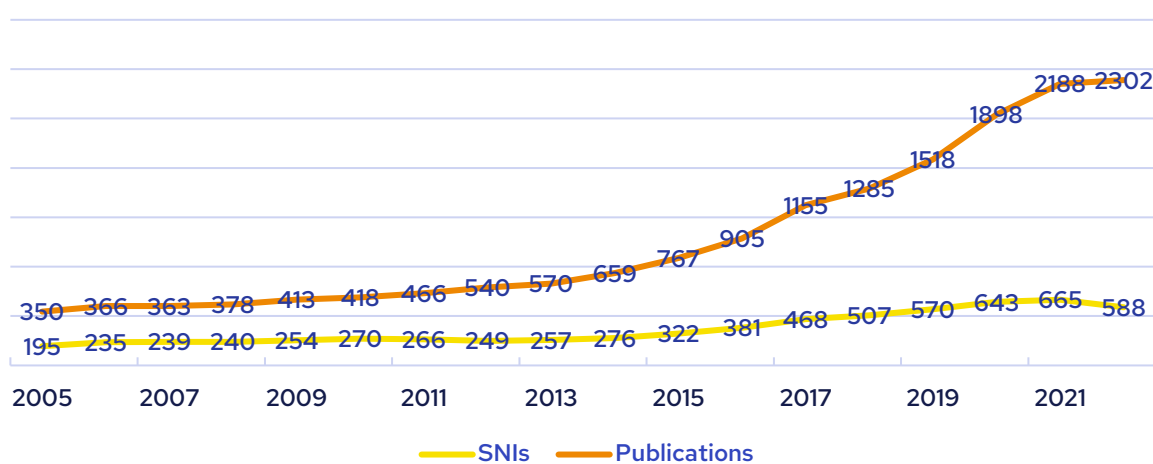


Chart 0.1. Tec de Monterrey researchers and their scientific publications over time

Profiling the Tec de Monterrey Graduate

One measure of institutional quality is a consistent history of producing high-quality alumni who are able to contribute to the broader economy and society. While a successful institution will prize its high-profile graduates who excel in entrepreneurship, philanthropy and academia, equipping alumni of all backgrounds and levels of achievement with the skills they need to succeed in their chosen profession is also of critical importance.

This section of the report outlines the composition of Tec de Monterrey's alumni – who they are, and what they have achieved.

The most common career position for Tec de Monterrey alumni is paid employment, with 68% currently serving as employees. 17% of alumni report owning a company, whether individually or in a partnership, while fewer report working as freelancers (9%).

Only 2% of alumni report being unemployed and seeking work, slightly lower than the national unemployment rate of 2.9% in Mexico as of January 2023.¹

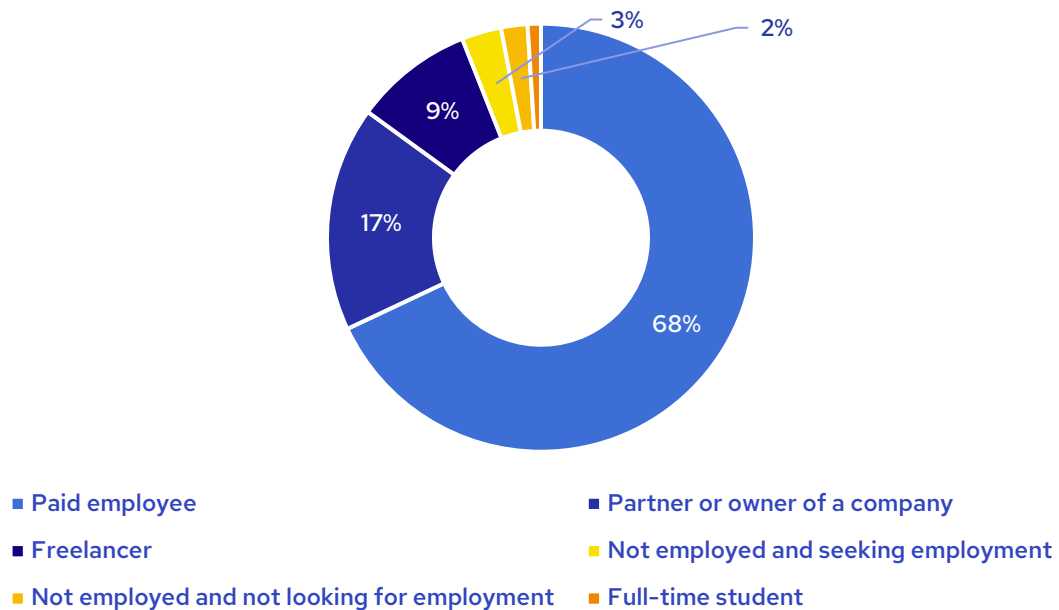


Chart 1.1. Current employment status of alumni.

Alumni are leading the way in the business world

Analysis by gender reveals that male alumni are more likely to be a partner/owner of a company (20%) than female alumni (12%), while female alumni are present in slightly higher proportions for all other categories.

Tec de Monterrey alumni are concentrated in positions of leadership – the most common job positions for alumni are manager (17%), coordinator/supervisor (10%), owner (10%) and department director (10%), while 5% report serving as a CEO/managing director.

¹ <https://www.ceicdata.com/en/indicator/Mexico/unemployment-rate>



Chart 1.2. Current job positions of alumni.

Marco Antonio Zamarripa González

B.S. in Industrial Engineering (1997)

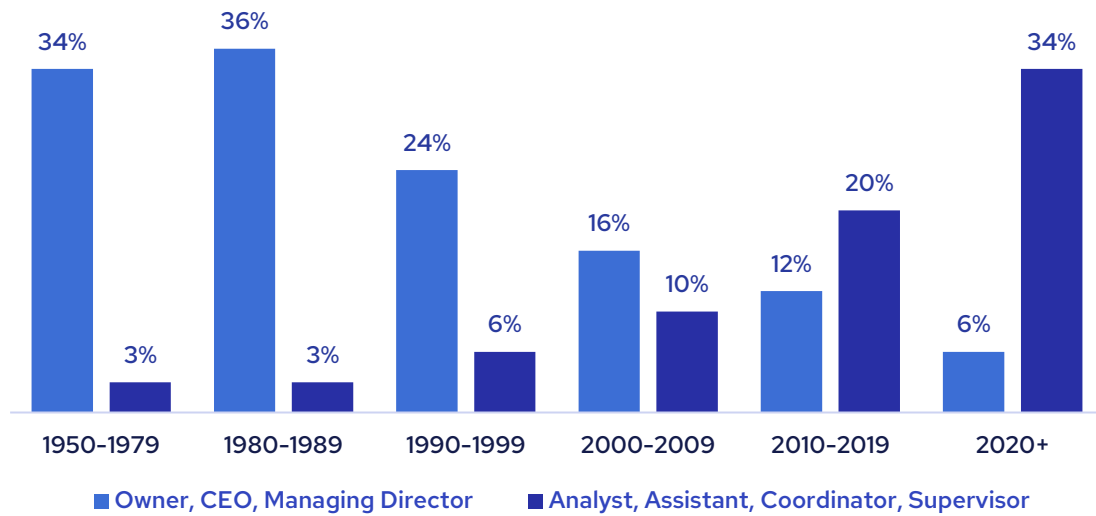
Electoral Counsellor for District 06 in Coahuila, Director of the Civic Council of Institutions, A.C., and the Observatory of the Laguna.

While creating a civil society organisation to evaluate the results of public policies on a specific issue, such as security, I believe that Tec de Monterrey taught me information systematization and effective communication without political bias, and also to seek solutions to the main problems we face, in this particular case, security.

Breaking this data down by graduating cohorts understandably shows the more senior alumni to be concentrated in high-level executive positions. Over a third of those who graduated between 1950 and 1979 report their current position as either owner or CEO/managing director (compared to 12% of those graduating between 2010 and 2019, and just 6% of those graduating since 2020).

Conversely, 34% of those who graduated since 2020 reported serving as an analyst, assistant, coordinator or supervisor, compared to 6% of those graduating prior to 1979.

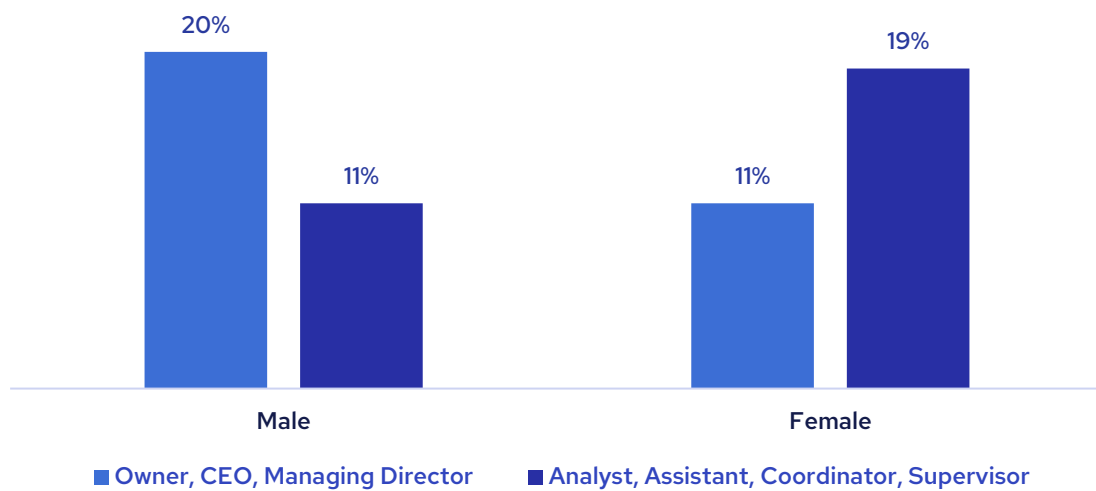
This reflects a typical career path, with alumni progressing to more senior positions as they gain experience in the workforce.



Note: other positions not shown

Chart 1.3. Current job position by graduation period.

A similar effect can be observed between genders, with male alumni more highly represented in senior positions, and female alumni more highly represented in junior positions.



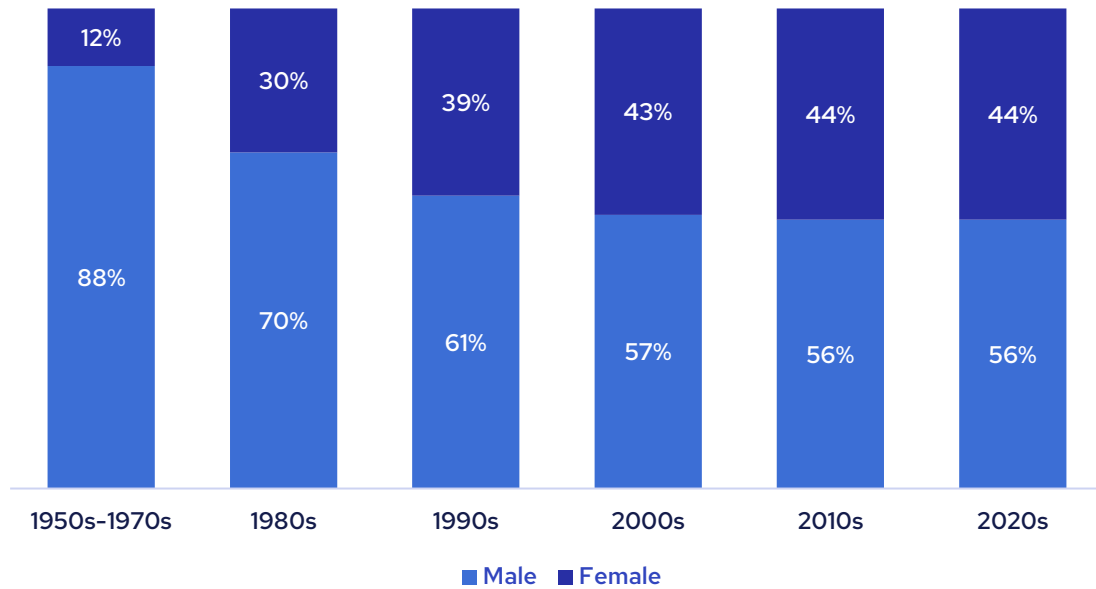
Note: other positions not shown

Chart 1.4. Current job position by gender.

This dynamic would, at least in part, be a product of the age of alumni cohorts.

Breaking down the profile of alumni by gender shows a sustained shift towards a more gender-balanced alumni population. Just 12 in every 100 graduates between 1950 and 1979 were female, but this had increased to around 30 out of every 100 of those graduating in the 1980s.

While there is still a slight imbalance towards male alumni, since 2000, 44% of alumni were female, reflecting the emergence of a truly co-educational institution.



Note: Figures based on alumni records

Chart 1.5. Alumni gender by graduation period.

Alumni Profile



Diana Flores
*Bachelor in Communication
and Marketing (2022)*

Captain of the Mexican Flag Football team, Borrego de Oro appointed by the NFL and the International Federation of American Football (IFAF)

as Global Ambassador for flag football, and first gold medalist in flag football in the history of the World Games

"I am absolutely certain that how you handle yourself on the field is the way you handle yourself in life; beyond your athletic performance, it's about your dedication, determination, focus, heart, perseverance, and resilience. For me, everything is about doing it day by day. It's something that Tec de Monterrey taught me, along with values and tools to face different life situations."

Diana Flores is a high-performance athlete, serving as quarterback and captain of the Mexican flag football team. She is the first flag football player with artifacts displayed at the Professional Football Hall of Fame and has represented Mexico in various international championships.

In June 2022, Diana led the Mexican women's team to victory over the USA in the gold medal match of the World Games – the first gold medal for Mexico in the history of the event. In January this year, she made history as the first female offensive coordinator in the NFL for the American Conference at the Pro Bowl. Diana also starred in Super Bowl LVII's 'Run with it' commercial.

Alumni are increasingly hailing from highly educated, middle-class backgrounds

Most Tec de Monterrey alumni come from households that are considered middle class, with both of their parents most likely to be degree holders and working professionals – 72% of the alumni indicate that their fathers are university graduates with at least a bachelor's degree, while 23% also hold a graduate qualification. Most alumni also report mothers with high-level qualifications – 63% have a university degree, which includes 16% with a graduate degree.

For both mothers and fathers, the proportion with a university qualification has risen dramatically over time. For those graduating prior to 1979, 38% of fathers and just 12% of mothers possessed a university degree, but these proportions were 79% and 68% respectively for those graduating in 2020 or later.

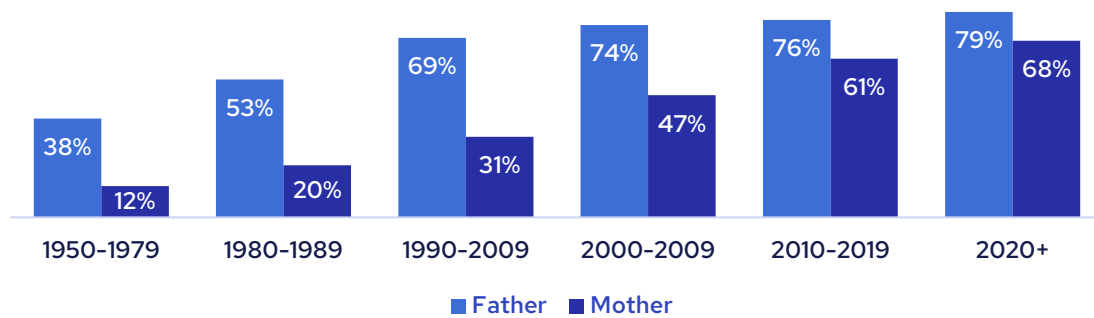


Chart 1.6. Parents with university degrees by cohort.

The profile of the typical alumni household has changed over the decades, particularly in relation to the proportion of households with working mothers. 76% of alumni graduating in 1979 or earlier had mothers who performed domestic duties/housework while they were studying. For those graduating in 2010 or later, this figure was just 42%, representing the progressive normalization of two-income households and the rise of women in the workforce.

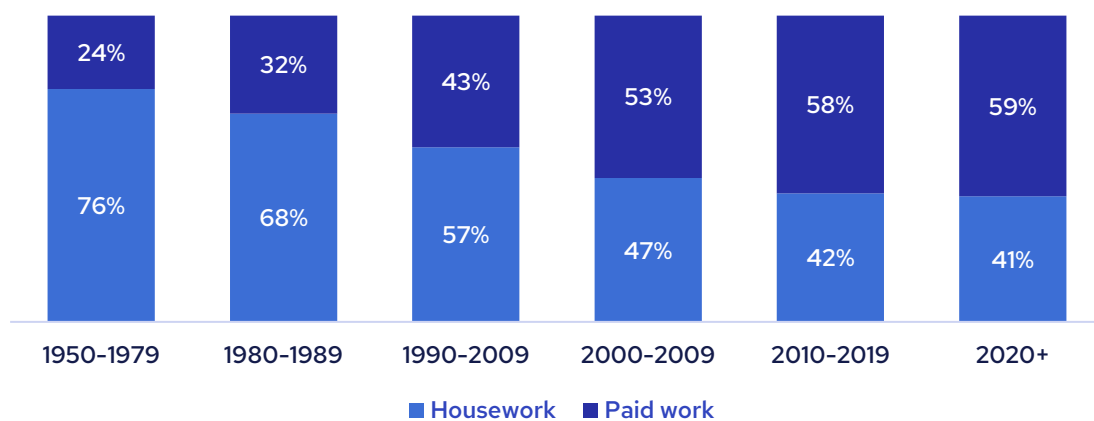


Chart 1.7. Mother's work status at alumni time of study, distributed by graduation period.

The proportion of alumni whose father either owned a company or worked in senior management of a company has remained relatively consistent across the decades at around 40%. However, we have seen a transition to a slightly increased proportion of fathers in "white-collar" employment, this figure increasing from 26% among those graduating prior to 1979 to 33% among those graduating in 2020 or later. Across the same period, the proportion of those whose fathers worked in typically "blue-collar" employment decreased from 19% to 9%.

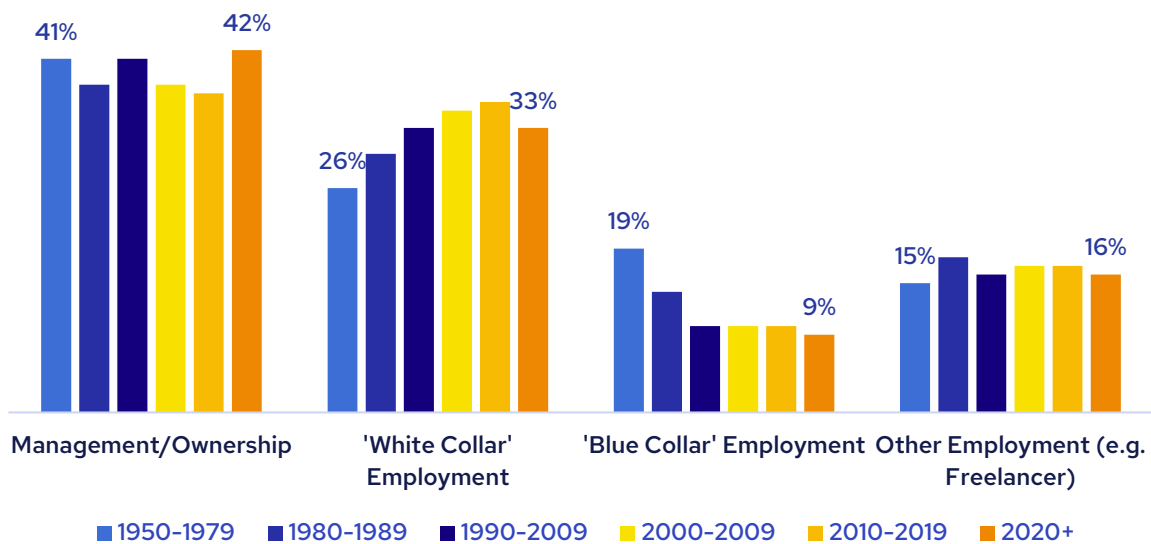


Chart 1.8. Father's occupation at alumni time of study, distributed by graduation period.

Herminio Wenceslao Rodríguez Torres

B.A. in Accounting (1997)

North Region General Director of Fundación Teletón²

"To those who are there, those who have been there, and those who will be there, first and foremost - gratitude. The first thing that comes to mind is Don Eugenio Garza Sada, founder, humanist, visionary; gratitude for this opportunity, gratitude to those who have been shaped by it, those who will be, and those who work at Tec, because I believe it is a great place to work, I believe it is a great place to serve Mexico, and I believe it is an institution that has done a lot for this country."

Alumni are seeking international careers

Overall, 47% of Tec de Monterrey alumni have worked abroad after graduation. For many alumni, working abroad may be seen as a temporary situation before returning to Mexico, with 49% having worked overseas for two years or less. For others, however, a degree from Tec de Monterrey may be used as a springboard for long-term or permanent emigration, with 18% having worked overseas for 10 years or more since graduation.

² <https://teleton.org/>

47%

of Tec de Monterrey alumni have worked abroad since graduation

Alumni who seek to work abroad do not always do so immediately after graduation. While 22% of alumni travelled abroad for the first post-graduation job, 34% said their current job is based outside of Mexico. The results reinforce the strong reputational value that a degree from Tec de Monterrey holds globally – not just to local employers.

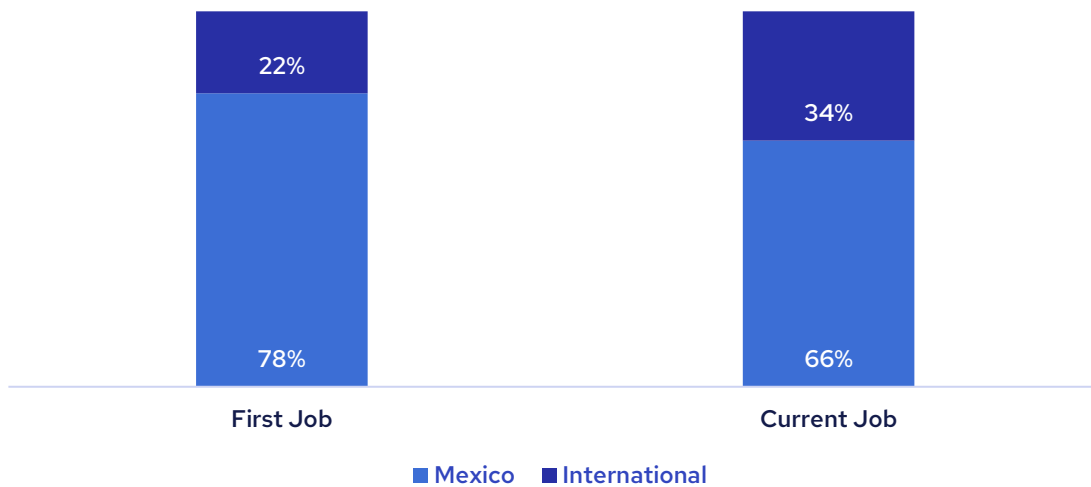


Chart 1.9. Location of first formal job after graduation and current job.

There appears to be a generational effect influencing the tendency to work internationally, with the likelihood of having worked abroad increasing from 30% among those graduating between 1950 and 1979 to 52% of those graduating between 2000 and 2009. However, this trend has reversed for cohorts graduating after 2010, with 47% of those graduating in the 2010s having worked abroad, and 40% of those graduating since 2020. The upwards trend from 1950 to 2009 likely reflects the increasing ease of international travel and an increasingly globalized world, while the latter downturn is likely a reflection of age (many younger graduates will likely travel abroad for work later in their career), as well as the mobility restrictions caused by the pandemic since 2020.

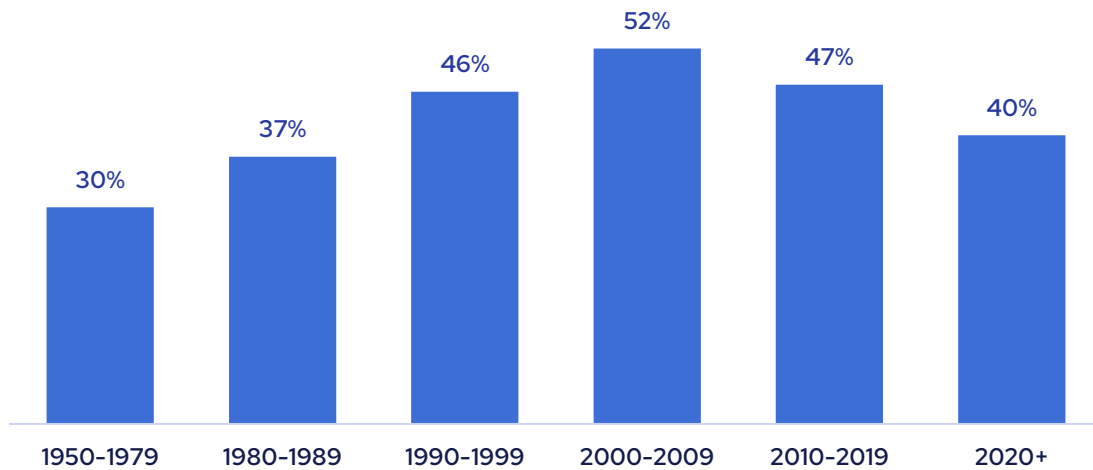


Chart 1.10. Distribution of alumni who have worked abroad by graduating cohort.

Stephanie López Muñoz

*Bachelor of Business Administration
(2011)*

CEO at Memorick³

“Tec gave me the confidence not to overthink things; it gave me the confidence to approach the right people. It opened doors to an international perspective, the ability to have experiences abroad. I studied summers and semesters abroad, which gave me the international outlook required to understand what was happening out there in the world. I wanted to absorb the things I was learning in these encounters and bring them to Mexico to develop something here.”

In contrast to the international ambitions of many students, the majority of alumni are currently working in Mexico (66%) and contributing to the local economy and community. Of the respondents, most live in Nuevo León (24%), followed by Ciudad de México (19%) and Estado de México (11%), reflecting the economic activity and employment opportunities available in these locales.

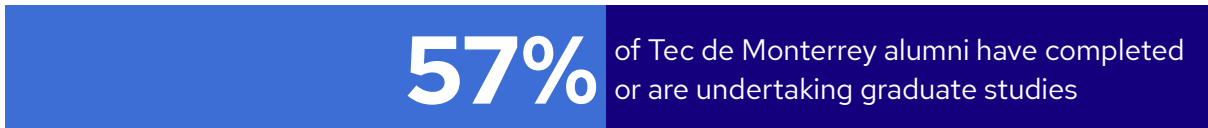
³ <https://memorick.com/>



Chart 1.11. Alumni current locations (domestic only, 2%+ shown).

Alumni will routinely go on to undertake graduate studies

Overall, 57% of the alumni who participated in the survey have completed or are currently undertaking graduate studies. Male alumni are slightly more likely to engage in graduate studies (59%) compared to the female cohort (55%).



Over time, interest in pursuing graduate studies among Tec de Monterrey alumni has remained high. 68% of those graduating prior to 1989 reported completing graduate studies, as well as 65% of those graduating between 1990 and 2009. The proportion of graduates among the '2010 and later' alumni cohort is lower at 39%, although a further 10% are currently completing graduate studies, and it can be assumed that this figure will increase in the coming years as more recent graduates return to the classroom to expand and renew their skills and knowledge.

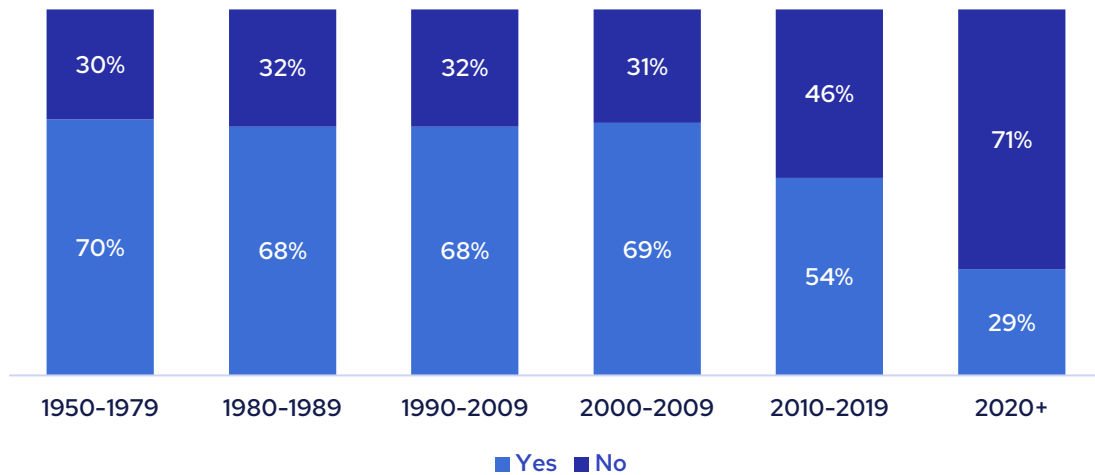


Chart 1.12. Alumni who have completed graduate studies by graduation period.

Alumni Profile



Javier A. Reyes
B.A. in Economics
 (1998)

Chancellor of the
University of
Massachusetts
Amherst

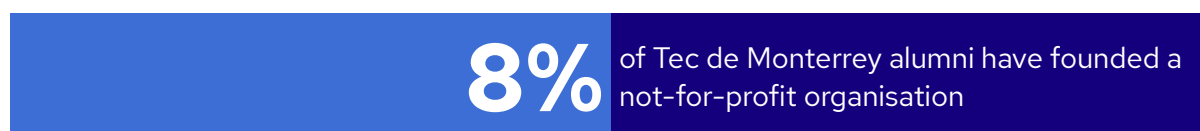
"Tec is an organisation that has truly shaped how to provide a high-quality flexible education, which impacts significantly outside the classroom. Without a doubt, it allowed me to develop an ideology of professionalism, a notion that I have carried with me since Tec instilled it in me."

Javier A. Reyes, PhD, became the 31st leader of the University of Massachusetts Amherst on July 1, 2023, following his selection as chancellor of the commonwealth's flagship campus by the UMass Board of Trustees. Reyes is an economist who has devoted his career to the cause of public higher education, holding leadership positions at the University of Illinois Chicago (UIC), West Virginia University, and the University of Arkansas. He most recently served as interim chancellor of UIC, Chicago's largest university campus. Born and raised in Mexico, Reyes is the first Hispanic to serve as chancellor of UMass Amherst.

Economic Impact of Tec de Monterrey Alumni

Tec de Monterrey has earned a deserved reputation as one of the top universities in Mexico, consistently ranked with the top two institutions in the country on the QS World University Rankings®, and within the top five in the QS Latin America University Rankings®. This performance reflects a history of strong performance in relation to research outputs and impact, internationalisation, and a strong reputation among the global academic and employer communities.

The entrepreneurial mindset imparted by a Tec de Monterrey education is evidenced by the fact that 43% of alumni report having founded a for-profit business, and 8% reporting having founded a non-profit organization.



This section of the report explores the impact of Tec de Monterrey alumni on the Mexican and global communities through entrepreneurship and economic activity.

Luis Arizpe Jiménez
*B.S. in Mechanical Engineering
(1984)*

*Vice-president of Arca Continental
Board of Directors⁴*

"I want to acknowledge Don Eugenio Garza Sada for his vision of shaping talented individuals. And also, for involving us and not being indifferent to the problems in our communities, and, above all, for contributing to solving our problems and giving back to the most needy some of what we have received."

A culture of entrepreneurship

Of the survey respondents who are founders of a company, 52% of them have founded a single company, while 38% have founded between two and three companies, and 10% have founded more than three, demonstrating a high rate of 'serial entrepreneurship' – those who have founded multiple companies.

⁴ <https://www.arcacontal.com/>

Extrapolation of the 43% of alumni who have started a for-profit business translates into an estimate of approximately 220,000 businesses created. The rate of entrepreneurship has changed little since the 75th anniversary survey, conducted in 2018, which showed a 41% entrepreneurship rate.

In total, respondents report that 61% – or an estimated 134,000 – of the companies created by Tec de Monterrey alumni are still in operation today. This figure is a slight decrease from the 65% of businesses which were still in operation as of the 2018 survey – a possible reflection of the adverse impact of the COVID-19 pandemic on business operations globally.

Despite this trend, companies founded by Tec de Monterrey alumni have been broadly resilient – 76% of entrepreneurs report that at least one of the companies that they have founded is still in operation.

Who becomes an entrepreneur?

The strongest tendency towards entrepreneurship among Tec de Monterrey alumni is among the male cohort – 46% of them have founded a company, compared to 32% of the female alumni.



Chart 2.1. Alumni who have founded a company by gender.

Entrepreneurship rates by graduation cohort show that the older cohorts are more likely to have founded a company. This is expected, given that they have had longer to do so. However, when we look at those who have founded a company *within 5 years of graduating*, the figures flatten heavily – 22% of those graduating between 2010 and 2019 have founded a company within five years of graduation – the highest out of any other graduating cohort.

This suggests that the emerging generation of Tec de Monterrey alumni will match, and potentially even exceed, the entrepreneurial aspirations of alumni from decades prior.

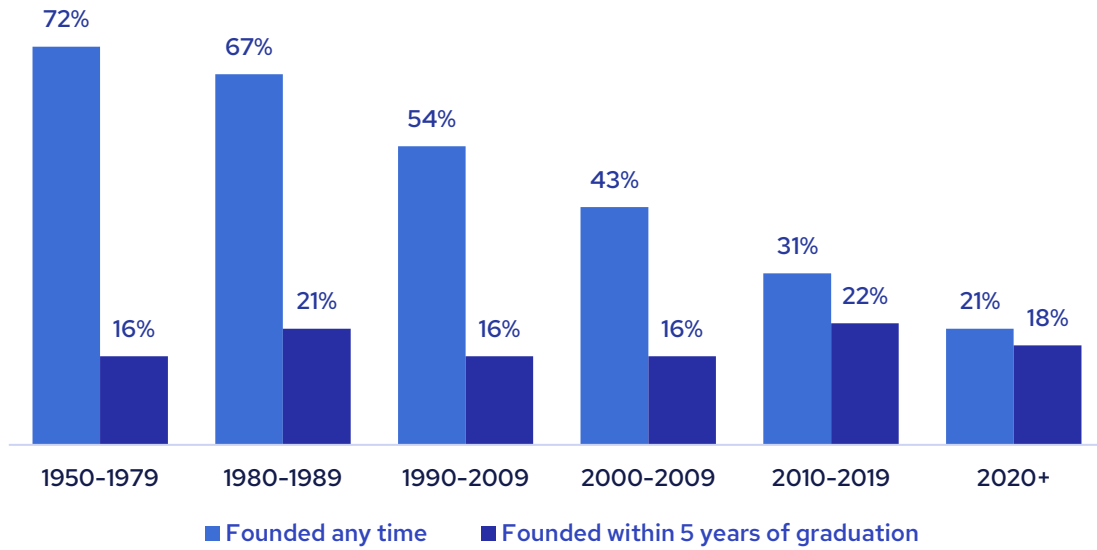


Chart 2.2. Entrepreneur status by graduation cohort.

Graduates from certain schools are more likely to become entrepreneurs than those from others. Alumni from the schools of Architecture, Art & Design (47%) and Business graduates (45%) are most likely to start their own businesses, though at least 32% of graduates from all schools have reported founding a business, reflecting an entrepreneurial mindset that is present university-wide – not just within specific disciplines.

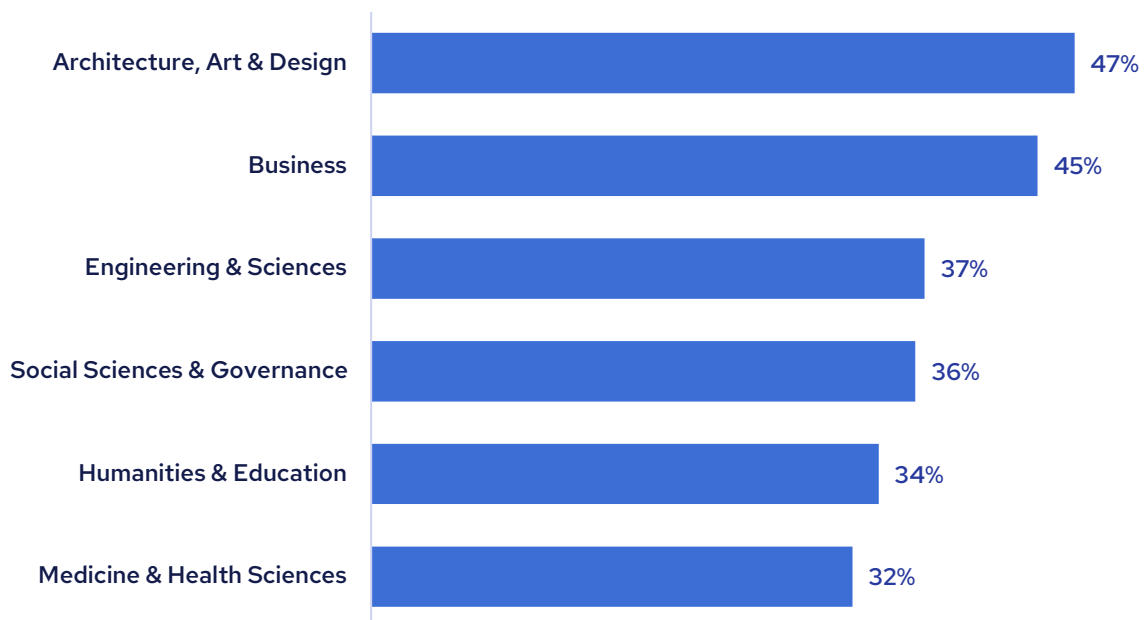
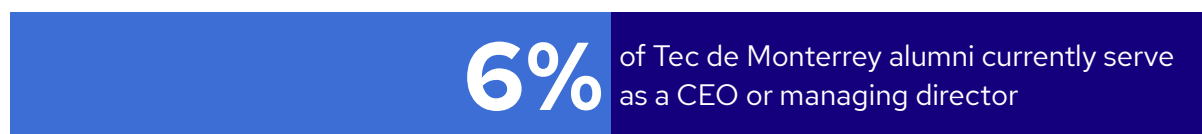


Chart 2.3. Entrepreneur status by school.

The number of alumni who serve as CEO of a company – currently 6% serve as a CEO or managing director – is an indicator of the impact that Tec de Monterrey alumni have had on the corporate world and serves as a reflection of the prestige carried by a degree from Tec de Monterrey.



Tec de Monterrey alumni currently serving as CEO report generally long tenures – 56% have been in the role for at least five years, and 35% have served for at least 10 years. The next generation of CEOs from Tec de Monterrey is also emerging – 14% have served in the role for less than one year, and 30% for no more than two years.

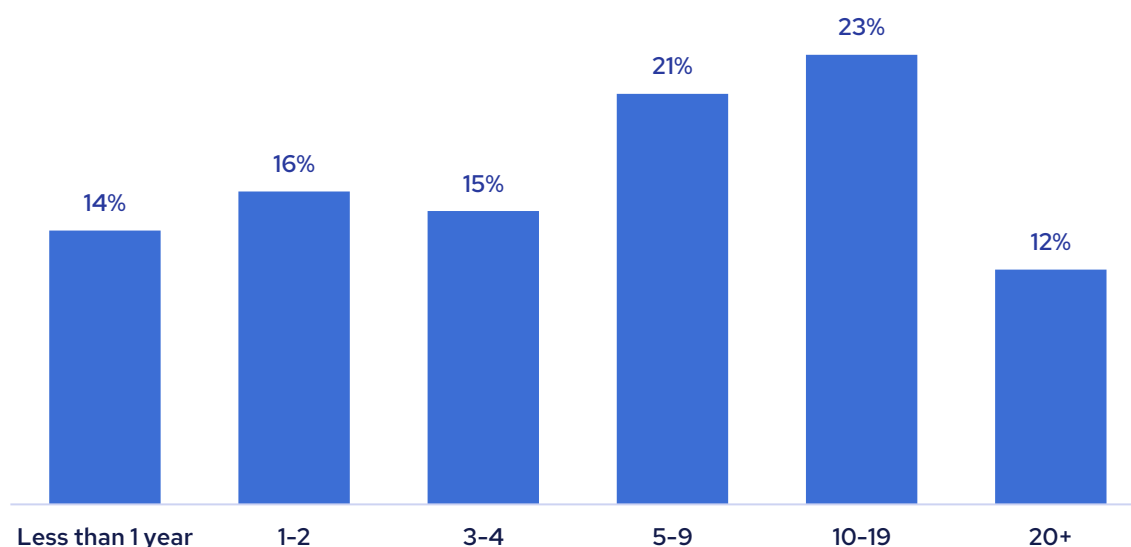


Chart 2.4. CEO/managing director status by years in position.

Geographic impact

Tec de Monterrey alumni have a global presence, and so do the companies they have founded.

Outside of Mexico, the highest concentrations of alumni-founded companies are in the United States (43% of all international companies), Colombia (8%), Canada (6%) and Ecuador (5%).

While companies are concentrated in the Americas, there are also substantial business presences in Spain (4%), Germany (2%) and the United Kingdom (2%), and smaller presences in other countries around the world.

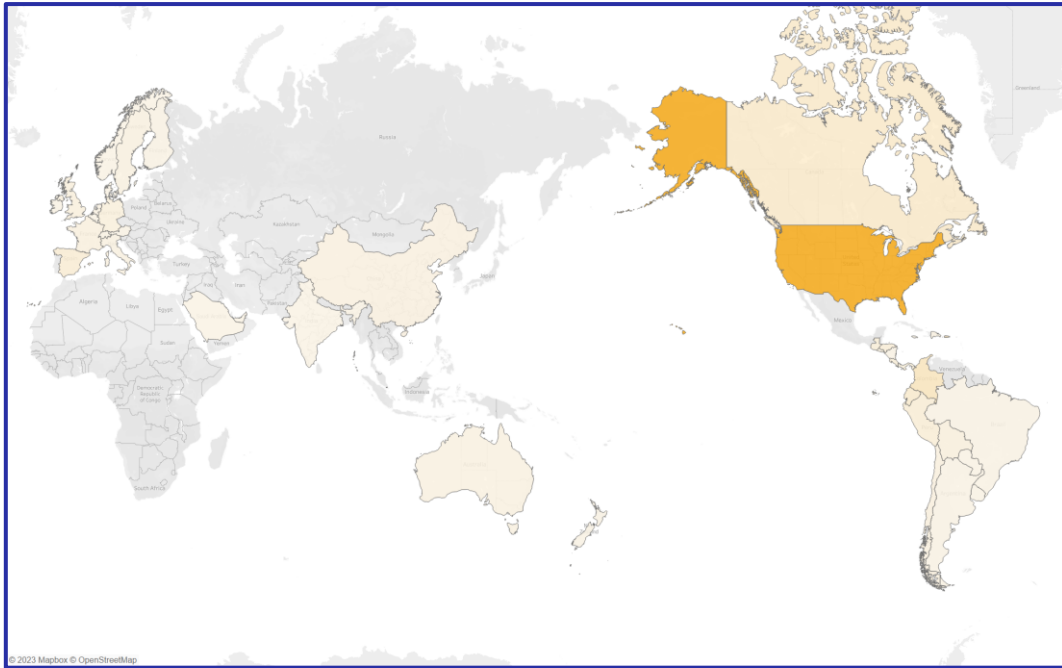


Chart 2.5: Geographical distribution of companies founded by Tec de Monterrey alumni. (Mexico excluded).⁵

Within a domestic context, a breakdown by state in this report is similar to the 75th anniversary report, with Nuevo León, Ciudad de México, Estado de México, and Jalisco having the largest concentrations of Tec de Monterrey alumni-founded businesses. Nuevo León region – the home of Tec de Monterrey’s main campus, is still the most popular state for the graduates to be professionally based in with 27% of the alumni either working or setting up their businesses there, followed closely by Ciudad de México (26%).

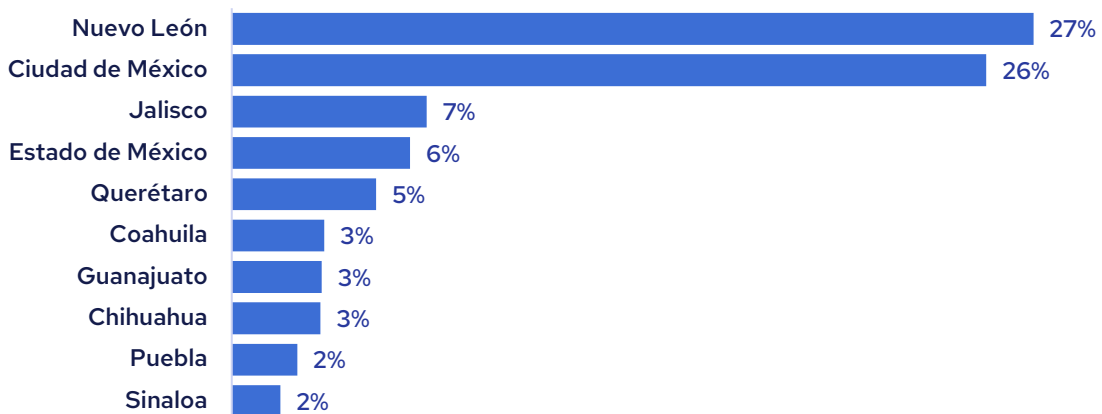


Chart 2.6. Top 10 cities where alumni are currently based.

⁵ Darker shading indicates more companies founded in those countries.

Tec de Monterrey creates and encourages entrepreneurs

Tec de Monterrey's unique *Tec Model* facilitates the development of students and alumni who are innovative thinkers and equipped with the skills to solve the challenges of the present and future. Tec de Monterrey is also recognized as a leading university among students wishing to hone their entrepreneurial skills. This is characterized by the existence of Tec de Monterrey's successful incubator program, which assists students with founding startups.

Alumni Profile



**José Emiliano
Iturriaga Tovar**
*B.S. in Sustainable
Development
Engineering (2018)*

CEO, *Rutopía*⁶

"Tec provided me with the most incredibly useful tools to do what I wanted to do, which was to work on environmental conservation and sustainable development. I always thought I would do it from an engineering perspective or through an NGO, but I believe Tec taught me that through a business model, you can also bring positive social change to the world."

Emiliano co-founded Rutopía with his business partner Sebastián, a company that aims to create tourist experiences that not only benefit the major players in the industry but also have a positive impact on everything from the environment to the residents who depend on tourism for their livelihoods.

The survey results show that 5% of for-profit founders received support from the Tec de Monterrey incubator program or entrepreneurial program.

5%

of Tec de Monterrey alumni entrepreneurs received support from the Tec de Monterrey incubator program or entrepreneurial program

Usage of these programs is consistent across schools of study within Tec de Monterrey, with the exception of alumni from the School of Medicine and Health Sciences, only 2% of whom have used one of the programs, potentially suggesting that other sources of assistance are available for entrepreneurs in these fields.

⁶ <https://rutopia.com>

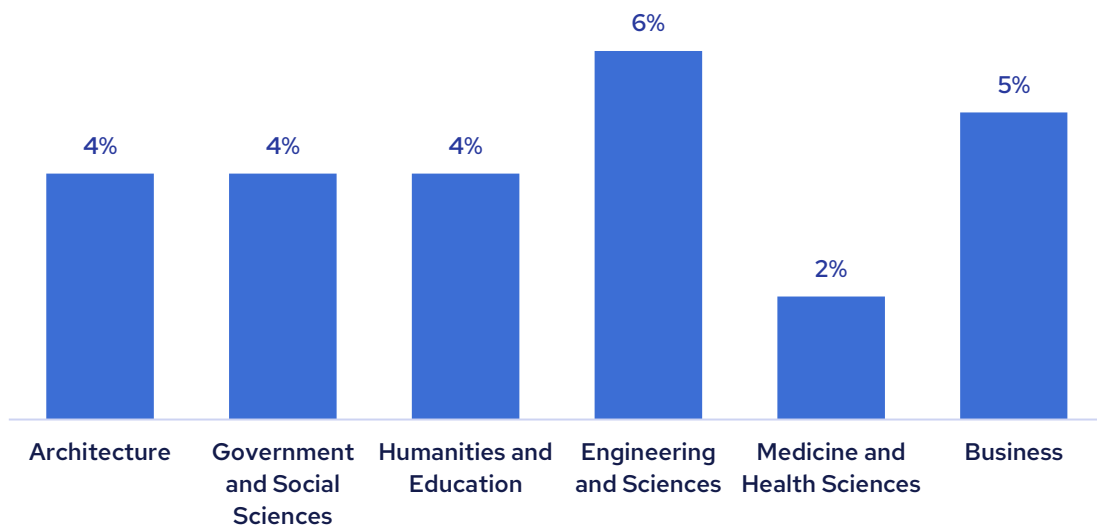


Chart 2.7. Proportion of alumni entrepreneurs who utilized Tec de Monterrey incubators by school.

There is little difference between gender in uptake of these programs, with 5% of male alumni and 4% of female alumni making use of either program – a reflection of the rise of female entrepreneurship, given the historical trend for male alumni to be more likely to start businesses.

Consulting, trade and food dominate Tec de Monterrey startups

Tec de Monterrey alumni have founded businesses across a broad spectrum of industry, with the largest concentrations of businesses founded in Consultancy (24%), Trade (21%), and Food (16%) industries, and smaller concentrations in Building (13%), Finance (6%), Education (6%), Hospitality (6%), Agriculture (6%), and Health (5%) sectors.

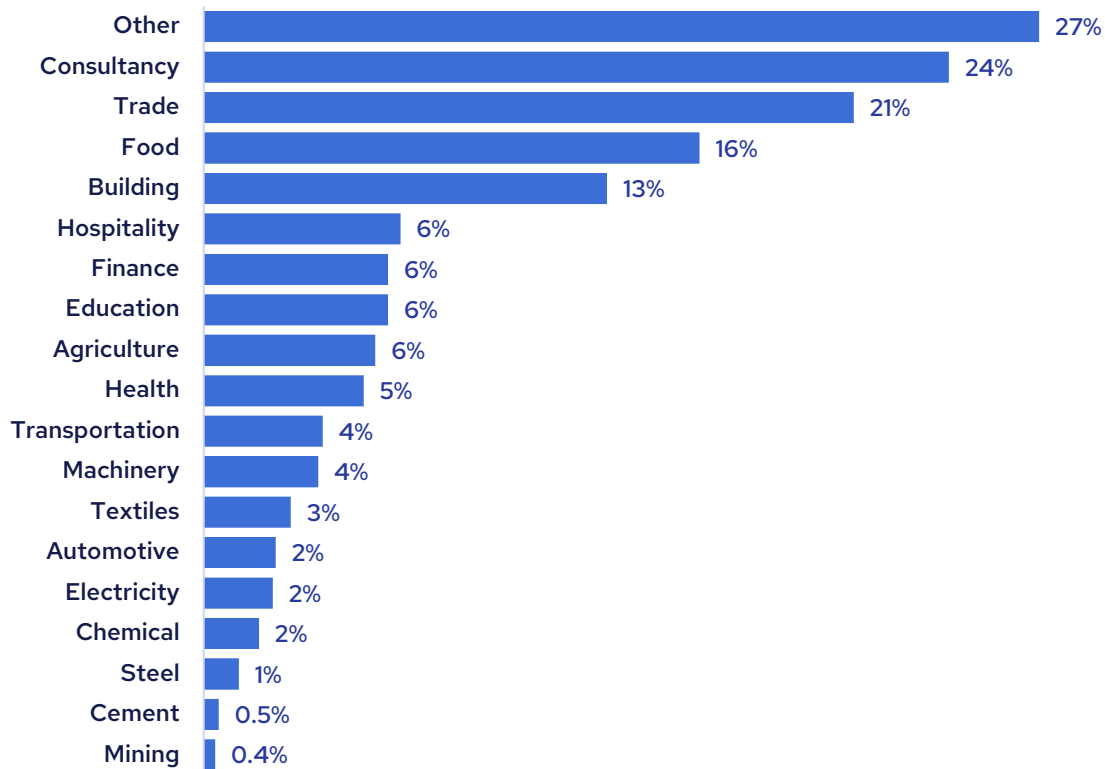


Chart 2.8. Sectors of founded for-profit companies.

Tec de Monterrey alumni are providing leadership in the boardroom

According to the survey results, 15% of Tec de Monterrey alumni have served on an advisory board of at least one company. Applying the extrapolation process to this figure, an estimated 40,724 Tec de Monterrey alumni have sat on a board or a business council of some kind. As expected, older graduating cohorts are more likely to have served on a board.

40,724

Tec de Monterrey alumni have sat on a board or council of a for-profit business

*Estimated**

Of those alumni with board experience, 44% have sat on a single board, meaning over half have sat on multiple boards. There is also a gender imbalance on board representation, with male alumni (19%) more likely to sit on a board of a for-profit company compared with female ones (9%). However, this may reflect older cohorts (who are more likely to have sat on a board) having higher proportions of male alumni.

Alumni are an engine room for the Mexican and global economies

One measure of the impact that Tec de Monterrey alumni have had on the wider economy is the revenue that has been generated by businesses they have created.

According to the survey, around 42% of businesses recorded revenue of 500,000 thousand pesos or less in their last year of operation, while a further 24% recorded revenue of between 500 thousand and 1.5 million pesos. 7% reported revenue of over 9.5 million pesos in their most recent year of operation, highlighting that while most businesses founded by alumni tend to be small/medium in terms of revenue, some alumni are still creating very large businesses which generate high levels of economic activity.

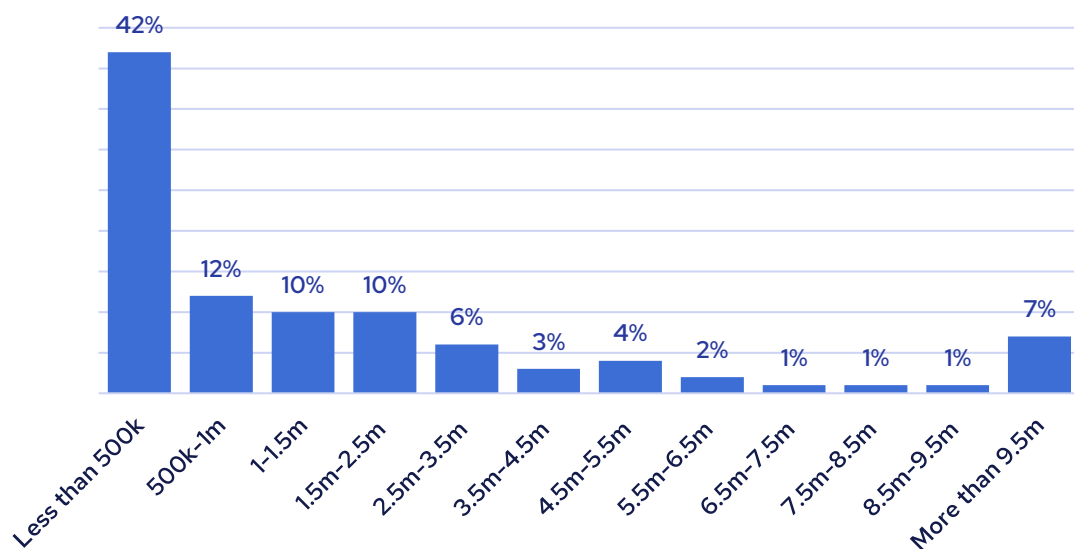


Chart 2.9. Income of companies founded by Tec de Monterrey alumni in the most recent year of operation (constant pesos).

\$260 billion USD Annual revenue generated by Tec de Monterrey founded companies⁷
*Estimated**

⁷ Calculated using average 2022[] c MXN/USD exchange rate

Alumni Profile



Raúl Revuelta Musalem
B.A in Economics (1999)

*CEO of Grupo
Aeroportuario del Pacífico⁸
SAB de CV*

"Tec provided me with a solid basis, the fundamentals for continuous learning. In my career in economics, it offered a strong foundation in finance and mathematics, which are essential for understanding how a financial model operates. Over time, it allowed me to develop the capacity to independently absorb new knowledge and gain new experiences. So, I would say that the most important tool Tec gives you is openness to curiosity and continuous learning."

Mr. Revuelta is the CEO of Grupo Aeroportuario del Pacífico (GAP) since April 2018. Mr. Revuelta has more than 19 years of experience in the infrastructure sector and is an expert in the airport sector. From 2005 to 2015, he worked at Grupo Aeroportuario del Pacífico (GAP), serving as CFO and Commercial Director (CCO). During his professional career, he has also served as General Director of Cross Border Xpress (CBX) and as Deputy Director of Finance of the Ministry of Communications and Transportation (SCT). In his six years as Deputy Director of the SCT, Mr. Revuelta participated in different privatization processes in the transportation sector, obtaining extensive experience in federal concessions.

Tec de Monterrey alumni are job creators

Most of the companies created by Tec de Monterrey alumni constitute "small businesses" – either being sole operators (13%) or with total staff of between 1 and 10 employees (64%), while 5% of companies have 50 or more employees.

⁸ <https://www.aeropuertosgap.com.mx/es/>

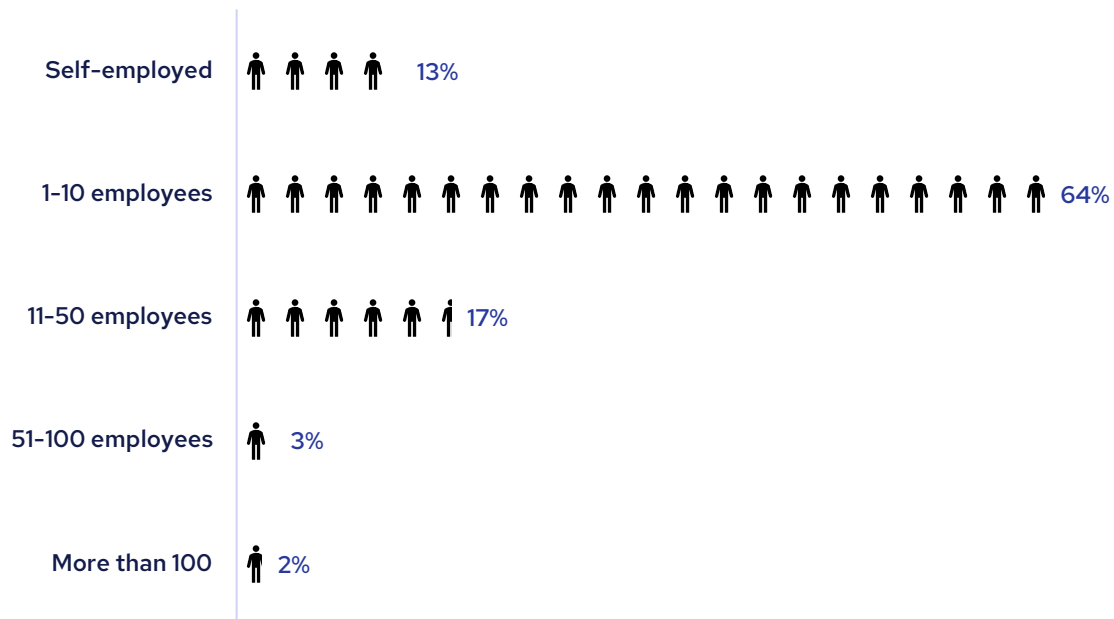


Chart 2.10. Distribution of the size of companies founded by Tec de Monterrey alumni.

Despite this concentration of small businesses, the sheer number of businesses created by Tec de Monterrey alumni has had a profound aggregate impact on job creation within the Mexican economy, as well as contributing to economic activity in a global context.

Using the employment figure from the survey and the extrapolation model, an estimated 3.2 million jobs within for-profit companies have been created by Tec de Monterrey alumni throughout its history, with this figure increasing to 3.6 million when non-profit organisations are also considered.

3.6 million

Jobs created by Tec de Monterrey alumni
*Estimated**

A degree from Tec de Monterrey is a powerful tool for earning

Of the alumni surveyed, 68% are paid employees, working typical full-time hours of between 36 and 50 hours a week. The most common fields of work are work in education (12%) and consultancy (10%), although 20% report working in 'other' sectors, suggesting that classical sector definitions may be less appropriate for reflecting the modern employment landscape. It is also reflective of the fact that many alumni will have continued on at Tec de Monterrey or another university in an academic role.

The median income of the alumni surveyed is reported at 56,000 Mexican pesos per month, which is more than the median family income in Mexico (29,300 Mexican pesos⁹) – a testament to the strong employment outcomes achieved by the typical Tec de Monterrey graduate.

56,000 pesos per month

Typical monthly salary for a Tec de Monterrey alumni

As could be expected, salary increases with age – among those currently working, those who have been in the workforce the longest since graduating earn the most per month, with median monthly salary ranging from 28,000 to those who graduated in 2020 or later, to 90,000 pesos per month for those graduating in the '80s or '90s. Median income declines slightly for those who graduated in the '50s, '60s or '70s, potentially reflecting a tendency towards a reduction in working hours or semi-retirement among this cohort.

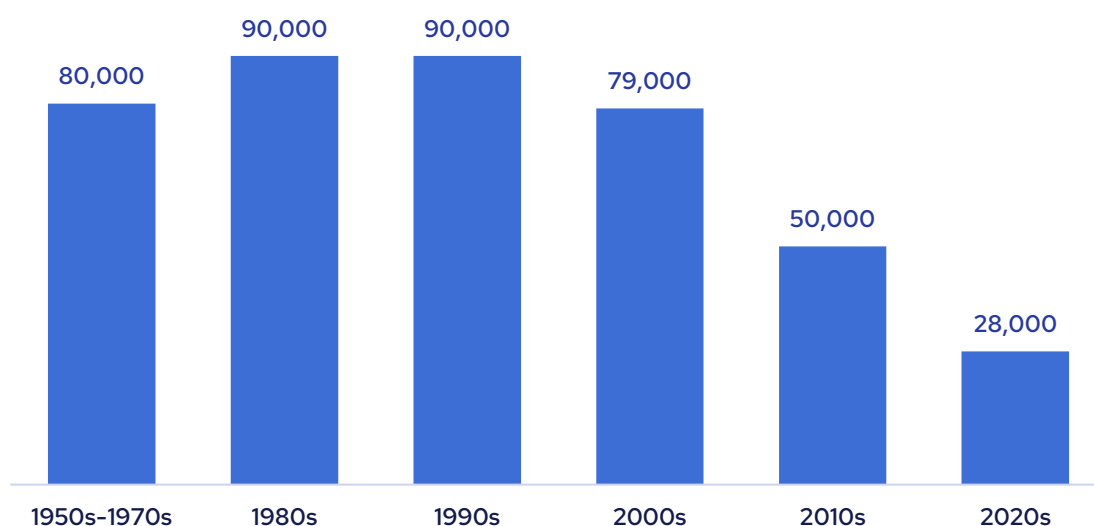


Chart 2.11. Median¹⁰ salary per month by graduation cohort (pesos per month).

Respondents were also asked to place a value on the intangible, non-salary benefits provided by their employment, as a percentage of their overall salary. The exact question text reading:

“Working brings different benefits in addition to a salary, such as personal development, learning, personal relationships, personal fulfilment, among others. Based on the monthly salary that you have reported in this survey, how much do you value these intangible benefits that you may or may not receive from your current job.”

⁹ [Salary Explorer](#)

¹⁰ Median – the ‘middle’ salary within each cohort

The modal response was that the intangible benefits of employment were equivalent to between 21-30% of overall salary, while 52% overall selected between 11% and 50%. The results highlight that Tec de Monterrey do not seek only the highest paying jobs, but those which provide a sense of fulfilment and self-actualization.

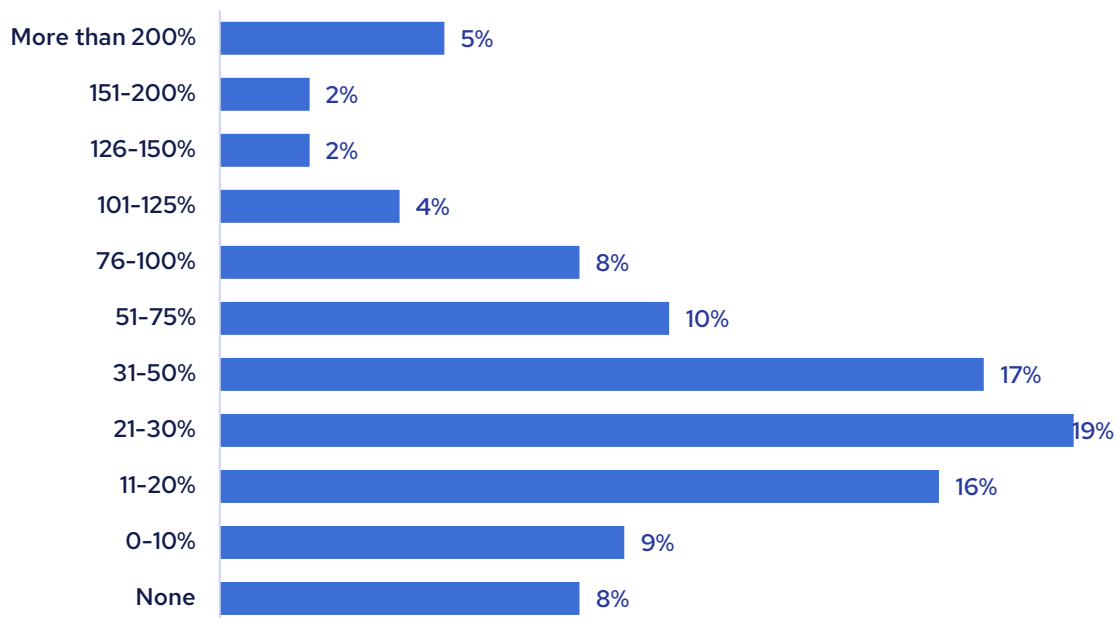


Chart 2.12. Value of intangible benefits of employment as a proportion of salary.

Silvia Dávila

*Master in Business Administration
(1997)*

CEO, Danone¹¹

“Each and every one of the graduates of EGADE Business School is a leader Mexico needs. I invite you to keep creating, keep believing, and put your talent at the service of a better community, better businesses, and a better country.”

¹¹ <https://www.danone.com/>

Social Impact of Tec de Monterrey Alumni

The role of universities in producing graduates who are actively invested in leaving a positive impact on society is crucial to social progress and change. Measuring the impact of such contributions is complex. Replicating the approach used in the 75th anniversary report, we conceptualize social impact using three metrics:

1. The number of social organisations founded by Tec de Monterrey alumni.
2. Jobs created in the not-for-profit sector by alumni.
3. Alumni philanthropy and volunteering activity.

Additionally, the 80th anniversary report supplements this methodology with a *sustainability* component. Given the urgent challenges prevented by climate changes and other social and environment issues, and the growing interest shown by the younger generation in the concept and practice of sustainability, it is important that universities equip their students and staff with the knowledge, skills, and passion for working towards a sustainable future.

Tec de Monterrey's commitment to social responsibility and impact is encapsulated by its mission statement:

"We use educational experiences to shape individuals into agents of change willing to work for the benefit of all – individuals who take responsibility for their own lives and are aware that their actions can transform others – capable, talented, upright, committed, involved visionaries with a global perspective and entrepreneurial spirit, not only at the university, but in all spheres of their lives."

This section quantifies the impact that Tec de Monterrey alumni have already had in helping to build and shape a more sustainable future for Mexico and the world.

Alumni have created many and varied non-profit organizations

Data from the 80th anniversary survey reveals that 8% of Tec de Monterrey alumni have founded non-profit organisations (8%) – a roughly equivalent figure to that recorded in the 75th anniversary survey. When extrapolating the number of organizations, this equates to just under 32,000 non-profit organisations created by alumni 'social founders'.

32,000

Number of non-profit organisation created by Tec alumni
*Estimated**

Alumni Profile



José Luis González Iñigo
B.S. in Chemical Engineering Administration (1967)

Board Chairman and Founder of the Sesajal Group¹²

“We have a Food Bank (which is my baby) where we provide 63,000 food baskets every month to 31,000 low-income families. We have just moved to a new location, where we will have the capacity to produce much more, which we will gradually complement with a clothing and household goods bank, as well as a medicine bank. Eventually, we want to create a Medical Specialties Centre.”

A graduate in Chemical Engineering Administration, José Luis distinguishes himself by being the founder of the Sesajal Group, which transforms and adds value to approximately 200,000 tons of raw materials annually, mostly sourced from Mexican farmlands. However, what truly drives much of his life is the ability to do something for those in need. After facing challenging health issues, including pneumonia and COVID, he knows that he can still make a positive impact on society.

The Tec de Monterrey alumni who have founded non-profit organisations are relatively evenly distributed throughout each school, with alumni from the School of Humanities and Education most likely to have founded at least one non-profit organisation (11%), followed by those graduated from the School of Government and Social Sciences (9%).

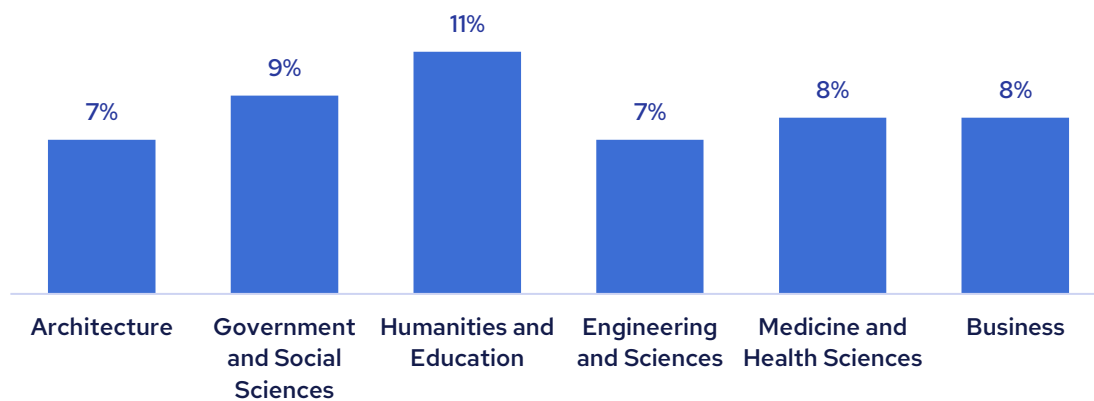


Chart 3.1. Social founders by school.

¹² <https://www.sesajal.com>

While older alumni are more likely to have founded a non-profit organisation than younger alumni (as they have had more time, and likely more resources to do so), breaking founder activity by founding year and age group shows that 49% of non-profits founded in 2020 or later were founded by post-2010 graduates, demonstrating a strong pro-social mindset among the younger cohorts and a shift towards younger alumni creating the majority of new non-profits.

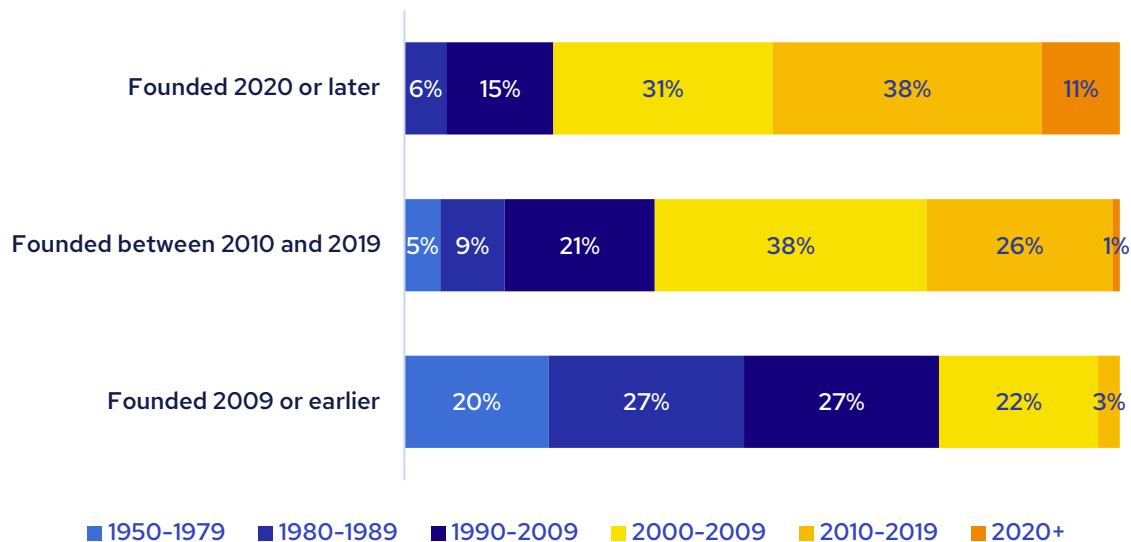


Chart 3.2. Social founders by founding period and graduation period.

While non-profit social organisations are founded across Mexico every year, contributing to the social impact throughout the country, a substantial number of non-profits fail due to funding-related issues. However, Tec de Monterrey alumni-founded non-profits tend to have a high degree of longevity – 67% of founder-alumni still have at least one organisation still actively in operation.



Moreover, among the non-profit founders surveyed, 26% report that their organisations have been running for between 6 and 10 years, while around 14% of non-profits founded by Tec de Monterrey alumni have been operating between 11 and 15 years. Furthermore, there are about 13% of non-profit companies who have been around for 16 to 30 years, whereas a substantial proportion of organisations have been running for more than 30 years (5%). This again attests to the durability of social organisations founded by Tec de Monterrey alumni.

Overall, the highest proportion of alumni surveyed have founded at least one non-profit organisation (78%), meaning 22% have founded multiple non-profit organizations.

When the figures are broken down by gender, it appears that female founders are more likely to have founded a single organisation (83%, compared to 75% of male founders), while males are more likely to be 'serial founders'.

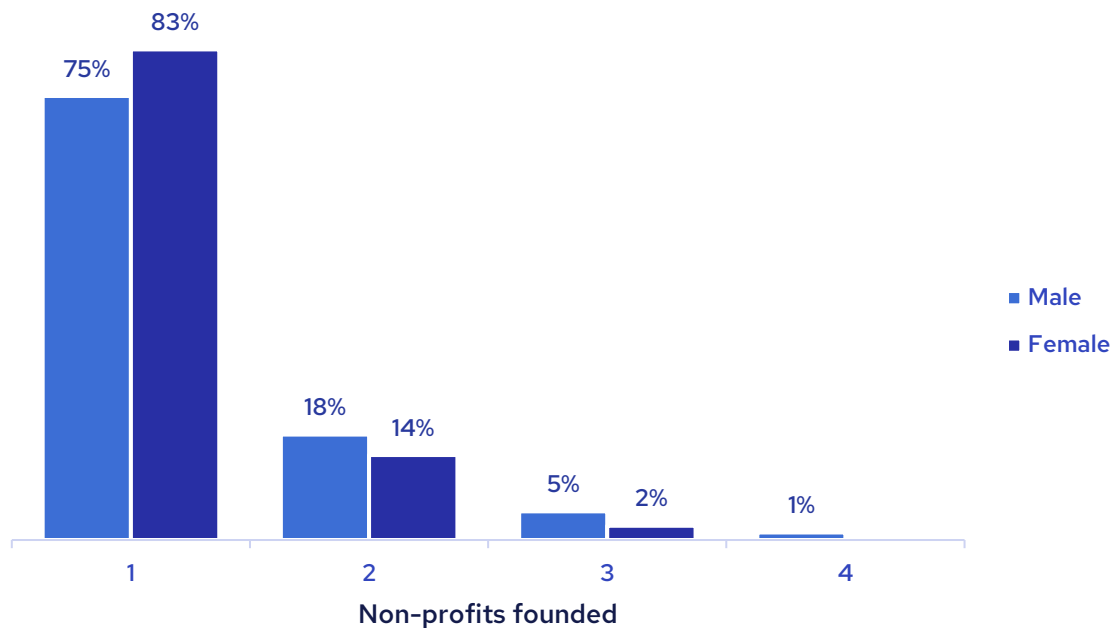


Chart 3.3. Non-profits founded distributed by gender.

Fernando Martín Astaburuaga Pazzi

B.S. in Agricultural Engineering (1985)

President of Alimentos para la Caridad A.C

"Tec de Monterrey strengthened in me the desire and ability to help people and provided us with the necessary tools to do so. It gave us countless tools for development. In 1997, it supported us through professors who helped us organize and design the institution, and above all, it gave us exposure to the business world. It provided us with student volunteers who supported us in all kinds of tasks."

Broken down by sector, education focused non-profit organisations are most commonly created by Tec de Monterrey alumni (23%). This is evident across all graduate cohorts too, with education being the sector with the most social founders from each cohort. The second most prominent sector is philanthropy (14%), followed by culture (12%) and humanitarian aid (11%).

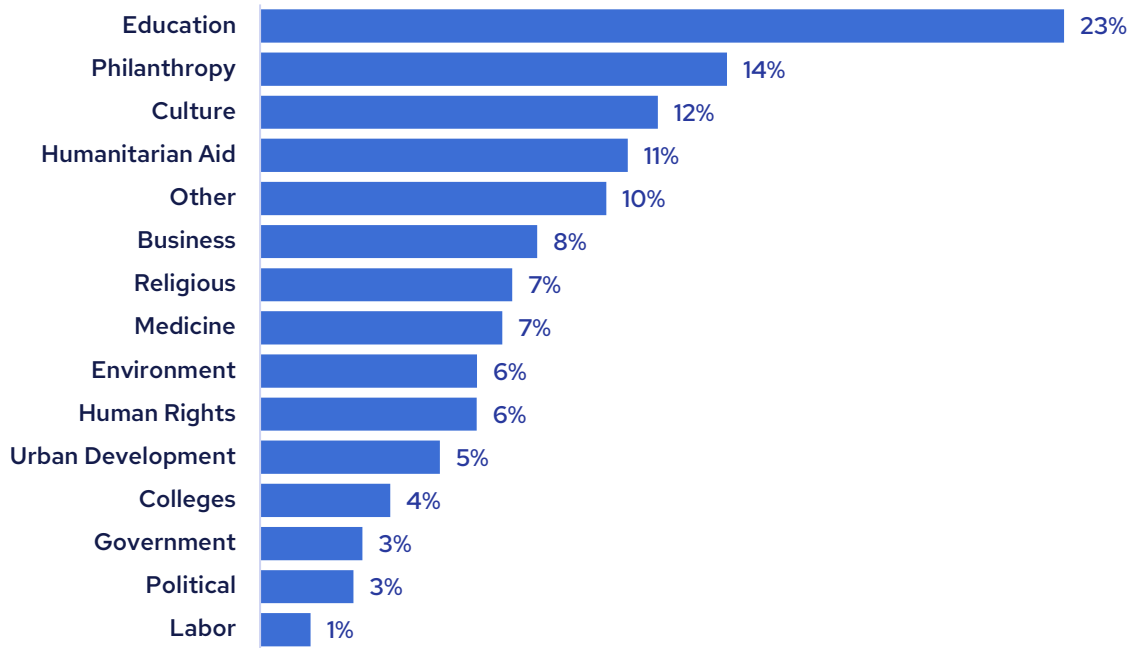


Chart 3.4. Non-profits founded by sector.

Gender seems to have some influence on the sectors where alumni focus their efforts, with male founders more likely to focus on education (26% of male-founded organizations, compared to 19% of those founded by females) and business (11% compared to 3%). Conversely, female founders are more likely to focus on human rights (10% compared to 4%).

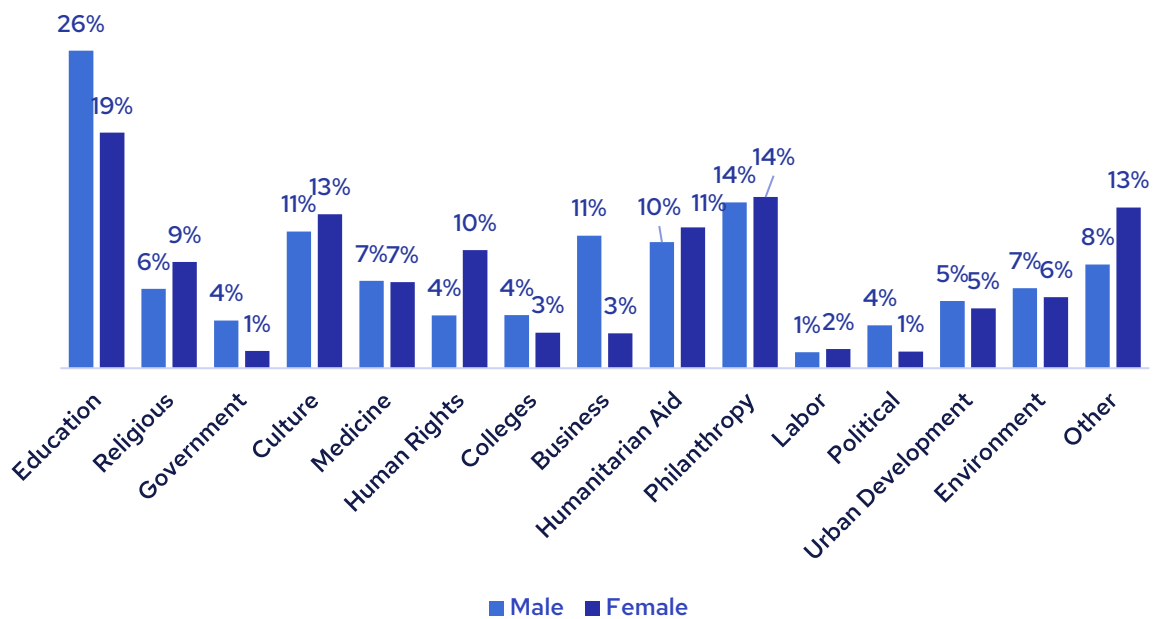


Chart 3.5. Non-profit sectors by gender.

The philanthropic heart of Tec de Monterrey

For many alumni, the birth of this philanthropic mindset has its roots in the education and entrepreneurial culture experienced at Tec de Monterrey. This is echoed in the words of graduates who credit their university experience for grounding them with a social conscience.

Alumni Profile



Lorena Guillé-Laris
B.S. in Industrial Engineering with minor in Systems Engineering, Master in Public Administration and Public Policy (2002, 2008)

Executive Director of FEMSA Foundation¹³

"I was fortunate to study at Tec: It opened my eyes to the world, and I got involved in student groups where I met people from other countries fighting for different causes. I believe that humans are born with the capacity to share, but at some point, it's like a switch that we turn off and that can always be turned on again. My dream is to feel joy because I was useful to the world, to have set an example for my children that this world is better with them in it, and to encourage them to contribute making the world better for others."

Lorena Guillé-Laris is a dedicated professional in the field of altruism, aiming to change the world. She is committed to corporate social responsibility, philanthropy, leadership for the next generations, and Human Rights. Throughout her career, Lorena has led corporate divisions and organizations, such as the Cinépolis Foundation, which she directed for 15 years. She is also an intra-entrepreneur, mentor, advisor to various civil society organizations, and has experience as a professor of social responsibility.

The blend of social and economic impact

One contributor to the aggregate social impact of Tec de Monterrey alumni is the number of jobs created through the establishment of non-profit organizations.

Like for-profit businesses, the non-profits created by alumni tend to be relatively small, with 66% employing between one and 10 people, and a further 16% of businesses employing between 11 and 50.

¹³ <https://www.femsa.com>

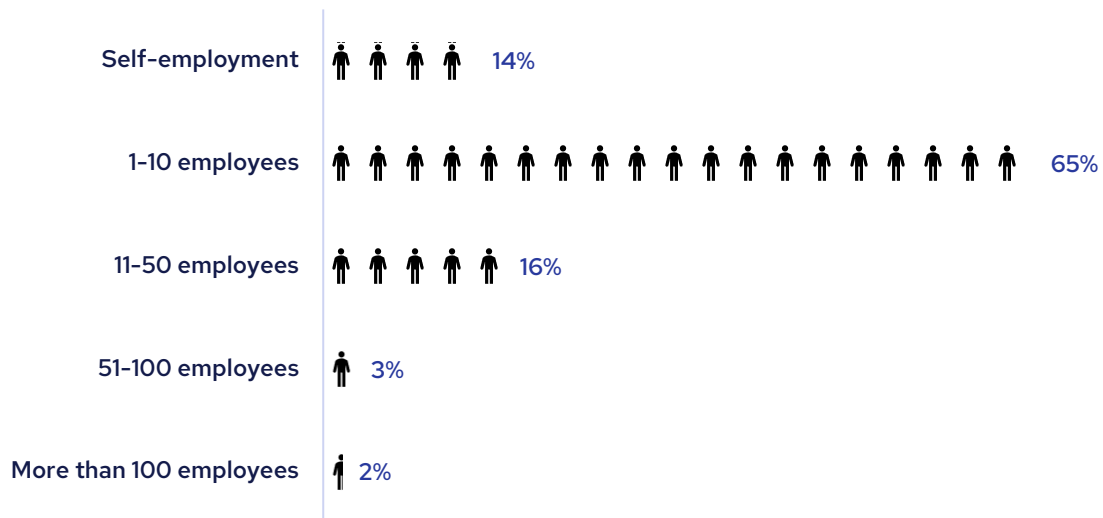


Chart 3.6. Size of non-profits created by alumni.

Despite the relatively small size of most non-profits, the large volume of companies created has resulted in the creation of an estimated **460,000** jobs.

460,000 jobs created by Tec de Monterrey alumni in the non-profit sector
*Estimated

While most non-profit organisations have been created in a local context (90% are based in Mexico), Tec de Monterrey alumni have also created non-profit organisations in other locations, most notably the United States (3%), Canada (1%) and Colombia (1%).

Alumni reflect a philanthropic spirit of volunteerism and giving

The social impact of Tec de Monterrey alumni can also be measured by philanthropic deeds, such as monetary donations to charitable causes, and volunteering their time for charitable initiatives.

Overall, **34%** of Tec de Monterrey alumni report having performed volunteer work for a social organisation in the past year, while **49%** report regular donations to social organizations.

49% of Tec de Monterrey alumni report regular charitable donation to social organizations

Beatriz Marina Bours Muñoz

B.S. in Accounting (1984)

President of Tichi Muñoz Foundation

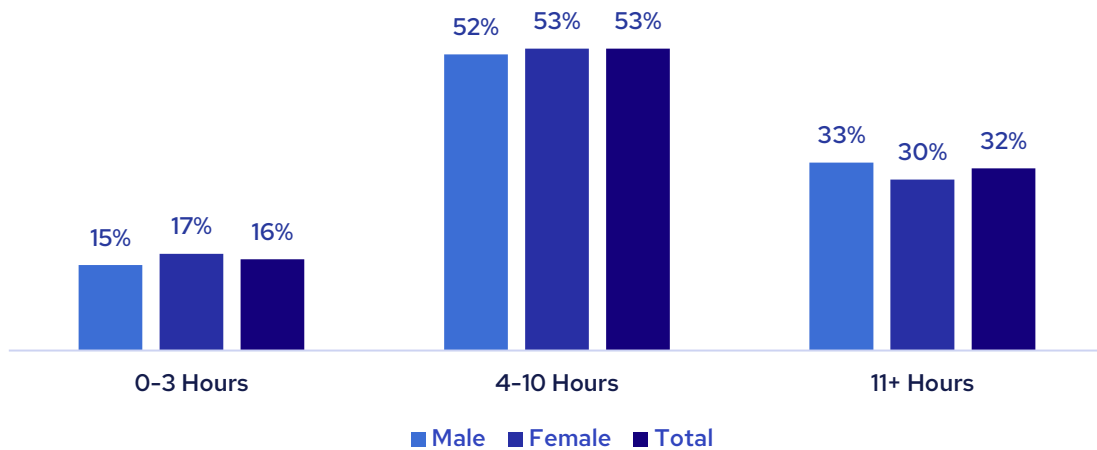
"I have witnessed the shift towards philanthropy and all the work that has been done at Tec, and I truly love it. I believe that working with young people is very important; only when young people get involved will they truly understand the happiness that comes from serving others."

Of those who volunteer, most alumni spend between four and 10 hours a month contributing per month doing so (53%), while around a third report volunteering for 11 hours or more per month.

While female are alumni more likely to volunteer (39%) than male alumni (31%), there is little difference between male and female alumni who do volunteer in terms of the hours they contribute.

In aggregate, Tec de Monterrey alumni contribute an estimated **1.3 million hours** of volunteering time per month

1.3 million hours per month Total volunteering time by Tec de Monterrey alumni
**Estimate*



Note: only those who volunteer included

Chart 3.7. Volunteering hours (monthly).

Among the **49%** of alumni who regularly donate to social organizations, the typical amount for both male and female alumni is between \$1,001 MXN and \$5,000 MXN per month (**41%**). While female alumni are more likely than male alumni to donate regularly, male alumni report higher

donations on average, with 33% reporting donations of over \$10,000 MXN per month, compared to 15% of female alumni – a potential effect of the male cohort being older, and therefore potentially wealthier than the younger female cohort.

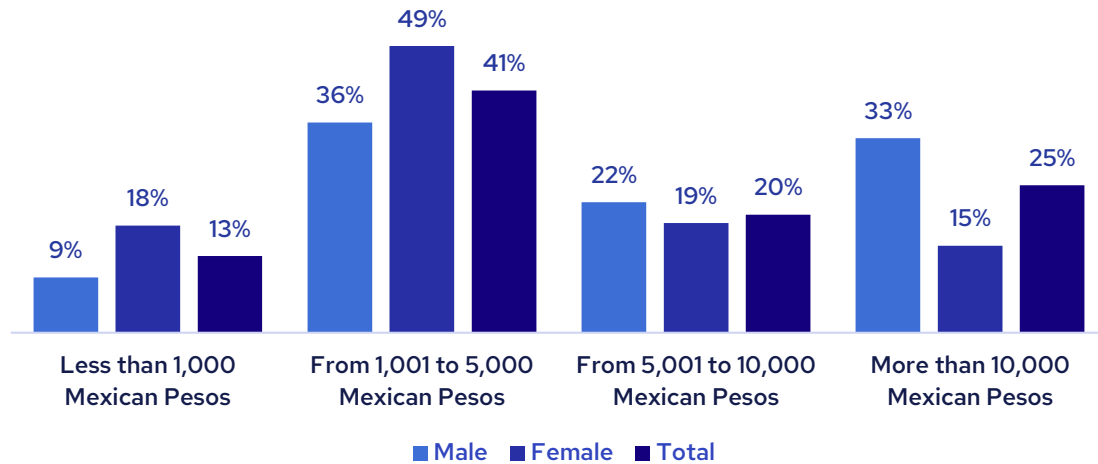


Chart 3.8. Size of charitable donation by gender.

A sustainability mindset is embedded among Tec de Monterrey alumni

In 2021, Tec de Monterrey presented its 2025 Sustainability and Climate Change Plan which includes a mission:

“To become a model sustainable institution by adopting a proactive culture, in the face of the climate emergency, reflected in the generation of ideas and technologies, high-impact actions and the preparation of leaders committed to building a sustainable future.”

Although most alumni pre-date the release of this plan, there is clear evidence that many Tec de Monterrey graduates are committed to creating a more environmentally sustainable world, with **49%** of Tec de Monterrey alumni claiming that they contribute to protecting the environment and/or combating climate change.

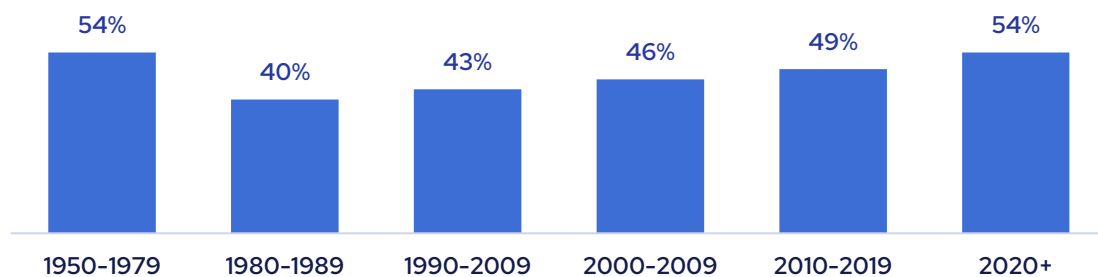
49%

of Tec de Monterrey alumni believe they directly contribute to protecting the environment and/or combating climate change

The Tec de Monterrey Sustainability and Climate Change Plan is expansive, covering topics as varied as:

- Fostering a culture of sustainability through campaigns and activities to raise awareness of sustainability and climate change.
- Reducing environmental impact such as reducing carbon footprint, creating an efficient waste management process, and improving water use.
- Reducing disaster risks and adapting campus infrastructure to the impact of climate change.
- Educating students, teachers, and staff about sustainability to invest in researching solutions to climate change.
- Working with local, national, and international partners to combat climate change.

A sustainability-focused curriculum and culture is already having a higher impact than any other graduation cohort of the alumni surveyed, **47%** overall agree that their stay at Tec de Monterrey contributed to developing a greater sensitivity and awareness about the importance of caring for the environment, climate change and/or sustainability. However, more recent graduates are even more sustainability-focused, with **54%** of those who graduated in 2020 or later agreeing with the statement.

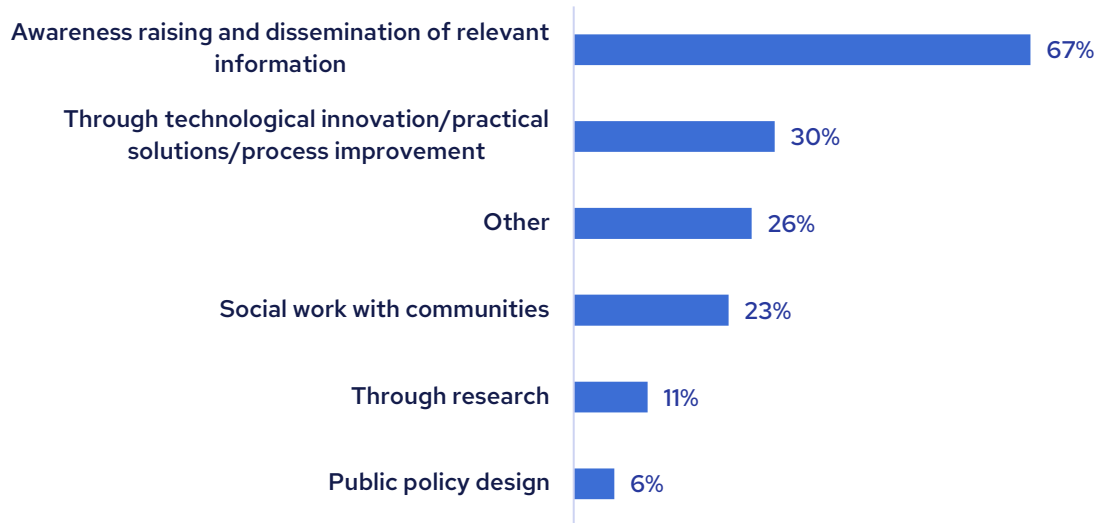


Note: Respondents scored on a 1-10 scale, with 1 being 'strongly disagree' and 10 being 'strongly agree'. Those who select eight or higher were considered to have 'agreed' with the statement

Chart 3.9. Percentage of agreement with the statement "My stay at the Tecnológico de Monterrey contributed to developing a greater sensitivity and awareness about the importance of caring for the environment, climate change and/or sustainability".

The threat of climate change is well understood among Tec de Monterrey alumni, with **65%** agreeing that 'climate change threatens my personal life and my town', while **62%** agree that they 'have a sustainable lifestyle and habits to contribute caring for the environment'.

When asked how they protect the environment and/or help mitigate climate change, the most common response was through 'raising awareness and disseminating relevant information' (**67%**), followed by 'technological innovation as well as improving current processes' (**30%**).



Note: Question allowed multiple selections

Chart 3.10. Main actions alumni realize to mitigate climate change.

Research and Innovation

Today, world-leading universities are expected to be pioneers of innovation, from offering world-class teaching delivered by renowned academics to the achievements of students to consequential research outputs. Along with teaching, research is one of the primary outputs of a university, and research outputs are both a major measure of a university's performance and a source of reputation among peers.

Tec de Monterrey Alumni are prodigious publishers

Tec de Monterrey alumni are prodigious authors, with around one-in-five alumni publishing an opinion article or essay, and the same proportion delivering a presentation at a research conference or developing a non-IP innovation. 6% of alumni report having published a book.



Chart 4.1. Alumni publishing rates by output type.

Remarkably, **42%** of alumni report having authored at least one of the above publication types, reflecting a tendency towards bringing new knowledge and insight into the world.



Alumni Profile



Gerardo Herrera Corral

B.S. in Engineering Physics (1984)

Researcher at Centre for Research and Advanced Studies of the National

Polytechnic Institute, and associate researcher at CERN Switzerland

"I am indeed a physicist-engineer in every sense because I have been dedicated to engineering oriented towards technology development. The knowledge I acquired at Tecnológico de Monterrey goes in that direction. This international notion that Tec instills in its students, this openness that, in my opinion, is acquired through the study programs, was very useful."

Currently a research professor in the Department of Physics at CINVESTAV (Centre for Research and Advanced Studies) and an associate researcher at the European Organisation for Nuclear Research (CERN) in Switzerland. He specializes in elementary particle physics, where he has contributed participating in large scientific research and technological innovation projects. He collaborates on ALICE (A Large Ion Collider Experiment), one of the four major experiments at the Large Hadron Collider (LHC) in Geneva, Switzerland. He is a renowned science communicator, frequently giving talks, publishing articles in various media, and author of several science books.

Alumni doing research

The profiles of 1,824 alumni were identified in the bibliometric database Scopus. 24% of them graduated from a PhD program, 39% from a master's program, and 37% from a bachelor's program. 65% graduated from the School of Engineering and Sciences, 20% from Medicine, 6% from Humanities and Education and 6% from Business.

Based on their most recent affiliation, 10% of relevant alumni are affiliated with a foreign university, 11% at another Mexican university and 32% are researching at Tec de Monterrey. The remaining 48% published during their studies but have not continued publishing at another institution.

The countries with the highest concentration of alumni doing research are the United States, Spain, Colombia, United Kingdom and Canada. Chart 4.7 shows the different countries where our alumni continue doing research.



Chart 4.2. Locations of Tec alumni conducting research.

Based on this sample, we performed a scientometric analysis in Scival for the period 2013-2022. We accounted for 8,588 papers (including articles, books, chapters and conference proceedings), that have received 139,390 citations until now, that is, 16.2 citations per document. 13% of these publications are in the top 10% most cited papers worldwide whereas 25% were published in the top 10% of journals. 40% of these publications were made with international collaboration and 29% with national collaboration. 2.9% of these papers were products of academic-corporate collaboration, meanwhile 566 patents have cited these publications. Chart 4.8 shows a breakout of these papers per discipline.

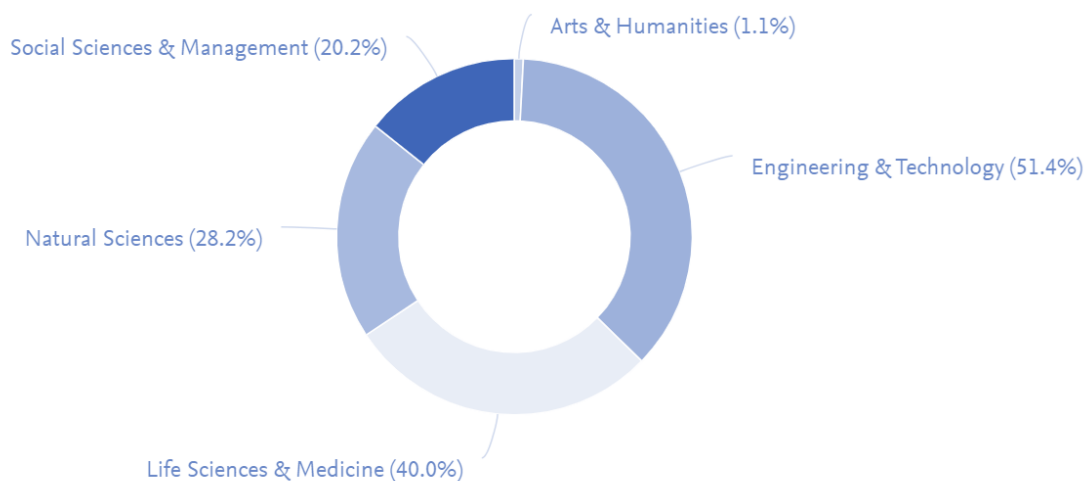


Chart 4.3. Tec alumni's scientific production per discipline.

From the alumni with a Scopus profile, 60% are male and 40% are female. Chart 4.9 shows the number of Scopus papers published by male and female alumni, as well as the total number of papers. The participation of women in scientific production has grown, going from 24% (2000-2002) to 42% (2020-2022).

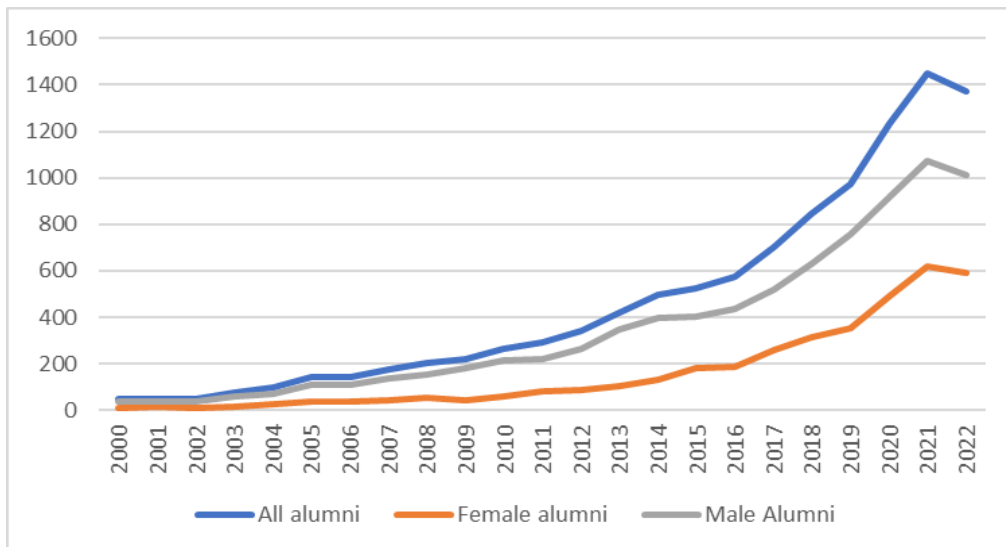


Chart 4.4. Tec alumni's scientific production over time, broken down by gender.

Scientific output

Over one-in-ten Tec de Monterrey alumni have contributed an article to scientific journals (11%). Overall, 74% of those writers have contributed between one and five articles with 11% have written between six and 10 articles and approximately 7% have contributed between 11 and 20 articles.

Breaking down the data by schools reveals that the graduates from the School of Medicine and Health Sciences are most inclined to have written articles in scientific journals (49%) – as expected given the prodigious academic outputs of this field in general. This is followed by the alumni from the Schools of Humanities and Education (18%), Social Sciences and Government (15%) and Engineering and Sciences (14%).

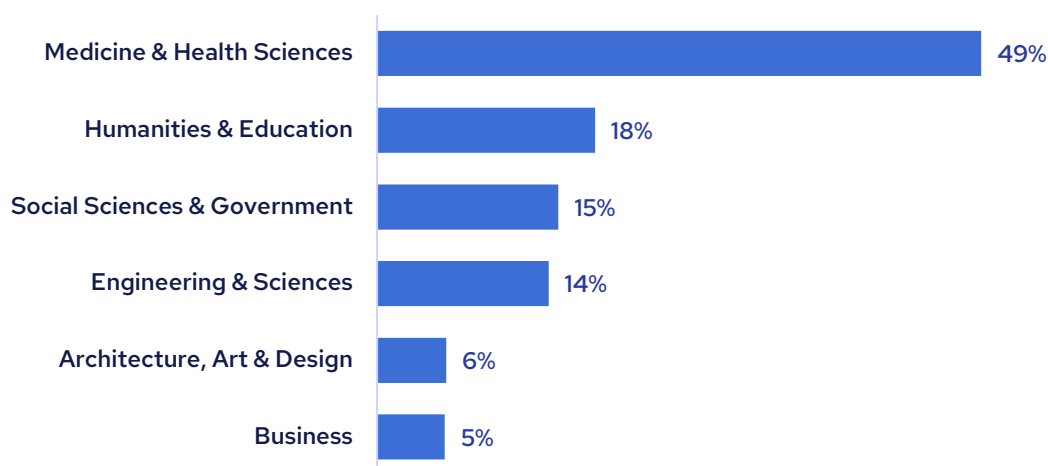


Chart 4.5. Proportion of authors of scientific articles distributed by school.

Process innovation

Overall, 8% of the alumni surveyed have invented patented processes. Of those, 87% have created up to five patented innovations, an increase from the previous iteration of the report (79%). This indicates that Tec de Monterrey alumni continue to be competitive and impactful in coming up with innovations in their respective fields.

Perhaps expectedly, those alumni from the School of Engineering and Sciences (11%) were most likely to have been granted a patent, followed by alumni from the Schools of Architecture, Art and Design (10%), and Humanities and Education (9%).

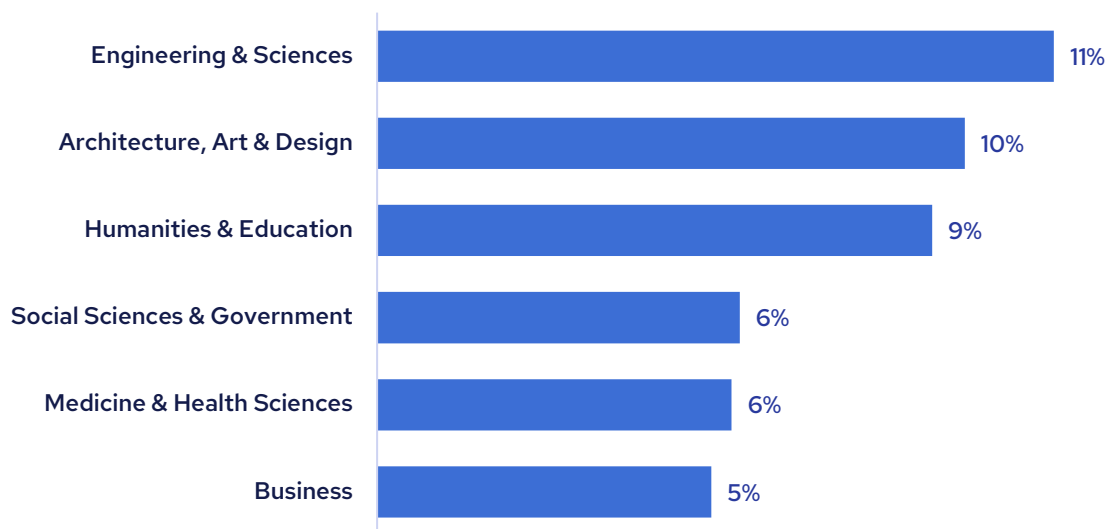


Chart 4.6. Alumni who have received patents distributed by school.

Book authorship

Writing a book signifies that the author is an expert in a particular subject matter and that they have an authority on the knowledge as well as opinions related to the subject. Around 6% of the alumni surveyed have written a book, while 8% have contributed a chapter to a book.

Furthermore, as industry leaders, established or emerging, Tec de Monterrey alumni are also among the authors or co-authors of opinion articles, essays, or professional magazine articles (19%). This is one of the many avenues where Tec de Monterrey alumni can share their opinion and commentary as subject matter experts and thought leaders.

The graduates from the School of Humanities and Education are more likely to write books (15%). This is followed by the alumni from the School of Medicine and Health Sciences (10%) and the School of Social Sciences and Government (10%).

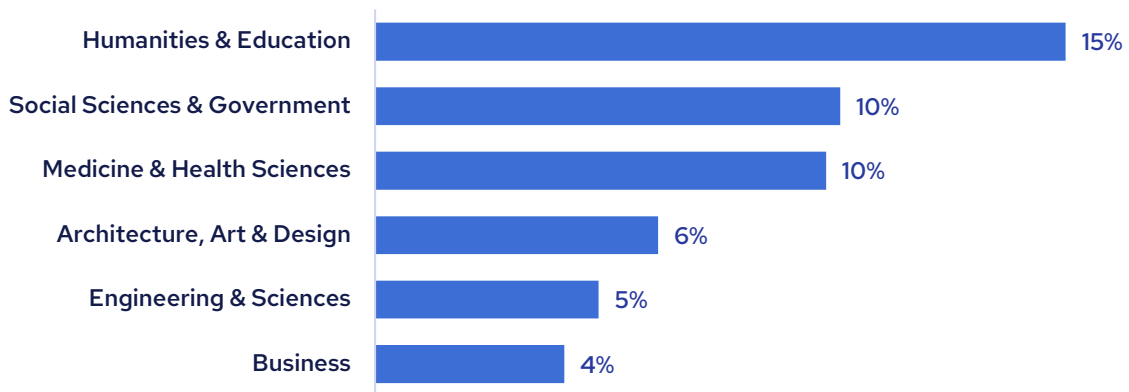


Chart 4.7. Book authors distributed by school.

Alumni Profile



Myrna Flores

Bachelor of Science in Mechanical Engineering, Master of Science in Manufacturing Systems (1996, 1999)

Executive Director

Centre for Digital Transformation, Imperial College London

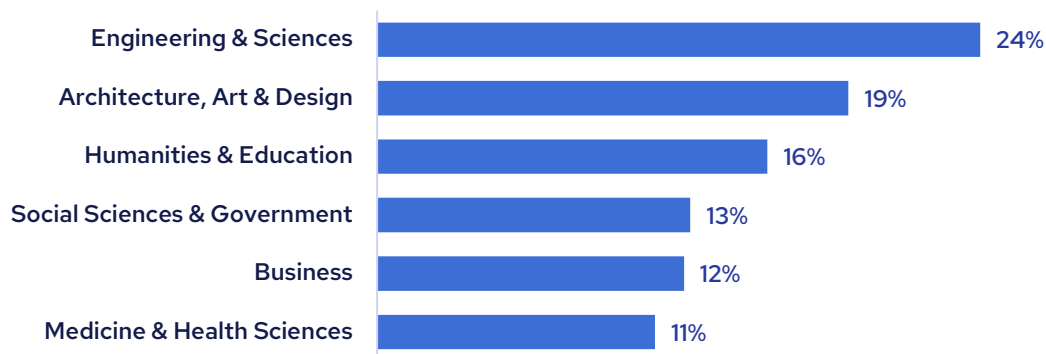
"The most important tool was learning how to learn, knowing that innovation is a cyclical process that seeks to propose solutions to impact society. That is, by applying research methodologies, the scientific method, and ethnographic techniques to empathize with users experiencing a problem, and through collaboration with multidisciplinary experts, you can solve any challenge with 'out-of-the-box' proposals."

Myrna Flores has over 20 years of experience, collaborating with several organisations in different sectors driving innovation initiatives and training, engaging, and collaborating with cross-functional teams. She is the co-founder and president of the Lean Analytics Association (LAA) which was launched in 2012 as a spin-off from EPFL. She has a PhD in Open Innovation from Politecnico di Milano (2006) and published more than 50 articles in journals and presented in multiple international conferences. She is co-author of four books, the last one: *Lean Thinking Evolution, getting prepared for the Digital Era* (2022).

Product innovation

Of the alumni surveyed, 18% have innovated a product or process (specifically, an 'innovation without intellectual or industrial property'), a significantly higher percentage than reported in the last impact study (7%), suggesting an increased output on innovation among the most recent cohorts of graduates.

Like patents, industrial innovations are most commonly created by alumni of the School of Engineering and Sciences (24% have reported the creation of an industrial innovation), while the figures for other schools range within the low-to-high teens.



Note: Innovator defined as someone who has created 'innovations without intellectual or industrial property'

Chart 4.8. Innovators distributed by school.

Manuel Giacoman Zarzar

*B.S. in Mechatronics Engineering and
Master of Science in Mechatronics and
Automation (2005, 2006)*

*Manager of the Electrical Engineering
and Routing Group at John Deere*

"Tec encouraged us the most in creating projects, to have us go the extra mile so that through projects, we not only learn more but also explore what else we can do, what things are being researched outside that we may not know about, or that we can discover. Developing new things or how to apply new things in different projects that have not been applied before. So, I believe it's there where Tec left its mark, always researching because, in the end, research is what drives innovation."

Tec de Monterrey in the life of graduates

The mission statement of a university often captures the bigger goal of an institution, and for Tec de Monterrey this encapsulates one of the key messages, which is 'transforming lives for the benefit of all'.

This report has demonstrated that many alumni have strived to uphold this mission in their endeavours, including their social and economic impact, and in their innovative creations that are reaching global audiences.

The impact of a university on its alumni can, in part, be measured by the way in which alumni apply the skills and knowledge they acquired while studying at Tec de Monterrey. It can also be measured by the way in which they live and apply the University's core values in their post-graduation lives. Besides through understanding the contentment in their experience of Tec de Monterrey, and in life beyond.

The application of knowledge and skills

Overall, 31% of alumni report that the skills and knowledge they developed during their studies at Tec de Monterrey are very frequently used in their current job ('knowledge application'), while a further 52% report moderate/occasional use, and just 16% report low use of their skills and knowledge developed throughout their studies.

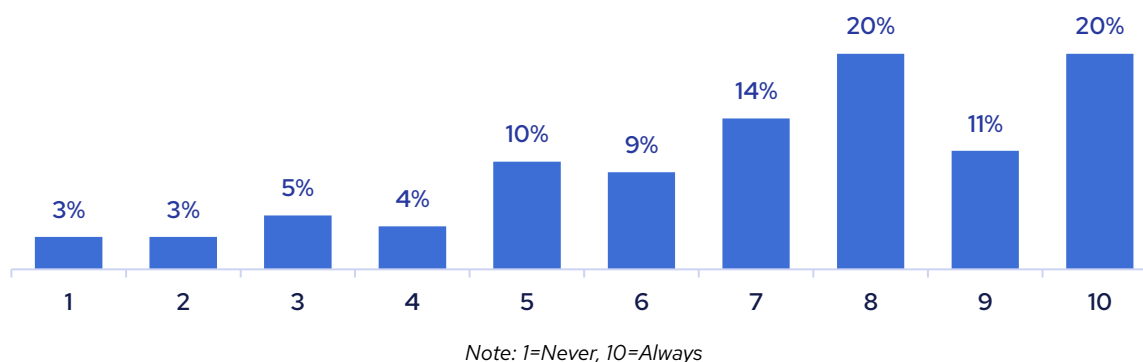
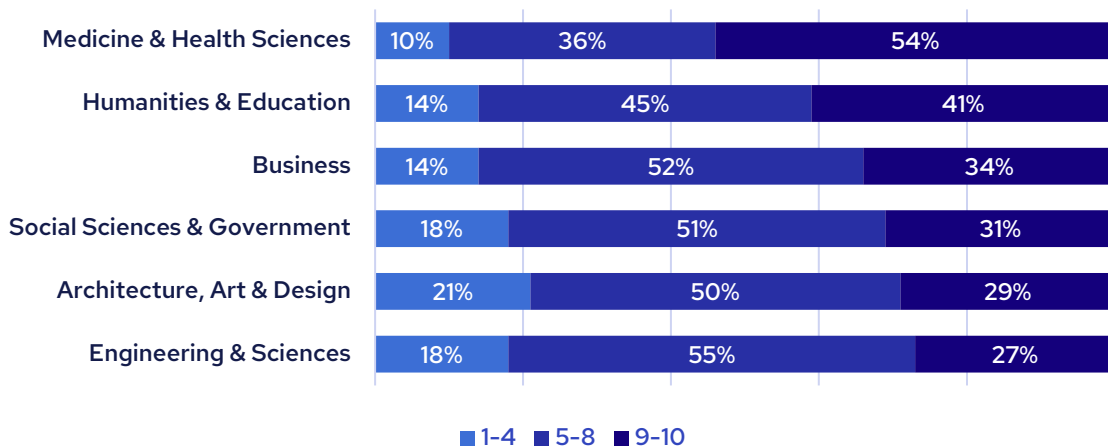


Chart 5.1. In your current job, how often do you apply the knowledge, skills and/or technology tools developed in your last academic program studied at Tecnológico de Monterrey? (1-10 scale).

Alumni from the School of Medicine and Health Sciences were most likely to report high levels of knowledge application (54%), followed by the Schools of Humanities and Education (41%) and Business (34%).



Note: 1=Never, 10=Always

Chart 5.2. In your current job, how often do you apply the knowledge, skills and/or technology tools specific to your last academic program studied at Tecnológico de Monterrey? (1-10 scale) by school.

Alumni Profile



Margot Molina Elías

B.A. in Computer Systems and Management (1987)

Member of Tecnológico de Monterrey Board of Trustees, Campus Sonora Norte

"I feel that Tec instils in us that entrepreneurial spirit, seeking these opportunities to improve the quality of life for both the entrepreneur and the people who will use this innovation."

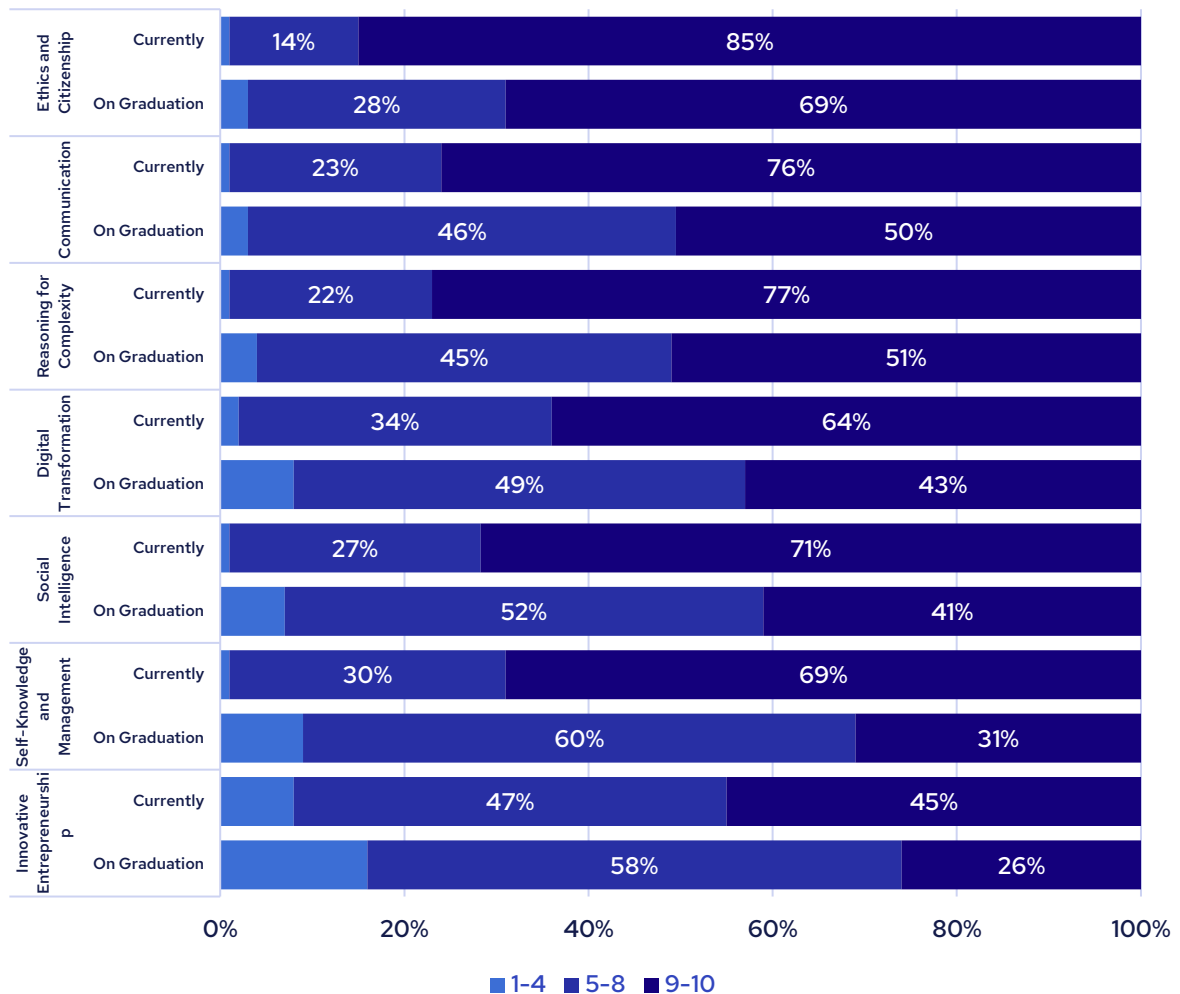
Altruistic entrepreneur, leader, and mother; Margot is known for propelling her Tec community and the city of Hermosillo. She has a track record of philanthropy and innovation. In 1998, she co-founded, advised, and served as secretary-general of Exa-Tec Sonorenses, A.C.

Since 2008, she has remained a counsellor at Tecnológico de Monterrey, Campus Sonora Norte. The National Chamber of the Transformation Industry recognized her as Entrepreneur of the Year at the Women Who Inspire Leadership Forum, part of the Hermosillo 2021 Business Summit. Margot Molina Elías received the EXATEC Merit Award 2022. She is currently a recognized member of the Board and the EXATEC Association at Campus Sonora Norte.

This edition of the survey explores how the Tec de Monterrey alumni self-assess their competencies in a range of skills, including self-knowledge, innovative entrepreneurship, social intelligence, ethics and citizenship, complex reasoning, communication, and digital transformation; and comparing these assessments to how they viewed themselves upon graduating.

Skill assessments are broadly extremely high, with a majority of alumni rating themselves nine out of 10 or higher for 'ethics and citizenship', 'communication', 'digital transformation', 'reasoning for complexity', 'social intelligence' and 'self-knowledge and management'. Self-assessed scores were lowest for 'innovative entrepreneurship', with a 45% rating themselves nine or higher.

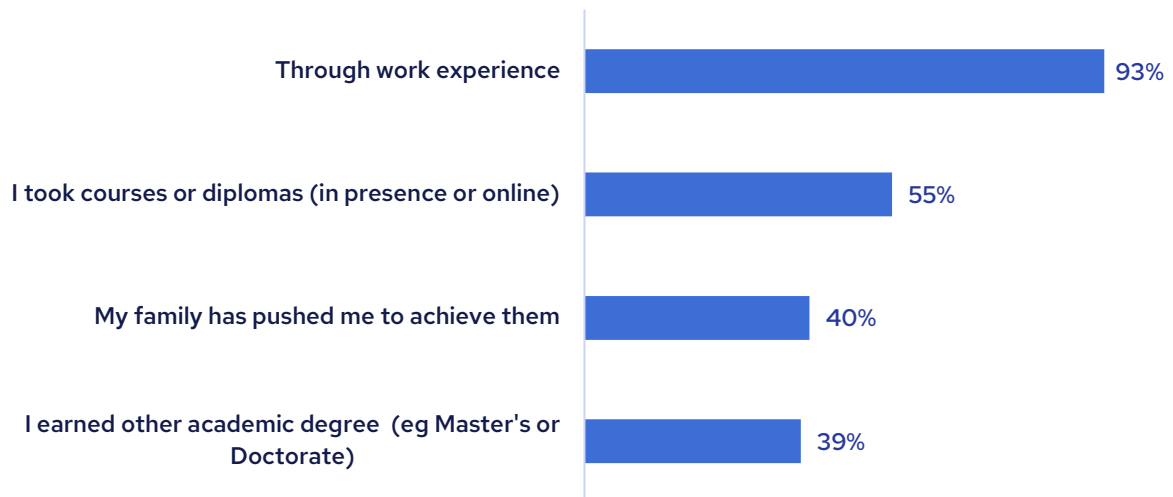
Current skill assessments are higher than 'on graduation' skill assessments, suggesting that Tec de Monterrey alumni assess their skill development as an ongoing process that continues long after graduating.



Note: 1=Lowest, 10=Highest

Chart 5.3. Rate each of these competencies according to your perception of your level of personal achievement.

It is easy to see why scores tend to have increased between graduation and the present time – 93% say that work experience has contributed to the development of their competencies, highlighting the balance that must be struck between classroom learning and real-world experience.



Note: Multiple options could be selected

Chart 5.4. What other factors may have contributed to the development of these skills, in addition to studying for a professional career?

Simon Cohen Shamosh

B.A. in International Business (1998)

Founder, Henco Global¹⁴

"80 years is a good start, and I believe Tec has a spectacular long-term vision. It is a cutting-edge institution, always learning, unlearning, and relearning. It is there that I see Tec's secret of success: Not just in learning but in unlearning, leaving things from the past behind and seeking to relearn things for the students and society."

When alumni were asked how well Tec de Monterrey prepared them for the real world, 79% of them feel that the Institution prepared them more adequately than they might have experienced elsewhere, while 19% of them feel that they have the same level of preparation in comparison to other universities, and just 2% said that Tec de Monterrey did not prepare them enough.

79%

of Tec de Monterrey alumni believed that university has better prepared them for the workforce than graduates from other universities

Preparedness has remained relatively consistent over the history of the university, with between 78% and 87% across graduation cohorts believing that Tec de Monterrey has better

¹⁴ <https://www.henco.com.mx>

prepared them for the workforce than other universities. However, those graduating prior to 1989 have a slightly higher score on this measure compared to the more recent cohorts.

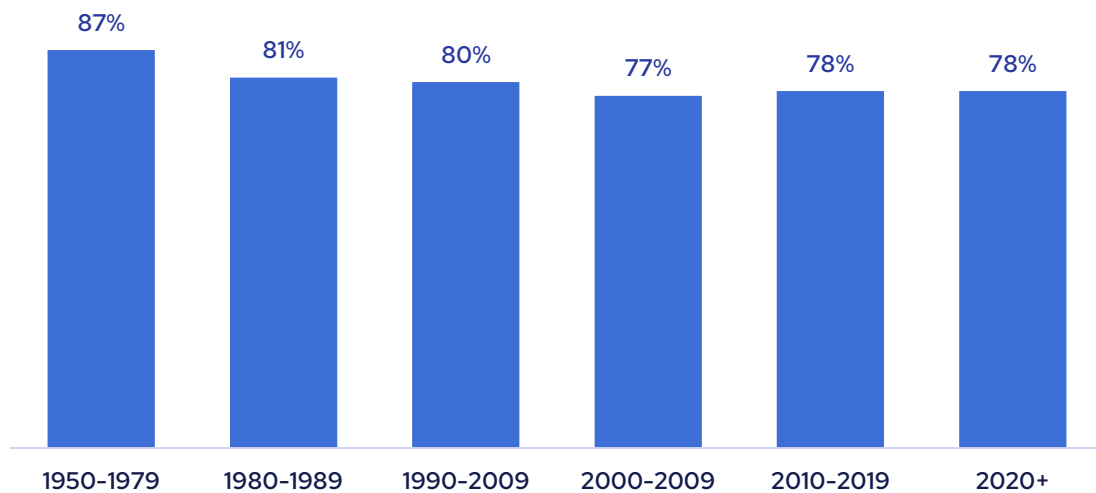
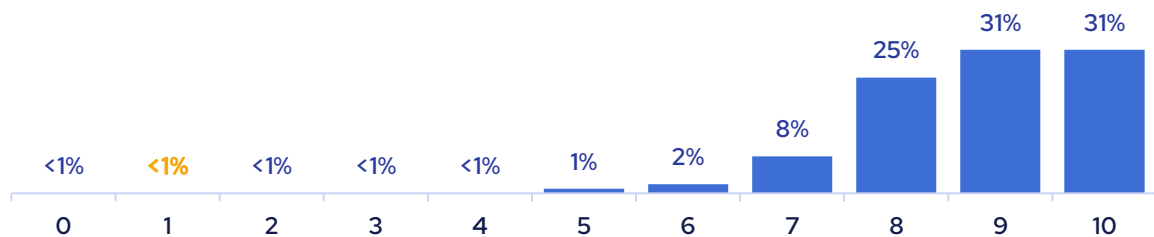


Chart 5.5. Percentage of cohort who believe Tec de Monterrey prepared them for the workforce better than other universities would have by graduation cohort.

Alumni were also asked to provide an overall, holistic rating of the quality of education provided to them by Tec de Monterrey on a 0-10 scale. On this measure, 61% rated their education as a 9 out of 10, and 31% scored the University a perfect 10. Of the remainder, 38% gave a 'neutral' score of 5-8, and just 1% a negative score of 4 or below.



Note: 0=Bad, 10=Excellent

Chart 5.6. Overall assessment of quality of education provided by Tec de Monterrey.

8.7/10

Average alumni rating of the quality of education provided by Tec de Monterrey

In addition to an overall assessment, alumni were asked to provide a response to a series of statements about their relationship to Tec de Monterrey. The results present a very strong

reputation for the University among its graduates, with 71% agreeing that they would recommend studying at Tec de Monterrey, and 67% agreeing that Tec de Monterrey will be 'always in [their] heart'.

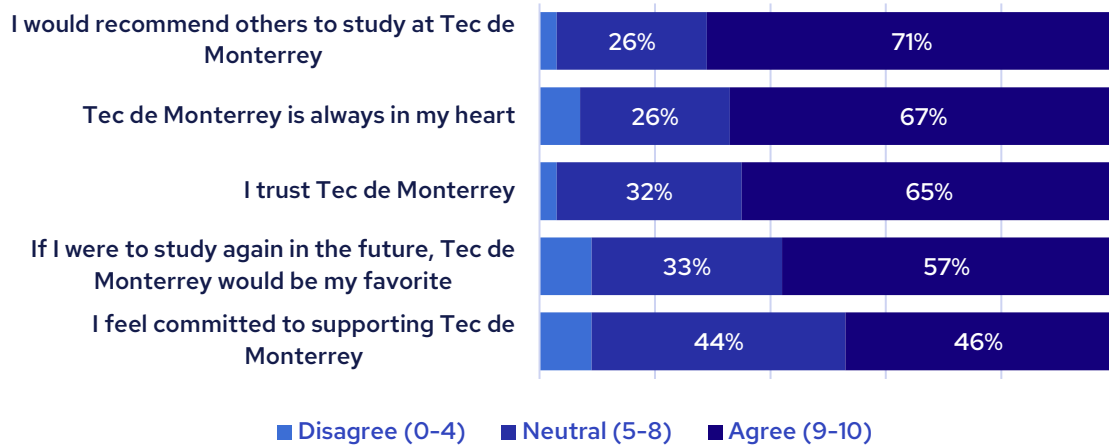


Chart 5.7. Rate how much you agree with the following statements.

Aside from the academic benefits of studying at Tec de Monterrey, many report social and relationship benefits from their time at the university. 49% met their current or former romantic partner while studying at Tec de Monterrey, 84% met one of their closest friends, and 28% met someone who became a partner in founding a company. These figures portray Tec de Monterrey as not only a learning place, but also as a meeting place where lifelong relationships – romantic, fraternal and professional, can be formed and incubated.

Human Flourishing

Survey respondents were asked to rate themselves on a scale of 1-10 on 12 items on the 'Human Flourishing Measurement Scale' developed by Tyler VanderWeele, from which alumni groups were scored across seven discrete domains of human flourishing:

Domains
Happiness and Life Satisfaction
Physical Health
Mental Health
Meaning and Purpose
Character and Virtue
Close Social Relationships
Financial and Material Stability

A detailed description of the methodology for this section can be found in Appendix D.

Overall, alumni achieved an average score of between 8 and 9 across most domains, with the exception of 'Financial and Material Stability', where an average score of 6.9 was achieved, reflecting superior performance in extrinsic, non-monetary outcomes.

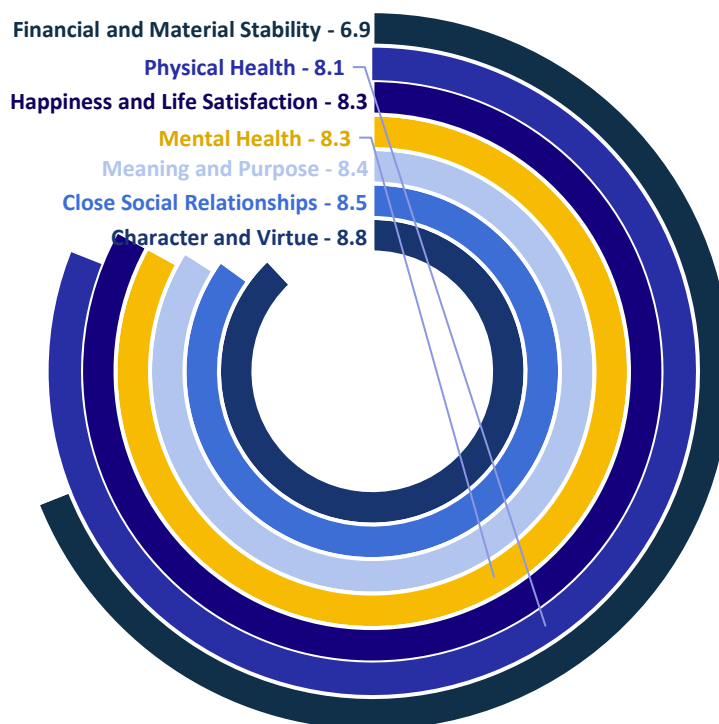


Chart 5.8. Human flourishing by domain.

There are almost no discernible differences by gender across each domain, with the largest being within 'Financial and Material Stability', where male alumni score an average of 7.0 and female alumni score an average of 6.8.

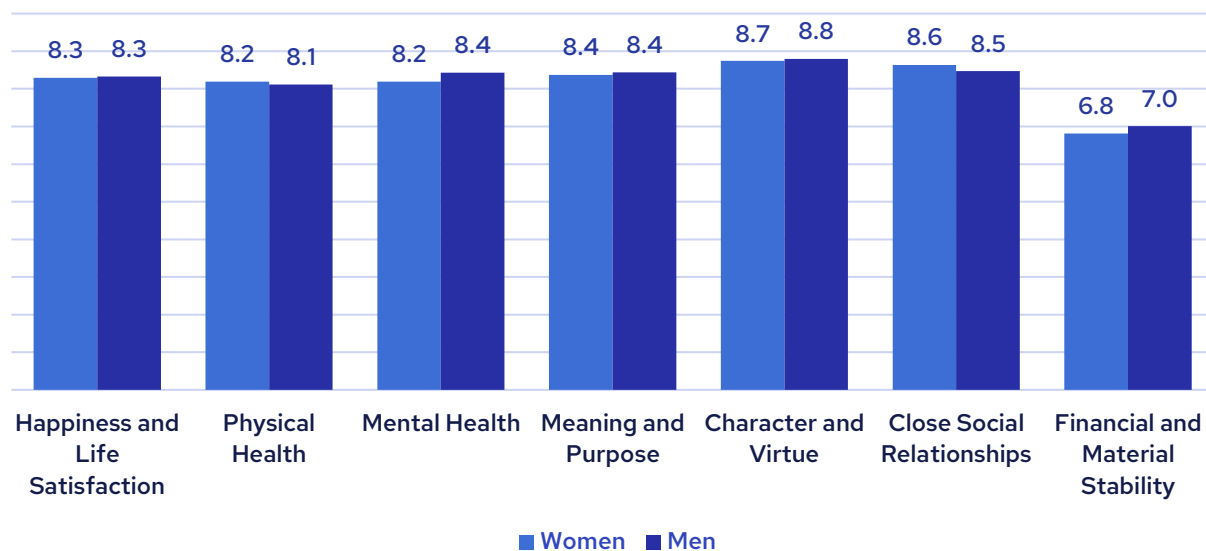


Chart 5.9. Human flourishing by gender.

Balbina María Treviño Garza

B.A. in Communications and Master in Communications (2007, 2012)

Football Club Women's Juárez Sports Director

"Tec helped me develop self-discipline and self-management competencies, and I implement them in my daily life. I try to teach others the working methodology I learned at Tec, as well as teamwork, being flexible, and empathetic with others."

However, there is a clear association between age and these human flourishing indicators – older alumni tend to score much higher across each indicator, with the gap as high as 1.5 points for 'Meaning and Purpose' (9.3 for those who graduated in the '60s, compared to 7.8 for those who graduated in the '20s).

Older cohorts even report higher scores for 'Physical Health' – while they are unlikely to be physically healthier than younger cohorts of alumni, they may feel better about their own *relative* health compared to their peers.

The gap is smaller in the 'Character and Virtue' domain, with a difference of only 0.2 between the youngest and oldest cohorts, suggesting that this component remains relatively stable throughout a lifetime.

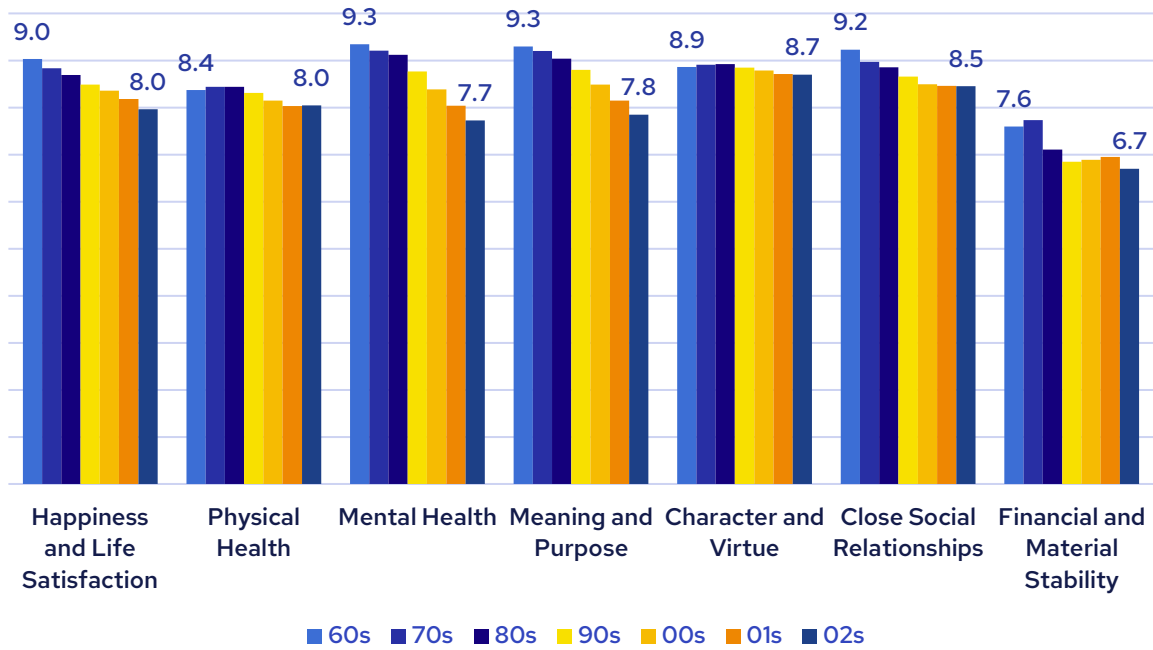


Chart 5.10. Human flourishing by graduation cohort.

Alumni with a graduate degree report slightly higher scores across all domains, when compared to those with an undergraduate degree only. This seems to be a result of the age difference between the two cohorts - the older alumni are more likely to have completed a graduate qualification in comparison to younger alumni.

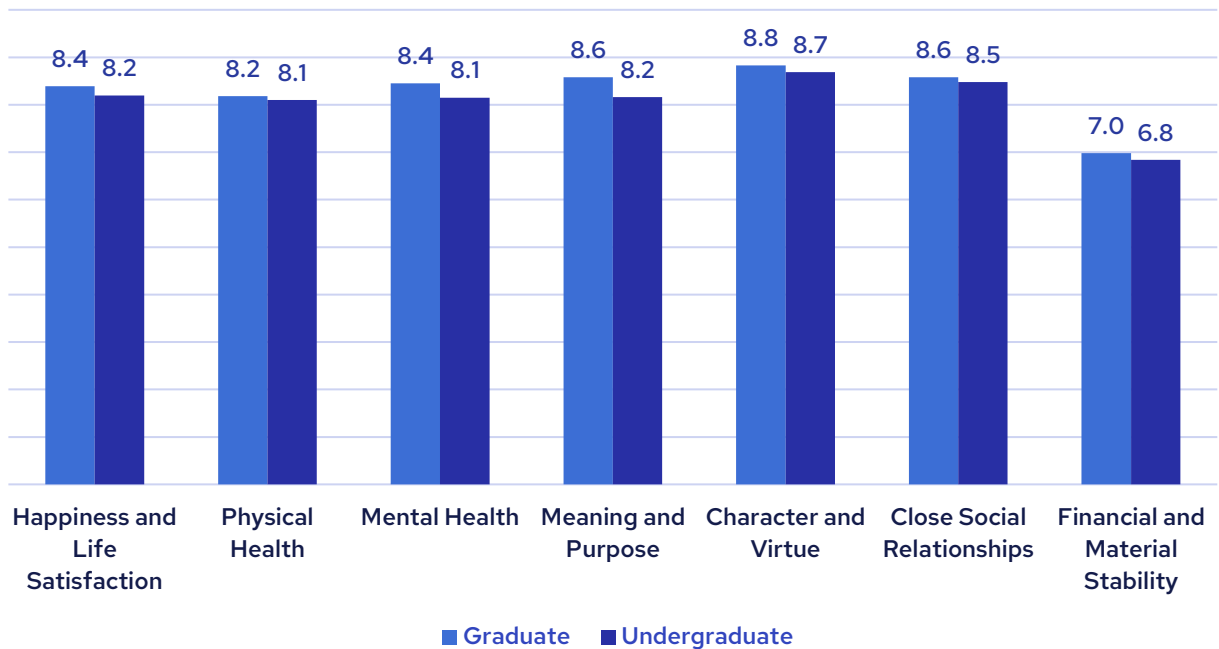


Chart 5.11. Human flourishing by highest level of education.

Those who have created at least one company also report a higher average score across all domains than those who have not founded a company, with the largest gap on the 'Meaning and Purpose' domain (+0.4 for business creators). Interestingly, scores are roughly equal on the 'Financial and Material Stability' domain, despite the high risk-reward ratio involved in entrepreneurship, compared to stable employment.

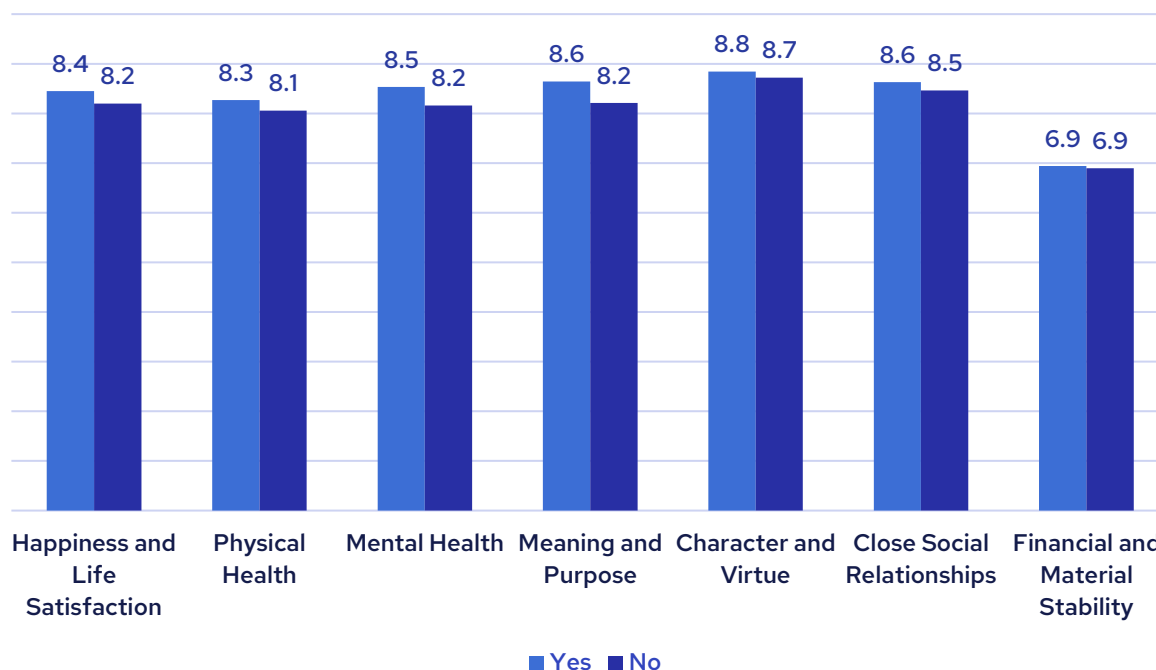


Chart 5.12. Human flourishing by whether they have founded a business.

Graduates who have been employed in management level positions also score higher on each domain, with the differences ranging from +0.1 (physical health) to +0.4 (mental health and meaning and purpose). This can be due to the fact that the former group is wealthier on average.

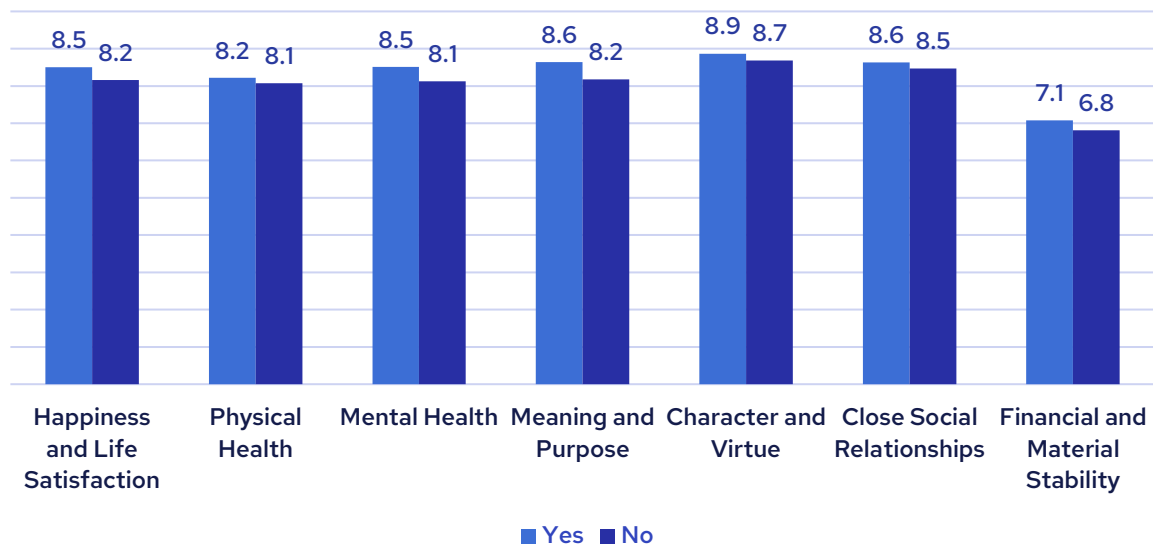


Chart 5.13. Human flourishing by whether they work in a management position.

Research on human flourishing indicates that Mexico tends not to score highly on the Financial and Material Stability domain (when compared to international peers), but scores very high on 'Meaning and Purpose', outscoring much larger countries like the USA and China. This trend was reinforced by the results observed among Tec de Monterrey alumni, with 'Financial and Material Stability' being the lowest indicator, and 'Meaning and Purpose' being among the highest, along with 'Close Social Relationships' and 'Character and Virtue'.

For further reference to this research and others conducted by Tec de Monterrey and other universities, please go to our website: <https://tec.mx/es/floreCIMIENTO-humano/entorno-para-floreCER/quieres-conocer-de-la-investigacion-sobre-floreCIMIENTO-humano>

Tec de Monterrey has made a positive contribution in the lives of nearly all alumni

In this survey, alumni were asked to provide a free-form text response to the question 'How has Tecnológico de Monterrey contributed to your life?'. To analyze the results of this question, a natural language processing (NLP) model was applied to the text to determine if the comments expressed a broadly positive or negative sentiment.

After filtering the ambiguous or too short responses, a total of 97% of the analysed comments expressed a positive sentiment about the contribution of Tec de Monterrey to their lives.

97%

of Tec de Monterrey alumni believe that the university has made a positive contribution to their life

Alumni Profile



Jorge Font Ramírez

*B.A. in Business
Administration
(1993)*

*Consultant and
Speaker*

"Tec gave me the opportunity to fall in love with studying. I've always liked studying, but at Tec, I found the excuse to do it. I believe that another very important thing Tec taught me that looking at things from different perspectives is also a tool. It gave me the confidence to know that I could rebuild the most complicated company, which is the reconstruction of the personal company, and go out into the world to help other people build and rebuild."

Jorge Font Ramírez works as the Director of Institutional Philosophy at the Teletón Foundation. He is a consultant at Síntesis S.C. in human process, and a lecturer in human development. He also serves as a counsellor for Unidos Cuernavaca A.C., Fundación Don Bosco A.C., and Stímulo A.C. He began practicing water skiing at the age of seven, breaking the national and Latin American records for figures four times and representing his country at the World Championship (London, 1987), achieving seventh place in the final round. On March 8 1988, he had a sports accident that left him permanently paralyzed from the chest down. In his words, since that day, his life "rolls on wheels". As a disabled athlete, he has won eight world championships, achieved four world records in the figures category, and been a seven-time world champion in slalom. He has been a consultant in human processes and a lecturer for over 30 years.

Unpacking some of the individual comments reveal that many graduates focus on the skills that the university has equipped to help them with their future careers:

"It gave me tools to develop my career and my life."

"Gave me the opportunity to be a great student abroad and to aspire to become a physician and scientist."

"Better prepared than other professionals both in technical and relational knowledge (i.e. understanding complexities, soft skills, world history, arts and literature)."

While others focused on the personal development and relationships they experienced while studying:

"It was an intimate part of me growing up as a young man. Made interesting connections and learned from different backgrounds."

"My life is better because I attended Tec de Monterrey, I met many of my friends there, including my husband. Tec de Monterrey is always in my heart."

Some mentioned that the prestige of a degree from Tec de Monterrey opened employment opportunities that would not have otherwise been available to them:

"Gave me access to good early job opportunities not available to graduates from other universities. Gave me grit and resilience."

"Solid education and prestige when applying for jobs. Skills and network to overcome challenges."

"A great network of professionals with similar interest. Also, the prestige to land job interviews."

And others mentioned a variety of other personal development benefits of studying at Tec de Monterrey:

"Tec de Monterrey has given me technical skills to solve different problems. I have acquired the ability to find root causes. Additionally, it gave me the opportunity and courage to experiment with things outside of my comfort zone like dancing and cooking lessons. Last but not least, I made a lot of friends from my classes, from football, from extracurricular activities and other events held in campus."

"Gave me the opportunity to develop very good connections, made really good friends and gave me the opportunity to obtain the necessary tools to develop my abilities and become a valuable professional in the real world. Taught me to always strive for better things and opportunities."

"It gave me the tools to be successful in my professional life, gave me also the best friends and values to live a wonderful life."

Tec de Monterrey must continue evolving to stay relevant in a rapidly changing world

Finally, alumni were asked for their feedback on where they would like Tec de Monterrey to focus energy over the coming years.

The responses cover a wide variety of themes, though there seemed to be particularly interest in innovation and entrepreneurship – particularly in relation to digital transformation and the rise of artificial intelligence:

"Prepare for the digital transformation. Provide a strong career focus on what is needed in that area, with meaningful degrees, revamp the classes to mimic what is happening in the work environment (remote work or hybrid). Prepare the students and professionals with the leadership/soft skills that are needed to be an agent of change, especially in our country."

"Incorporate elements of artificial intelligence in the activities and tasks of all professional careers, how to extract the maximum benefit from its use, and, where appropriate, the design and creation of new AI tools."

"Comprehend the profound changes expected in the realm of work due to emerging technologies like artificial intelligence and prepare future generations with the knowledge and skills to harness the opportunities arising from this significant paradigm shift."

The growing emphasis on climate change, sustainability and social impact was also a common sentiment:

“It has probably changed, and I hope so, but I would give much more importance to promoting the creation of social companies, impact investing and everything related to climate change has a great weight in the way in which the Tec educates its students.”

“Improvement or implementation of study areas related to climate change, renewable energy and technologies that improve the performance of such energy.”

Conclusion

Now in its 80th year, Tec de Monterrey remains on a path of continuous growth, establishing itself as one of the top institutions in Latin America and the global landscape of higher education. This has been achieved through a combination of knowledge generation, expanding academic research outputs and the cultivation of alumni who excel in innovation, creativity, and prolific publishing. Also by producing highly skilled, globally-minded and socially conscious graduates who consistently thrive in both corporate and non-profit sectors, spread their influence worldwide, and contributing to society through philanthropy and charitable endeavors.

The 2023 alumni survey continues the trends observed in the 75th anniversary survey conducted in 2018. Over the decades, there has been a significant demographic shift among Tec de Monterrey graduates. Today, they typically come from two-income families where both parents hold tertiary degrees, and tend to work in professional and “white collar” fields. This represents a stark change from the initial cohorts of graduates, who often came from single income families with mothers performing domestic duties. The growth of gender equality in the workforce and the classroom is also reflected in alumni statistics, with women now accounting for as much as 44% of Tec de Monterrey graduates in recent decades, an increase from the mere 12% prior to 1980.

Alumni are still seeking globally mobile careers, with 47% having worked abroad since graduating. While the proportion of recent graduates who have been able to work abroad has been temporarily curtailed by the COVID-19 pandemic, we can expect greater numbers of alumni to continue spreading their skills, expertise and experiences throughout the world in the upcoming years.

Tec de Monterrey remains as an engine room of Mexican economy. 43% of alumni have started a business since graduating, an estimated 134,000 of which are still in operation today, and 3.6 million jobs have been created in the for-profit and non-profit sectors in alumni-created organisations. For those who choose to work as employees rather than as entrepreneurs, typical salaries for Tec de Monterrey alumni exceed the national average and increase significantly with age and experience, providing a lucrative return-on-investment for those who study at the Institution.

Combining this entrepreneurial spirit with a keen social conscience, alumni are also prolific creators of non-profit organisations – most notably in the fields of education, philanthropy, culture and humanitarian aid. Over 32,000 non-profits have been created by alumni, generating an estimated 460,000 jobs. This commitment to doing good also manifests in charitable giving and philanthropy, with 49% of alumni making regular charitable donations, and an aggregate of 1.3 million volunteering hours undertaken by alumni each month. Tec de Monterrey alumni are now increasingly committing themselves to combating climate change and fostering environmental sustainability, which stands to be a significant social challenge for the coming years.

Research outputs have expanded dramatically at Tec de Monterrey over the past decades. This growth has solidified the Institution's position as a leading research entity in Latin America. Alumni, whether employed within the Institution or elsewhere, have proven to be prodigious publishers, with 42% having authored a publication of some sort, including books, articles, patents, or the creation of some other form of knowledge. In aggregate, this knowledge creation effort has expanded Tec de Monterrey's presence on the global stage, having established itself within the top 200 of the QS World University Rankings® – one of only seven institutions in Latin America to do so in the most recent rankings.

Above all, Tec de Monterrey has proven itself to produce happy, healthy, spiritually and socially content graduates, who on this survey reported high scores on the various domains of the 'Human Flourishing Index'. As the university continues to expand its impact and enhance its global presence, the ongoing objective remains the production of graduates who are not only professionally accomplished but also socially conscious and content with their lives.

In essence, this report serves as a celebration of Tec de Monterrey's remarkable achievements as a world-class institution, which leads the way in academic excellence and produces graduates who contribute to the society that embraces it. It also presents a call to action to continue building and expanding upon previous successes, to evolve and adapt to meet the challenges of the future, and to maintain the pursuit of excellence for the next 80 years.

Appendix A: Respondent Demographics

Gender

Male	59%
Female	41%

Age

25 and under	8%
26-30	23%
31-35	16%
36-40	16%
41-45	12%
46-50	11%
51-60	12%
Over 60	4%

Graduation Decade

'50s, '60s and '70s	1%
'80s	5%
'90s	14%
'00s	25%
'10s	43%
'20s	13%

Nationality

Mexico	96%
International	4%

Country of Residence

Mexico	81%
International	19%

School of Study

Architecture	6%
Social Sciences & Government	7%
Humanities and Education	7%
Engineering and Sciences	46%
Medicine and Health Sciences	2%
Business	32%

Appendix B: Extrapolation Methodology

In 2023, Tec de Monterrey sent its alumni survey to the total population of alumni graduating since the 1950s. As such the alumni survey was sent to 292,159 respondents in total. Of that total population of alumni, 25,358 completed the survey.

Because of this distinction between the survey sample and the total population of alumni that were sent the survey, the data was extrapolated to address some of the key questions posed by the research. The respondent sample was compared to the overall population of alumni against three key demographic measures that are likely to influence the response rate. These three measures consist of the school of graduation, gender and graduation cohort. In some cases, the three variables were used at the same time when slicing the data.

It was derived that the key influences in this dataset were the graduation cohort and school of the alumni. As such, we grouped each respondent in the total population based on their graduation cohort. The 1950s, 1960s and 1970s graduation cohorts were grouped together since these responses were smaller than the following decades. Meanwhile, those graduating in 2020–2022 were grouped into the “2010s” cohort in order to achieve a robust sample size.

Each respondent was also grouped according to their school of study. *Graduation cohort and school of study* were then combined to group each respondent in the total population into 30 distinct groups. This methodology was then followed for the survey sample whereby the same group characteristics were retained.

The methodology is a replication of the one performed for the *Global Economic & Social Impact of Tec de Monterrey Alumni – 75th Anniversary Report*, published in 2018.

Through these groupings, we were able to create two variables for scaling the data:

1. **Scaling Factors:** To examine whether there are any distinctions or correlation between the alumni sample and the total population, we extrapolated the data using a scaling factor. This scaling factor was derived for each unique respondent based on their assigned group by graduation cohort and study. The scaling factors were used to provide estimates of economic indicators, such as companies founded, and revenue generated.

Table A1. Scaling Factors

	Architecture	Social Sciences & Government	Humanities & Education	Engineering & Sciences	Medicine & Health Sciences	Business
1950 – 1979	25.75	17.84	26.27	21.92	0.00*	35.10
1980 – 1989	20.72	15.69	13.39	11.70	11.00	19.93
1990 – 1999	15.67	15.19	11.36	11.63	10.89	17.16
2000 – 2010	15.45	12.89	15.80	11.95	14.46	19.28
2011 – 2022	10.44	9.51	10.79	8.66	9.92	12.44

*No responses received for this group

2. **Survey Weights:** Survey weights were constructed and applied to questions which were reported as a percentage of the total sample. The survey weights are designed to preserve the survey sample size, while smoothing the composition of each of the 30 groups to their true value within the survey population.

Table A2. Survey Weights

	Architecture	Social Sciences & Government	Humanities & Education	Engineering & Sciences	Medicine & Health Sciences	Business
1950 - 1979	2.14	1.48	2.18	1.82	0.00	2.92
1980 - 1989	1.72	1.30	1.11	0.97	0.91	1.66
1990 - 1999	1.30	1.26	0.94	0.97	0.90	1.43
2000 - 2010	1.28	1.07	1.31	0.99	1.20	1.60
2011 - 2022	0.87	0.77	0.85	0.69	0.82	0.92

The scaling factors were used to generate the following indicators:

1. **Number of for-profit companies and non-profit organizations:** The for-profit companies and non-profit organisations founded by Tec de Monterrey’s alumni were summed and then segmented into the 30 groups according to the founder’s graduation cohort and school of study. Consequently, each cell was then multiplied by the scaling factor explained above. This yielded an overall estimate of 220,089 Tec de Monterrey alumni-founded for-profit companies and 31,647 non-profit organizations. In this report, the figures have been rounded to the nearest thousand.
2. **Revenues and employment:** As part of the alumni survey, entrepreneurs were asked to provide information in terms of the revenues of their for-profit companies. This revenue information was provided in constant pesos at Q1 2023 purchasing power. This figure was then extrapolated via scaling factors once again with the result that Tec de Monterrey alumni-founded for-profit revenues is around \$260 million USD per year. In order to reduce the influence of outliers on the overall figures, per-company revenue was capped at two standard deviations greater than the mean value for companies created by alumni within the same scaling group.

Using our extrapolation methods, we were able to derive the employment generated by alumni-founded for-profit companies and non-profit organizations. Utilizing scaling factors, it is estimated that Tec de Monterrey alumni that founded for-profit companies generated a total of 3.2 million jobs.

Appendix C: Sentiment Analysis Methodology

A Natural Language Processing (NLP) model was applied to one open-text question in the survey, which asked alumni:

'How has Tecnológico de Monterrey contributed to your life?'

To process this data, the following steps were performed:

1. Each comment was analysed by the spaCy language detector model to determine whether it had been written in English or Spanish.
2. The English and Spanish comments were separated, and each analysed by the *pysentimiento* package, using separate models which had been pre-trained for each language.
3. Each comment which met the minimum length threshold of 20 characters was assigned a sentiment of 'positive', 'neutral' or 'negative' by the model.
4. The English and Spanish comments were re-combined and an overall sentiment score calculated as:

$$\text{count(positive)} / (\text{count(positive)} + \text{count(negative)})$$

The results indicated that approximately 98% of valid comments expressed a positive sentiment, with no statistically significant difference in sentiment between English and Spanish responses.

Appendix D: Human Flourishing Methodology

The alumni will rate themselves on 12 items of the Human Flourishing Measurement Scale developed by VanderWeele (2017). These items were evaluated with scores from one to ten. The 12 items and domains considered are listed in the next table:

Domains	Questions/ Statements
Happiness and Life Satisfaction	In general, how happy or unhappy do you usually feel? Where 1 = Extremely unhappy and 10 = Extremely happy
	Overall, how satisfied are you with life as a whole these days? Where 1 = Not satisfied at all and 10 = Completely Satisfied
Meaning and Purpose	Overall, to what extent do you feel the things you do in your life are worthwhile? Where 1 = Not at All Worthwhile and 10 = Completely Worthwhile
	I understand my purpose in life. Where 1 = Strongly disagree and 10 = Strongly agree
Mental and Physical Health	How would you rate your overall mental health? Where 1 = Very poor mental health and 10 = Excellent mental health
	In general, how would you rate your physical health? Where 1 = Very poor physical health and 10 = Excellent physical health
Character and Virtue	I always act to promote good in all circumstances, even in difficult and challenging situations. Where 1 = Not true about me and 10 = Completely true about me
	I am always able to give up some happiness now for greater happiness later. Where 1 = Not true of me and 10 = Totally true of me
Close Social Relationships	I am content with my friendships and relationships. Where 1 = Strongly disagree and 10 = Totally agree
	My relationships are as satisfying as I would want them to be. Where 1 = Strongly disagree and 10 = Totally agree
Financial and Material Stability	How often do you worry about being able to meet normal monthly living expenses? Where 1= Worry all of the time and 10 = Do not ever worry
	How often do you worry about safety, food, or housing? Where 1 = Worry all the time and 10= Do not ever worry

This report shows the results for five domains and two individual items. The five domains considered were happiness and life satisfaction, meaning and purpose, character and virtue, close social relationships, and financial and material stability. The new variable for the domain was calculated for every alumnus considering the mean between the two items in the domains. The questions for mental and physical health were considered individually following the literature. The indicator for every domain or item was calculated with the scaling factor in every case and the average relative to the total population of alumni.

For more information about Human Flourishing Measurement Scale see: VanderWeele, T. J. (2017). On the promotion of human flourishing. Proceedings of the National Academy of Sciences, 114(31), 8148-8156.

Appendix E: Project Team

QS Quacquarelli Symonds Team

Dr Shadi Hijazi

Shadi joined QS in 2010. He has been leading and contributing to consulting engagements in universities around the world, particularly focusing on performance improvement in strategy, internationalisation, research and marketing and branding. His work includes projects with universities in worldwide. He holds a PhD and a Master's degree in Business Administration from Kobe University in Japan; and a postgraduate diploma in Marketing and Bachelor in Economics (Business Administration) from Damascus University. His postgraduate studies focused on the interaction between institutional performance and knowledge management tools. Shadi is an experienced management and marketing trainer. He developed course materials; taught management and digital marketing courses (CIM, CAM, DMI); and trained professionals in Management, Marketing and Business Fundamentals

Nilly Castano

Nilly is Consultant at QS. Prior to joining QS in 2021, Nilly worked in strategic leadership roles within the higher education sector in Germany and Colombia for over 10 years. Nilly's expertise lies in Product Management for QS Analytics; Academic Programmes Management – Curriculum Planning, implementation, quality assurance and evaluation; Online learning – building, maintaining, and improving e-learning educational offer and Global Engagement, and Sustainability. Nilly holds a MA Latin

American Studies – Political Sciences (Sorbonne Nouvelle Paris III), and a BA in International Relations (HEI - Paris).

Gabriel Maschiao da Costa

Research Manager & Insights Specialist at QS, Gabriel oversees the reputation components of every ranking evaluation at QS from survey design, data acquisition, data analysis, to the dissemination of findings and key insights.

Gabriel has a vast experience in both quantitative and qualitative research, specialized in the fields of Psychology and Behavioral Economics. Having a degree in Clinical Psychology at PUC-SP and a MsC in Economic and Consumer Psychology at the University of Leiden.

Alex Berka

With over ten years of experience working in market research, Alex is the Insights Manager at QS and oversees the analysis and design of a range of research projects they conduct. Alex has previously been part of a number of market research agencies, working with a diverse range of clients across multiple sectors. Since joining QS in 2017, he has managed the International Student Survey - the world's largest survey of pre-enrolled international students, and the Employers Survey - the world's largest survey of graduate employers. Alex's work on these surveys focuses on bringing the student and employer viewpoints to life, ensuring their voices are heard across the

sector and highlighting how their expectations align (or do not align) with those of universities. He is well versed in drawing actionable insights from surveys and the findings of his analysis have been covered in a variety of industry publications, including PIE news and Study International, as well as wider news publications, including The Financial Times.

Chris Strods

Chris works as Senior Insights Specialist at QS Quacquarelli Symonds, producing market research and institutional performance analytics projects for higher education institutions across the world. He specializes in end-to-end management of market and social research projects, and in the data-driven measurement and

evaluation of institutional performance. Chris has bachelor's degrees in computer science and social science from RMIT University, Australia, and a master's degree in data science from the University of New South Wales, Australia.

Shukri Abdullah

Shukri Abdullah is a Digital Content Specialist. He graduated from Universiti Putra Malaysia with a bachelor's degree in English linguistics

who produces insights pieces for internal and external stakeholders. He also collaborates on bespoke client reports and other deliverables, contributing knowledge in copywriting, social media and website

Tec de Monterrey Team

Neil Hernández Gress

Dr. Neil Hernández Gress, BS '93, MSc '95 and PhD '98, is Associated Vice Rector for Research at Tec de Monterrey. His research interests are: Data Science, Machine Learning, Neural Networks and several aspects of Artificial Intelligence. For the last 20 years, he has developed theoretical methods and applied methodologies for a number of applications in engineering, finance and health. He is Professor of Artificial Intelligence, Neural Networks, Data Science and Innovation methodologies for more than 20 years. He is member of the National Research Council since 2000. He is the National Contact Point (NCP-ICT) in Mexico named by CONACYT and the European Commission. He is the author of more than 50 Research Papers and the recipient of funded research projects in more than 20MUSD. He is also an advocate for innovation as a resource for wealth creation.

Claudia Quintanilla

Claudia María Quintanilla Domínguez, holds a Ph.D. from Tulane University and currently serves as a Research Professor at EGADE Business School. Her expertise lies in the realm of consumer behavior, where she conducts research contributing to the academic discourse. Dr. Quintanilla's work has found its way into reputable journals, including Qualitative Market Research, International Journal of Consumer Studies, Journal of Consumer Marketing, and Journal of Current Issues & Research in Advertising, showcasing her commitment to advancing the understanding of consumer dynamics. Acknowledged for her scholarly achievements, Dr. Quintanilla received the prestigious Raúl Conde Prize

for Best Presentation at the Congress of the Academy of Administrative Sciences (ACACIA-2014). Furthermore, her dedication to excellence has earned her a place in the "Distinguished Professor Circle of Tecnológico de Monterrey" in both 2021 and 2022. Beyond her academic contributions, Dr. Quintanilla has over 20 years of experience as a freelance consultant in Market Research. Within EGADE Business School, she has held key leadership roles, serving as the Chair of the Marketing and Business Intelligence Academic Department (2018-to date) and as the Director of the Accreditations and Rankings Department for 5 years. Her multifaceted career reflects a deep commitment to both scholarly pursuits and practical applications within the dynamic field of consumer behavior and market research.

César Godínez Rodríguez

César Godínez is Manager of Alumni Engagement and Leadership at Tec de Monterrey. Since more than 20 years ago, he has collaborated in different areas of the institute, both in the teaching and administrative areas. His areas of expertise include entrepreneurship, capital funds for the development of startups and alumni engagement.

Edgardo Arturo Ayala Gaytán

Edgardo Arturo Ayala Gaytán holds a PhD from Tulane University. His research has focused on behavioral economics, economic development and public policy. In this regard, he has published more than 50 articles in indexed journals in economics, consumer behavior, psychology, health and gender economics. Professor Ayala is a member of the

National System of Researchers, Level 2 at CONACYT (Mexico) since 2020. He has been awarded with the first place in the Public Finance Award 2022, and the second place in this research contest in 2016 granted by the Centre for Public Finance of the House of Representatives in Mexico; the Raúl Conde Hernández Prize 2014 awarded by the Academy of Administrative Sciences and the Social Science Research Award from the Autonomous University of Nuevo León (UANL) in 2020 and 2009. He also obtained honorific mentions in the Víctor L. Urquidí Prize (2011) and the Rómulo Garza Award (2013). He led the UANL Economic Research Centre and the Mexico-United States-Canada Studies program of the Centre for Strategic Studies of the ITESM. Professor Ayala is an associate professor at the School of Social Sciences and Government of the Tecnológico de Monterrey.

Érika Alejandra Juárez Ibarra

Érika Alejandra Juárez Ibarra has more than 15 years of experience in the development and administration of Research Administration Systems. She is currently the Director of Planning and Strategic Projects of the Operations Directorate at the Vice-presidency of Research, Tecnológico de Monterrey. She has a degree in Computer Science from the Autonomous University of Nuevo León and a master's degree in Information Technology Management from Tec de Monterrey. Erika is an expert in databases, business intelligence, and administration of ICT projects, and is also a teacher at the EGADE Business School.

Héctor Ceballos

Hector G. Ceballos is director of the Living Lab & Data Hub of the Institute for the Future of Education at Tecnológico de

Monterrey. Previously, he was head of the Scientometrics office at the Tec's Research Vice-Rectorate. He has a master and a PhD in Intelligent Systems by Tec de Monterrey. Hector Ceballos is also ascribed to the research group on Advanced Artificial Intelligence and he is a member of the Mexican Research System. He is the author of more than 60 papers in journals and conferences. His main research interests include Data Science, Social Network Analysis, Agent Theory, and Natural Language Processing, applied to Scientometrics and Learning Analytics.

Nathalie Galeano Sanchez

Nathalie Galeano is Director of Research Intelligence at Tecnológico de Monterrey, responsible for analysing research trends and the participation of the university in international research rankings; the analysis of these two insights results in internal reports that support the process of developing research strategies at the university. She served as Director of the Centre for Innovation and Technology Transfer (CIT2), and also coordinated Tecnológico de Monterrey's Incubation Cell Program, promoting the creation of technology-based start-ups by researchers and graduate students. As Director of the Research Internships Program at Tecnológico de Monterrey from 2010 to 2013, Nathalie integrated undergraduates from different majors into research groups with faculty on campus as well as abroad through collaborative research exchanges. She is the (co-)author of more than 30 papers in journals, book chapters and international conferences.

Maria Elizabeth Avila Lira

Maria Elizabeth Avila Lira has 13 years of experience at Tec de Monterrey, since 2010 as a Project Specialist. She is

responsible of monitoring key performance indicators of students and alumni at Tec. She has a bachelor's degree in Computer Systems Engineering. Some of her responsibilities includes: the design of instruments for evaluation of the students and alumni perception, the definition of strategies for monitoring alumni information and impact; all these information provide analysis and statistical reports that support the decision-making process at the university. One of the main studies that she deploys is the follow-up of alumni impact at different stages after graduation (3 months, 1, 5, 10, 20 and 25 years), the results of these studies helps the institution to understand alumni professional career development and their

satisfaction with Tecnológico de Monterrey.

Sofía Ramos Pulido

Sofía Ramos Pulido has a bachelor's degree in Statistics from Universidad Autónoma Chapingo (UACH) and a master's in Probability and Statistics from CIMAT. She is currently a Ph.D. student of Computer Science at the Tecnológico de Monterrey. She has been a Professor of Probability, Statistics, Mathematics, and Stochastic Processes for over 5 years. Her research interests are Data Science, Statistics, Machine Learning, and Deep Learning, with a passion for leveraging her research to make a positive social impact.

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