Voices of Change: Generative AI and the Transformation of Work in Latin America

2024

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Table of Contents

Executive Summary

The present study aims to analyze the employment impact of the adoption of Generative Artificial Intelligence (GAI) in Latin America through an exploration of five countries in the region—Mexico, Chile, Colombia, Argentina and Costa Rica—and a focus on sectors considered to be among the most affected: call centers and customer service, graphic design, art and photography, copywriting and journalism, and software development. Over 60 interviews were conducted with workers, businesspeople, union leaders, and representatives of business chambers.This research reveals the emergence of a complex and multifaceted transformation of labor, which, up to this point, does not fully align with the prevailing studies in the literature, particularly those based on exposure level analyses that assess how various tasks within job roles may be impacted by GAI.

Interviews and findings from various sources indicate that while the region is still far from widespread adoption, GAI is already beginning to redefine tasks, reconfigure certain productive sectors, and, above all, generate new tensions between the technology's potential and the risk of employment precarization.

One key conclusion that emerges from the research is the discrepancy between the widespread fear of massive job displacement due to GAI and the empirical evidence collected across the sectors analyzed. While occupational exposure studies suggest significant vulnerability in certain roles, the concrete experiences of implementation reveal a more nuanced and complex picture. Some sectors, such as software development, stand out as areas where indicators predict high levels of replacement, yet in practice what is observed is complementarity.

There is not yet sufficient evidence to confirm a massive displacement of jobs, but there is clear evidence of process modifications and the emergence of new skill expectations. This redefinition of tasks has, in some cases, led to increased productivity expectations from employers, particularly in sectors such as software, multimedia design, communications, and customer service.

It is also evident that larger companies are at the forefront of GAI implementation—often driven by employees themselves who integrate the tools to boost efficiency independently of formal company strategies. In contrast, small and medium-sized enterprises face greater limitations in terms of knowledge, financial resources, and technical capacity.

Training is generally happening on an individual level, without coordinated support from either companies or the state, widening the gap between workers with higher levels of cultural and digital capital and those with fewer resources. This bottom-up approach to upskilling marks a departure from previous technological transformations, which were typically led by companies from the top down.

It is clear that labor market vulnerabilities in Latin America predate the emergence of GAI, though views on its potential to improve or worsen these conditions vary widely. On one hand, unions, regulatory frameworks, and education systems are struggling to keep pace with the rapid technological shift, further deepening the structural weaknesses of regional labor sectors. While the business sector tends to highlight efficiency gains and cost reductions, unions are increasingly concerned about the risk of job precarity. This divergence in perspectives is one

of the key findings of this study and represents a major challenge for building coordinated implementation strategies.

The analysis also challenges the dominant narrative that reskilling is the primary solution to the disruptions caused by GAI. While ongoing training is undoubtedly important, the interviews reveal the practical limits of this approach: not all workers have the same ability to reskill, facing barriers such as lack of time, financial constraints, age, unequal access to digital infrastructure, or family responsibilities — particularly affecting women. Moreover, even when reskilling is successful, it doesn't necessarily guarantee decent working conditions.

GAI might represent a real opportunity to positively transform labor markets in Latin America. However, without coordinated action, it could deepen existing inequalities. The region faces both the challenge and the opportunity to build its own model of technological integration — one focused on inclusion, equity, and social sustainability.

Ultimately, it will be social, institutional, and public policy decisions that shape how GAI is implemented across the region. These decisions must include both incentives — such as access to education, digital tools, infrastructure, and support for responsible adoption — and smart, ethical, and adaptable regulation that protects workers' rights without stifling innovation.

I. Introduction

We've been living with artificial intelligence in our daily lives for decades. Complex automation processes are nothing new, especially in the workplace.

Historically, automation processes introduced during successive industrial revolutions in the past century have replaced jobs but also created new ones. A clear example is the case of "human calculators," who became the first programmers with the advent of computers (Grier, 2005). In the long run, there has been no net loss of employment due to automation (Autor, 2015); instead, broader macroeconomic changes have played a more significant role (Mattoso, 2000). However, automation has had strong sectoral impacts, driving shifts in production structures and leading to difficult transition periods where certain industries and workers have been significantly affected.

However, the current automation process is not entirely comparable to those of the past. Generative artificial intelligence (GAI) introduces new analytical components that make it unique in its impact on the world of work. Its ability to replace cognitive and creative tasks—often with higher added value—presents new challenges. Is GAI merely a tool that will have effects similar to previous waves of automation? Or is it an unstoppable force driving job destruction and radical productive transformation? The answer is likely neither one nor the other.

In this context, this study aims to explore the sector-specific impacts of generative artificial intelligence (GAI) in Latin America. Five countries were selected for analysis—Mexico, Chile, Colombia, Argentina, and Costa Rica—representing dynamic markets that lead the region and set trends in the adoption of technology in the labor market.

The study focuses on four sectors: Call Centers and Customer Service, Graphic Design, Art and Photography, Copywriting and Journalism, and Software Development. These industries are among the most heavily impacted by GAI-driven tools. The integration of GAI into the service sector—particularly in these fields—raises both concerns and opportunities, depending on the perspective. While it poses challenges, it also holds promise for productivity gains. Understanding the current state of GAI adoption in these industries can help guide the development of transformative public policies that steer change in the right direction.

This research is framed within the Global Partnership for AI (GPAI). GPAI is a multilateral initiative that aims to bridge the gap between the theory and practice of Artificial Intelligence (AI) by supporting cutting-edge research and applied activities on AI-related priorities. Built around a shared commitment to the OECD Recommendation on Artificial Intelligence, GPAI brings together committed minds and experts from science, industry, civil society, governments, international organizations and academia to foster international cooperation.[1]

GPAI has commissioned this study from the Sadosky Foundation to begin assessing the transformations taking place in the region. The goal is to promote high-quality public policies that help address the challenges posed by generative artificial intelligence.

[1] For more information visit: https://legalinstruments.oecd.org/en/instruments/OECD-LEGAL-0449

We will begin by examining the debates that precede this study, considering insights from scholars and key institutions in the field. Following this, we will provide an overview of the labor markets in the selected countries. Next, we will analyze the trends emerging from the introduction of GAI across different sectors, highlighting the nuances and variations observed between them. Finally, we will present current trends and conclude with recommendations aimed at mitigating potential negative impacts while maximizing the positive ones.

For this study, interviews were conducted with representatives from business chambers, entrepreneurs, microenterprise owners, journalists, editors, software developers, graphic designers, marketing managers, lawyers, and union leaders, among others. While this qualitative exploration is documented in detail in Section IV, illustrative testimonies are interspersed throughout the text with the explicit aim of giving prominence to the voices of those directly involved.

II. Background

Since their inception, digital technologies have had a distinctive impact on the labor market, proving most effective in tasks that can be programmed using explicit and standardized rules (Autor et al., 2003). This phenomenon has played out in two main areas. On one hand, in office work, computers have replaced or complemented routine cognitive tasks such as data entry, document filing, and basic accounting. On the other hand, in the industrial sector, automation and robotics—through computer numerical control (CNC) systems—have taken over repetitive physical tasks, particularly on assembly lines.

Thus, studies focusing on the impacts of digital technologies on the labor market (Autor, Katz, and Krueger, 1998; Autor et al., 2003) concluded that these technologies led to a decline in demand for workers performing "routine" and low- to medium-skilled tasks (Acemoglu and Autor, 2011). At the same time, they increased productivity and the demand for workers with skills complementary to digital technologies, such as programming, writing, data analysis, research, organizational management, and all types of jobs involving non-routine cognitive tasks (Autor, 2013).

In the second decade of the 21st century, this approach—known as the task-based approach—became the framework for studies focusing on the impacts on the labor market, no longer of digital technologies in general, but specifically of artificial intelligence (AI) (Frey and Osborne, 2013).

The initial studies in this line of research relied on estimating the potential impacts of a broad and loosely defined set of AI-driven technologies, such as motion robotics, machine learning algorithms, computer vision, autonomous vehicles, and the Internet of Things (Frey and Osborne, 2013; Autor, 2014; Arntz et al., 2016). While these studies highlighted AI's potential to cause disruptive effects on the labor market, they also inherited a set of limitations that constrained the analysis. On one hand, technologies affecting digital jobs and those affecting physical jobs were treated in the same way. The effects of widely adopted technologies, such as machine learning algorithms, were conflated with those of less prevalent or emerging technologies, like autonomous driving. Additionally, it was overlooked that some of these technologies had very low barriers to access and use (e.g., Large Language Models), while others faced significant barriers (e.g., autonomous driving, motion robotics, etc.). As a result, despite their widespread influence and continued relevance, these studies produced estimates that were not only highly varied but also inconsistent with one another, offering little practical utility for policy recommendations.

"We see this technology as a co-pilot... with humans still at the center. We're in the driver's seat, but our ability to get things done is being enhanced by this technology."

Business representative from a multinational customer service company
with presence across the region

1. Exposition Levels

For several years (Brynjolfsson and Mitchell, 2017; Felten et al., 2021), and accelerating rapidly with the release of ChatGPT in November 2022, there has been a growing body of

literature focused on estimating and analyzing the occupational exposure of labor markets to a specific category of AI technologies: Large Language Models (LLMs) and, more broadly, GAI (Eloundou et al., 2023; Felten et al., 2023; ILO, 2023). This approach is now widely used to examine labor markets across different countries, sectors, and occupations. Unlike earlier literature, the key insight of this new research is that GAI primarily impacts a wide range of jobs intensive in "non-routine" cognitive tasks—such as software programming, creative writing, research, graphic design, management, and others—that were previously thought to be "shielded" from the effects of earlier waves of digital technology adoption.

This new literature generally agrees on the direction of the impacts, though there are disagreements regarding their magnitude, as well as the distribution of complementarity effects (sometimes referred to as "augmentation"), that is, scenarios where GAI complements human labor by simplifying tasks, increasing productivity, or creating new types of tasks, as opposed to substituting human labor (Eloundou et al., 2023; ILO, 2023), as will be discussed later.

"The company I work for says they plan to cut 30% of the workforce in the next 5 years."

Union representative from the customer service sector in Colombia

"It's not AI that's going to replace us, it's the people who know how to use AI who will replace us."

Business representative from the software sector in Chile

Following the release of ChatGPT, the pioneering study by Eloundou et al. (2023), focused on exposure to GAI in the U.S. labor market, estimates that 80% of the U.S. workforce could have at least 10% of their tasks exposed to GAI, while 19% of workers might face the risk of displacement in at least 50% of their tasks due to LLMs. Sponsored by OpenAI and using GPT-4 as a research assistant for its estimations, the study concludes that approximately 15% of all worker tasks in the United States could be completed significantly faster with the same level of quality if an LLM was employed. Once again, this occupational exposure to GAI is higher for high-wage, highly skilled professional occupations. However, the approach of Eloundou et al. (2023), while groundbreaking, has limitations: it focuses exclusively on the U.S. labor market and does not distinguish between automation exposure (i.e., workforce replacement) and complementarity or augmentation exposure—scenarios where GAI complements human labor by simplifying tasks, increasing productivity, or creating new types of tasks.

Building on the approach and methodological framework of Eloundou et al. (2023), Gmyrek, J. Berg, and Bescond (ILO, 2023) analyze global exposure to Generative AI (GAI), distinguishing between low- and high-income countries. However, in this study, the researchers separately examine the effects of automation and augmentation, finding that the latter outweighs the former in both low- and high-income countries. In their aggregate estimates, they find that 31.5% of global employment (1.055 billion workers) corresponds to occupations that could be exposed to GAI, with varying distributions between automation, augmentation, and what they call the "big unknown"—occupations in an intermediate and uncertain situation that could evolve toward either automation or augmentation. According to their estimates, 13% of global employment (427 million workers) is trending toward augmentation, while 2.3% (75 million workers) could face potential exposure to automation. On the other hand, 16.2% (553 million workers) fall into the uncertain category of the "big unknown."

In high-income countries, 5.5% of total employment is exposed to automation and 13.4% to augmentation, while in low-income countries, the percentages are 0.4% and 10.4%, respectively. Additionally, they find that the largest proportion of tasks exposed to AI technology are administrative jobs, where most tasks fall into medium to high exposure levels. They also note that GAI technologies will disproportionately affect women, as they are more likely than men to be employed in high-exposure occupations, such as administrative roles. However, the authors clarify that these analyzed effects do not account for infrastructural limitations in low-income countries, which could hinder the potential use of GAI and likely widen the productivity gap.

"Regarding AI, I'd rather it be used as a complement, because in the end it can generate something generic that another company might use the same way. That's why I always add my personal intervention — I use it as a tool, but always with my own touch."

Business representative from the advertising copywriting sector in Costa Rica

Precisely this last point is addressed in the recent work by Gmyrek, Winkler, and Garganta (ILO, 2024). This is, in fact, the most recent—and most relevant to our study—work within the mainstream literature that adopts the task-based approach to estimate occupational exposure to GAI. Building on the work of Gmyrek, J. Berg, and Bescond (ILO, 2023), the authors study the exposure of labor markets in Latin America and the Caribbean (LAC) to Generative AI, again distinguishing between augmentation, automation, and the "big unknown." However, the key contribution of this study is that it adapts the measures of job exposure to GAI to the different contexts of developing countries based on a measure of the digital divide, estimating the availability or lack of computer access in the workplace for exposed occupations. In this way, they identify situations where even workers in occupations expected to benefit from GAI cannot do so due to inadequate access to digital infrastructure.

Based on this, they first find that between 30% and 40% of employment in Latin America and the Caribbean falls into some category of exposure to GAI. The proportion of jobs exposed to automation is relatively small but not trivial: between 2% and 5% of total employment. At the same time, the proportion of jobs that could benefit from a productive transformation with GAI is consistently higher than those at risk of automation across all LAC countries, ranging between 8% and 12% of employment in all countries. This is particularly the case for jobs in education, healthcare, and personal services. On the other hand, they find that urban jobs requiring higher education, located in the formal sector, and held by individuals with relatively higher incomes are more likely to be exposed in any scenario. They also identify a gender bias in the impacts: women show higher exposure than men to the effects of automation, linked to the types of jobs they occupy. Crucially, they highlight that nearly half of the positions that could potentially benefit from productivity improvements through augmentation are hindered by digital infrastructure deficiencies that prevent them from realizing this potential: 6.24% of jobs held by women and 6.22% of jobs held by men are affected by these deficiencies.

"From my experience, I see it positively—it has really lightened my workload considerably. There are many times when you're just not feeling particularly inspired or you need keywords to develop certain ideas, and in that sense, the tool has been a great help."

Worker from the journalism sector in Costa Rica

"At first, it's really overwhelming because until you figure it out, it causes a lot of stress. Then, any agility it might give you just gets canceled out because they pile on more tasks — so it ends up balancing out. It's not like you say, 'I'm working faster, I'll get a few free hours.' No. Companies already know this will save you time, so they're just giving you more work."

Worker from the journalism sector in Mexico

Finally, they find that the majority of exposed jobs face the "big unknown," primarily in customer service-oriented sectors (retail, commerce, hotels, restaurants, etc.). This category of the big unknown encompasses the largest proportion of employment (between 14% and 21%), underscoring that while the concept of occupational exposure has been useful for characterizing the potential situation of various labor markets in relation to GAI, the precise effects are difficult to predict, and the estimates only indicate a general trend rather than predicting actual processes of adoption and impact. We will delve deeper into the scope of these potential impacts on Latin American labor markets in the section dedicated to analyzing the impact estimates for the countries selected in this study.

2. Studies on effective uses in the workplace

While the mainstream economic literature on the impacts of GAI on the labor market has focused on estimating "task exposure," that is, the proportion of tasks that AI could perform autonomously in each occupation, another strand of recent literature seeks to evaluate the real-world impacts of introducing GAI in various work environments. These studies, though with variations, find that the use of such tools can increase labor productivity and shorten the learning curve in exposed occupations. An interesting aspect of this literature is that several of these studies have focused on the very occupations we examine in this work.

A relevant case study in this regard is software programming and development, highlighted by the literature as one of the occupations most exposed to the impacts of GAI (Eloundou et al., 2023; Felten et al., 2023). Tools like ChatGPT or GitHub Copilot, a GAI assistant for software development, are widely used in this field. In this context, Peng et al. (2023) conducted an experimental study in which they hired 95 software engineers through the Upwork platform to complete a specific programming task. They found that the treatment group (with access to GitHub Copilot) had a higher task completion rate along with a notable increase in productivity: they completed the task twice as fast as those without access. Additionally, they found that junior developers showed the highest productivity gains, while more experienced developers had smaller increases, effectively shortening the learning curve.

"The problem is that artificial intelligence is mainly impacting the entry-level positions in the profession, and those are precisely the key stages where journalists get trained, make connections, and acquire essential skills. If AI replaces those roles, it becomes very difficult—I'd say almost impossible—for newcomers to the profession to later produce original analysis or gain access to better sources, because they haven't gone through that irreplaceable hands-on learning process."

Brynjolfsson, Li, and Raymond (2023) studied the introduction of a GAI-based conversational assistant in customer support, using data from 5,179 agents. They found that access to GAI increased productivity by an average of 14%, measured by the number of cases solved per hour, with the greatest impact on junior and less-skilled workers. Their conclusion is that AI can disseminate the accumulated knowledge of more skilled and experienced workers, helping newer workers climb the experience curve more quickly.

In professional writing occupations, with a similar experimental approach, Noy and Zhang (2023) assigned specific writing tasks to 453 professionals with university education, randomly divided into a treatment group exposed to ChatGPT and a control group without access to generative AI tools. They found that ChatGPT significantly increased both productivity and quality: the average time spent decreased by 40%, and the quality of the output improved by 18%. They also showed that ChatGPT narrows the productivity distribution, with less-skilled workers benefiting the most from its use, while reducing the performance gap between low- and high-capacity workers.

Other sectors, though not the focus of this study, have also been the subject of experimental research. In the case of consulting occupations, Dell'Acqua et al. (2023) conducted a study involving 758 consultants from Boston Consulting Group. They found that GAI capabilities create a "jagged technological frontier," where some tasks are easily handled by GAI, while others remain beyond its current capabilities. For tasks within this frontier, consultants using GAI were significantly more productive—completing 12% more tasks on average and doing so 25% faster—and produced higher-quality results (a 40% increase in quality compared to the control group).

Similarly, Agarwal et al. (2023) studied the effectiveness of human-AI collaboration—specifically predictive AI—through an experiment with radiology experts. The study compared the performance of humans alone, AI alone, and humans assisted by AI. Their findings suggest that it is optimal to assign cases either to humans or to AI, but rarely to humans assisted by AI. This is because human radiologists tend to undervalue the information provided by AI when it substantially deviates from their own beliefs, casting doubt on the potential for complementarity or augmentation in this particular context.

3. Impact of New Technologies and Future of Work in Latin America

The Latin American Artificial Intelligence Index (ILIA), developed by the National Center for Artificial Intelligence of Chile (CENIA), reveals significant disparities between countries in the region. It points out that, despite having an abundance of data, Latin America lacks the infrastructure needed to process and train advanced AI models. The report also emphasizes that, while the region shows high levels of scientific productivity, it suffers from substantial gaps in technology transfer. Furthermore, the penetration of AI-related technological skills is lower than in other parts of the world, limiting the region's capacity to fully leverage the potential of AI.

There is a considerable gap between developed and developing countries in terms of readiness to utilize, adopt, and adapt cutting-edge technologies. Currently, developed countries are dominant as both providers of these technologies and leaders in knowledge

generation and trade (UNCTAD, 2023). This disparity highlights the challenges Latin America faces in bridging the technological divide and competing globally in the AI sector.

Latin America, marked by high levels of informality, poverty, and inequality, faces a challenging labor future. Various studies (ILO, 2024; Weller et al., 2019) suggest that while the direct impact of new technologies is expected to be limited, global trends could reshape existing informal sectors. This means that the risk of underemployment and increased labor precariousness is more likely than massive technological unemployment.

While technological viability is a factor, it is not the sole determinant of job displacement. Economic, political, and social factors shape the future of work, influencing job transformation and creation (Weller et al., 2019). Estimates of the risk of technological substitution tend to overestimate the effects on labor markets in developing countries, as these economies face structural barriers that slow down technological adoption and favor task reorganization over outright job elimination (Grigera & Nava, 2021).

"At the agency, we've already started to see how artificial intelligence is working in practice, especially with tools like Midjourney and ChatGPT. For example, there was a short two-month course on how to design using Midjourney—how to use the platform, how to communicate with it, what prompts to use. It was very hands-on, and it allowed the team to create visual pieces in minutes, even when they couldn't find suitable images in the stock libraries we use. Same with ChatGPT: there was a three-session workshop that combined theory with practical exercises to learn how to write better prompts. And like with any tool, the more you practice, the better the results."

Business representative from the advertising copywriting sector in Costa Rica

"We don't spend as much time on operational tasks anymore, right? So now I can have a meeting with a new client, or assess investment in another area, or start creating different things. AI really lightens the workload."

Business representative from the advertising copywriting sector in Costa Rica

However, other studies suggest that the impact of new technologies may take different paths. Among these, it is highlighted that the use of these advances as part of business strategies to reduce costs, combined with the volatility of economic growth in the region, could lead to a significant increase in informality and labor instability (Weller, 2020). Therefore, the real challenge lies in the creation of public policy initiatives that encourage job creation and promote decent work.

In addition to strictly labor-related issues, the need for investments in research and development (R&D) is also highlighted. Studies analyzing the relationship between technological change and employment in Argentina suggest that companies engaged in R&D activities show excellent results in job creation. Similarly, highly skilled worker groups, particularly technicians and engineers, experience higher rates of job creation compared to less skilled roles. However, lower-skilled jobs still constitute a significant portion of employment (Molina et al., 2018).

"When you explain a client's problem to AI, there are many nuances and details you need to catch. Prompting has its art, and it's not as simple as many think. Although it's much easier than without AI, crafting a good prompt can take between 7 to 10 minutes. People tend to expect instant answers with just a few words, but the process requires time and precision to get good results."

Business representative from the advertising copywriting sector in Argentina

On the other hand, some studies anticipate that this technology will predominantly enhance the capabilities of occupations rather than entirely replace or destroy them (ILO, 2023), as previously mentioned. It is noted that high-income and upper-middle-income countries may experience the greatest impact due to the prevalence of administrative jobs in these regions. Since many women work in administrative roles, it is emphasized that the effects of this transformation will be gender-differentiated. This perspective stresses the importance of implementing proactive policies that ensure job quality, facilitate fair transitions, and are supported by continuous dialogue and effective regulation.

In this regard, the European Union (EU) considers it crucial to prioritize AI research in areas with large amounts of available data that are difficult to interpret, such as personalized health, social cohesion, and the green and digital transitions. To this end, the EU proposes continuing collaboration with the research community to ensure that data standards, guidelines, and best practices evolve as technology advances. Starting from the definition of AI as a geopolitical asset, it establishes that the availability of human talent and computing power will determine which parts of the world can fully leverage AI and which ones are falling behind. Based on this, most of the AI infrastructure currently belongs to a small number of companies, primarily in the United States and China, and even public research labs depend on these companies for computing power.

Finally, some studies highlight the situation of data labelers in the region—an emerging type of job born out of the precarization of traditional employment conditions. Nonetheless, it is beginning to be seen as a viable alternative for certain population groups who are not only adopting it but even expressing pride for the work they do (Williams et al., 2025).

4. Gender and GAI: Preliminary Evidence on Differentiated Impacts

The gender dimension emerges as a crucial factor when analyzing the impact of generative AI (GAI) on the Latin American labor market. A recent study by LinkedIn Economic Graph (Baird et al., 2024)[2] reveals concerning patterns in the differential exposure to GAI by gender. In Argentina, for example, while 24% of men work in occupations that could be enhanced or "augmented" by GAI, only 19.6% of women are in this favorable situation. In contrast, 43.6% of Argentine women work in occupations that could be affected by GAI, compared to 34% of men.

[2] The data comes from LinkedIn Economic Graph analysis of professional profiles on its platform. While this implies some inherent limitations - such as representing mainly formal employment and users of professional networks - it constitutes one of the first systematic efforts to measure the differential impact by gender of the GAI in Latin America. The results must be interpreted taking into account these characteristics of the sample, although the trends identified are consistent with other studies on occupational segregation by gender in the region.

This pattern is repeated, with variations, in other countries in the region. In Colombia, the gap is even more pronounced: while 23.6% of men work in occupations that would be augmented by GAI, only 17.2% of women are in this category. Even more concerning, 47% of Colombian women work in occupations at risk of disruption, compared to 32.5% of men. Chile presents a similar situation, though less extreme, with a 3 percentage point gap in augmented occupations (26.4% men vs 23.4% women) and a 9.3 percentage point gap in disrupted occupations (28.4% vs 37.8%). In Mexico, the gaps are 3.2 percentage points in augmented occupations (26.4% vs 23.2%) and 8.8 percentage points in disrupted ones (34.8% vs 43.6%).

Costa Rica follows the same regional pattern: 27.8% of men work in occupations that would be augmented by GAI, compared to 23% of women, while 44.6% of women work in occupations at risk of disruption, compared to 34.6% of men. This unequal distribution suggests that GAI could deepen existing gender gaps in the Latin American labor market if specific policies are not implemented to counteract these trends.

These data indicate that women are overrepresented in occupations with a higher risk of disruption by GAI and underrepresented in those that could benefit from this technology. This asymmetric distribution raises the risk that the GAI revolution could exacerbate existing gender inequalities in the labor market unless specific policies are introduced to facilitate the transition of women workers to occupations with greater potential for complementarity with GAI.

"The education system continues to teach content from the 20th century when we should be preparing children for the 21st century. Instead of integrating artificial intelligence as a tool, many teachers are fighting against it, as if it were a threat. It's a mistake to ban the use of tools like ChatGPT; on the contrary, we should teach how to use them well because students are already digital natives and they will inevitably live with these technologies."

Union representative from the software sector in Chile

"Certainly, any technological revolution—especially one as user-friendly as generative AI—is bound to have profound impacts on the labor market. Undoubtedly, having a technology that empowers workers and boosts their productivity will be one of the first desirable effects, particularly in countries where productivity levels are comparatively lower than those of developed nations."

Union representative from the software sector in Mexico

III. Impact of the GAI in the Proposed Sectors and in the Selected Countries

The Mexican contact center industry is one of the largest globally, with consistent growth in jobs and employment. According to data from the Mexican Institute of Telecommunications, there are approximately 330 companies in the sector, generating around 835,000 jobs (ContactForum, 2024). Within the customer service and call center sector, there are cases that claim more efficient management by incorporating generative AI into operations. A pioneering case is Santander Mexico, which in 2023 integrated ChatGPT into its Facebook support bot—becoming the first bank in Mexico to do so—to provide more personalized and natural responses to customers. As a result, the bank now automatically handles frequently asked questions 24/7 and only escalates cases that require specialized human handling. The reported outcome has been higher customer satisfaction and high first-contact resolution rates (El Economista, 2024). Another example is Costa Rica, where companies offering advanced chatbots claim to resolve more than 70% of first-level queries autonomously, significantly alleviating the human workload and providing 24/7 immediate assistance (GFT, 2024).

In the fields of design, art, and advertising in Colombia, Bernaschina's (2023) work highlights the growing influence of AI in the creation of generative works, raising ethical and labor concerns. The author examines the threat of job extinction and the lack of standardized ethics in the context of AI, focusing on social responsibility. The research addresses the need for regulation and discussion around ethics, 2.0 copyright, and intellectual property related to AI-generated content in disciplines such as video art, digital art, and augmented reality.

> *"I want a photo of a doctor with specific characteristics—they input all the segmentation, AI generates the photo, then they edit it with Adobe Firefly, and produce a hyper-realistic version… before, finding that image would have required a huge search, or maybe the right image just didn't exist."*
>
> Advertising worker from Chile
>
> *"Artificial intelligence comes to empower and strengthen human expression, and that's something really important to highlight. Creativity has a human connotation, and the works created by human beings continue to play an essential role in our lives."*
>
> Musician from Costa Rica

Regarding advertising copywriting and journalism, Segarra-Saavedra et al. (2019) analyze the application of artificial intelligence to sports journalism writing in the case of BeSoccer in Colombia. They highlight the growing influence of AI in sports journalism, emphasizing its increasing focus on data. The study shows the transformation of the journalistic professional profile under the influence of Big Data and AI, suggesting an evolution towards automated news writing. Additionally, it addresses the use of AI to combat misinformation and fake news, emphasizing the role of bots and algorithms in the fight against information toxicity (Flores Vivar, 2019). In this context, it is worth noting that in 2024, VerificAudio, a technology from the PRISA company, a pioneer in detecting fake audios, has become a widely used journalistic tool to combat *deep fakes*. Its implementation has been rolled out in PRISA Media radio

stations in Colombia (Caracol Radio and W Radio Colombia), Chile (ADN Radio), and Mexico (W Radio México).

> *"I don't think we should be at odds with technology or with artificial intelligence. I just believe we need to find a way to work together, but by creating laws that can regulate it so that everyone can benefit from its use—without these kinds of anomalies and abuses. That's it: regulate artificial intelligence. With that, we'd be very happy."*
>
> Union representative from the journalism sector from Mexico

Regarding software development, some reports highlight a broad spectrum of AI tool applications to improve processes across multiple verticals. A recent report by Boston Consulting Group mentions several success cases in Latin American companies: Sensedia, which uses generative AI to enhance API design and customer service, with the potential to increase API design productivity by up to five times; DLocal, which has advanced its core functions with generative AI use cases at scale, such as "Smart Router" and "Fraud Prevention," reducing the need for human intervention in support tasks by 90% and also in manual tasks in fraud prevention; and Rappi, which is implementing generative AI across various functions, including customer service, account management, development, and content generation, achieving a 10-15 times increase in productivity for creating merchandising events and a 20% increase in developer productivity (BCG 2025).

> *"We're in the middle of a transition. Today we use tools like ChatGPT to write emails, but soon we'll have autonomous agents that will search for potential clients, analyze profiles, generate personalized messages, and perform specialized tasks in a collaborative manner. This will deeply change job roles, not just because of what we do, but of how we work: probably with more flexibility, a focus on objectives, and less tied to traditional schedules or structures. In the face of so much uncertainty, the key is to educate yourself and stay close to the technological process in order to adapt."*
>
> Software worker from Colombia

1. Exposure to GAI in Latin America

As previously mentioned, the task-based approach to estimating occupational exposure to generative AI (Eloundou et al., 2023) has become the standard framework for analyzing its potential impact on labor markets. While this approach provides valuable aggregate estimates of AI's potential effects, it does not directly address the actual pace of adoption or its current impact on employment, productivity, and working conditions. With this limitation in mind, this section aims to characterize the varying degrees of potential AI exposure across the labor markets of the selected countries, considering different demographic variables. Additionally, we will classify the type of exposure affecting the occupations and sectors covered in this study. To do so, we rely on the work of Gmyrek, Beng, and Bescond (ILO, 2023) and Gmyrek, Winkler, and Garganta (ILO, 2024), using their occupational-level exposure scores and their classifications of exposure into augmentation, automation, and high-uncertainty categories, as referenced in the background section.[3]

[3] Data sets available at: https://pgmyrek.shinyapps.io/AI_Data_Portal_Research/

The analysis of occupational exposure to generative AI across five Latin American countries—Argentina, Chile, Colombia, Costa Rica, and Mexico—reveals diverse and nuanced patterns that vary based on the category of exposure (automation, augmentation, or big unknown) and different demographic variables. These categories help illustrate how AI might impact labor markets in the region, distinguishing between full replacement of human capabilities (automation), a complementary relationship between AI and human skills (augmentation), and an intermediate scenario where the impact of AI remains uncertain (big unknown).

> *"When I think of generative artificial intelligence, I feel optimism and curiosity. The concerns are not so much about the technology itself, but about how society will respond to it. In the IT industry, the impact has been gradual, but clearly transformative: low-code and no-code tools are allowing people without technical training to participate in the development of complex systems. This not only broadens access to development, but it also builds bridges between the tech sector and strategic sectors that have traditionally been disconnected from digital transformation."*
>
> Union representative, software sector, Mexico

Figure 1, which presents aggregated data at the country level, shows the percentage of total employment under each type of exposure. While the situations vary, a common trend across all countries is that the big unknown category predominates, indicating significant unpredictability regarding AI's future impact on employment. Meanwhile, exposure to automation is relatively low in all countries, suggesting that while full replacement of human tasks by AI is a concern, it does not appear to be the most immediate challenge.

The augmentation category, which reflects the complementarity between AI and human capabilities, falls in an intermediate range, though with notable variations across countries. Overall, when comparing augmentation to automation, exposure to augmentation is significantly higher in all cases, implying that generative AI's potential impact is more likely to enhance human abilities rather than replace them. However, it is important to emphasize that even augmentation—which increases productivity without full automation—can still lead to workforce reductions. If higher productivity per unit of labor is achieved without a corresponding rise in demand for increased output, the result could be a decline in employment levels, even in the absence of outright occupational automation.

When analyzing each country individually, Argentina stands out for having a notably high percentage in the big unknown category, reaching 27.4%. This suggests significant unpredictability regarding how AI might impact Argentina's labor market, positioning the country in a scenario where the effects of the technology remain highly uncertain.[4] In comparison, Chile and Colombia show a more balanced distribution across categories, with a substantial share in big unknown (20.6% in Chile and 18.1% in Colombia) but also relatively high levels of augmentation (13.3% and 13.8%, respectively). This indicates that while uncertainty exists, AI is expected to play an important complementary role in the labor markets

[4] An early study by the Ministry of Labor, Employment and Social Security of Argentina (MTEySS, 2023), based on the methodology of Elondou et al (2023), concluded that 54% of formal employment in the private sector in Argentina was in occupations where at least half of their tasks could be performed by GAI, and that most of these occupations are complemented by LLMs, also suggesting a potential for increased labor productivity.

of both countries. Meanwhile, Mexico and Costa Rica exhibit a similar distribution, with a more even split between augmentation and big unknown. However, Costa Rica shows a slightly higher exposure to automation (5.4%) compared to Mexico (2.5%), which may suggest a greater exposition to full AI-driven job replacement in specific sectors of Costa Rica's economy.

"At first, generative AI seems cheap: $20 a month to experiment with ChatGPT. But when its use becomes industrialized and millions of calls are made through an API, the cost skyrockets. Even with recent price reductions, it's still very expensive on a large scale. This forces companies to use it judiciously and find ways to optimize its use, like limiting direct calls to the model. It's similar to what happened with the cloud: it seemed affordable, but then it became costly if not managed properly."

—Software sector worker from Mexico

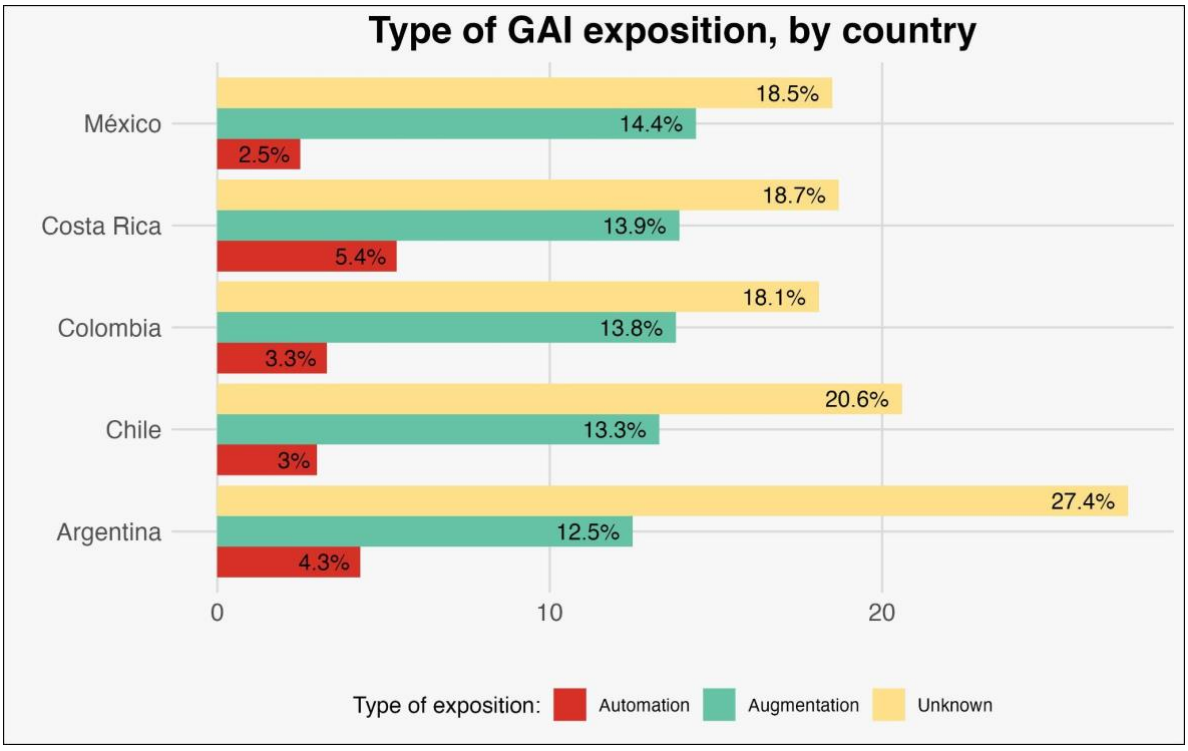

Figure 1: Type of occupational exposure to GAI in selected countries

Own elaboration based on Gmyrek, Beng and Bescond (ILO, 2023) and Gmyrek, Winkler and Garganta (ILO, 2024).
Percentage of total employment under each exposure category, per country.

Gender

The analysis by gender reveals, in general terms, that women have higher percentages of exposure to both automation and the unknown situation compared to men, while exposure to augmentation varies between genders, as can be seen in Figure 2. This suggests that women are mostly inserted in occupations whose tasks are more exposed to AI and at risk of being automated, as well as experiencing greater uncertainty regarding the impact of AI, at the same

time that they are less inserted in task-intensive occupations where AI complements human capabilities.

In Argentina, women face a higher risk of automation (5.2%) compared to men (3.6%), indicating a greater presence of women in sectors vulnerable to AI-driven job replacement. The same trend is observed in the unknown category (31% for women vs. 24% for men). In Chile, women are also more exposed to automation (4.9% vs. 1.7% for men) and unknown (27% vs. 15.9% for men), though both genders show relatively similar percentages in augmentation (14.3% for women and 12.6% for men). In Colombia, women also have a higher automation exposure (5.5% vs. 1.6% for men) and greater unknown (22.5% for women vs. 1.9% for men). Additionally, in Colombia, exposure to augmentation is lower among women (11%) than among men (15%), further highlighting women's greater vulnerability. Costa Rica stands out with the highest percentage of automation exposure among women at 8.3%, worsening the gender disparity in automation risk.

"Technology is changing the way we work and the modes of contracting. There's more freelance work, flexible hours, and project-based payments. This completely alters the traditional salary logic."

Business representative from the software sector in Mexico

"Tomorrow, companies won't be hiring people to handle customer service—they'll be hiring AI engineers to implement the tools instead."

Business representative from the software sector in Chile

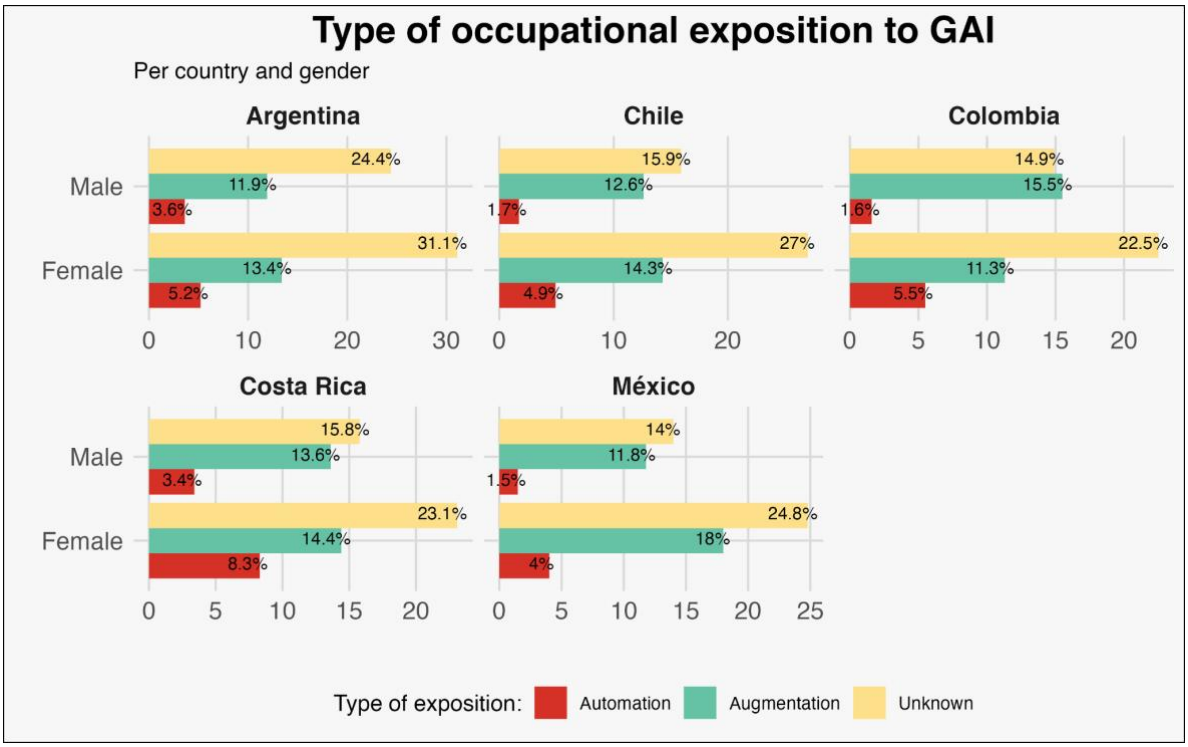

Figure 2: Type of occupational exposure to GAI according to country and gender

Own elaboration based on Gmyrek, Beng and Bescond (ILO, 2023) and Gmyrek, Winkler and Garganta (ILO, 2024).
Percentage of total employment under each exposure category, per country and gender.

Educational Level

When analyzing occupational exposure to AI by education level (see Figure 3), it becomes evident that, across all countries, individuals with higher education face greater exposure in all categories. This suggests that traditionally secure jobs are now subject to higher uncertainty, but also that these jobs have the greatest potential for augmentation and complementarity—meaning they stand to benefit the most from generative AI. This aligns with recent literature, which finds that the impact of AI is concentrated in both routine and non-routine cognitive jobs (Eloundou et al., 2023). Overall, education level is positively correlated with greater AI exposure in all respects.

Colombia and Costa Rica have the highest percentages of jobs exposed to automation among those with higher education (6.3% and 7.8%, respectively). Notably, Costa Rica is the only country where the percentage of jobs at risk of automation is higher for individuals with secondary education (8.8%) than for those with higher education (7.6%). On the other hand, compared to the other countries, Chile exhibits the lowest percentage of occupations exposed to both automation and augmentation among those with higher education.

Argentina stands out for having the highest percentage of employment exposed to uncertainty across all education levels compared to other countries, but particularly among those with higher education: 37.3% of workers with higher education fall into the big unknown category,

compared to 25.5% of those with secondary education and 12.8% of those with primary education.

"In terms of skills, I believe there's a gap both within unions and among workers themselves, since there's been no real preparation for a potential scenario of job losses. We're fighting to preserve existing jobs, but no actions have been taken to prepare people for changes in the labor structure. While the company has made some internal moves to reassign workers to areas with ongoing production, many employees are resistant to these changes because they don't see them as beneficial. Overall, the reality is that this transformation is something we have to face and adapt to, finding ways to be useful where there is production flow."

Union representative from the graphic design sector in Colombia

Overall, the strong correlation between education level and AI exposure suggests that education facilitates access to and adoption of advanced technologies, a trend long noted in labor market literature. However, what is new with generative AI is that those with higher education levels also face a greater risk of automation and uncertainty.

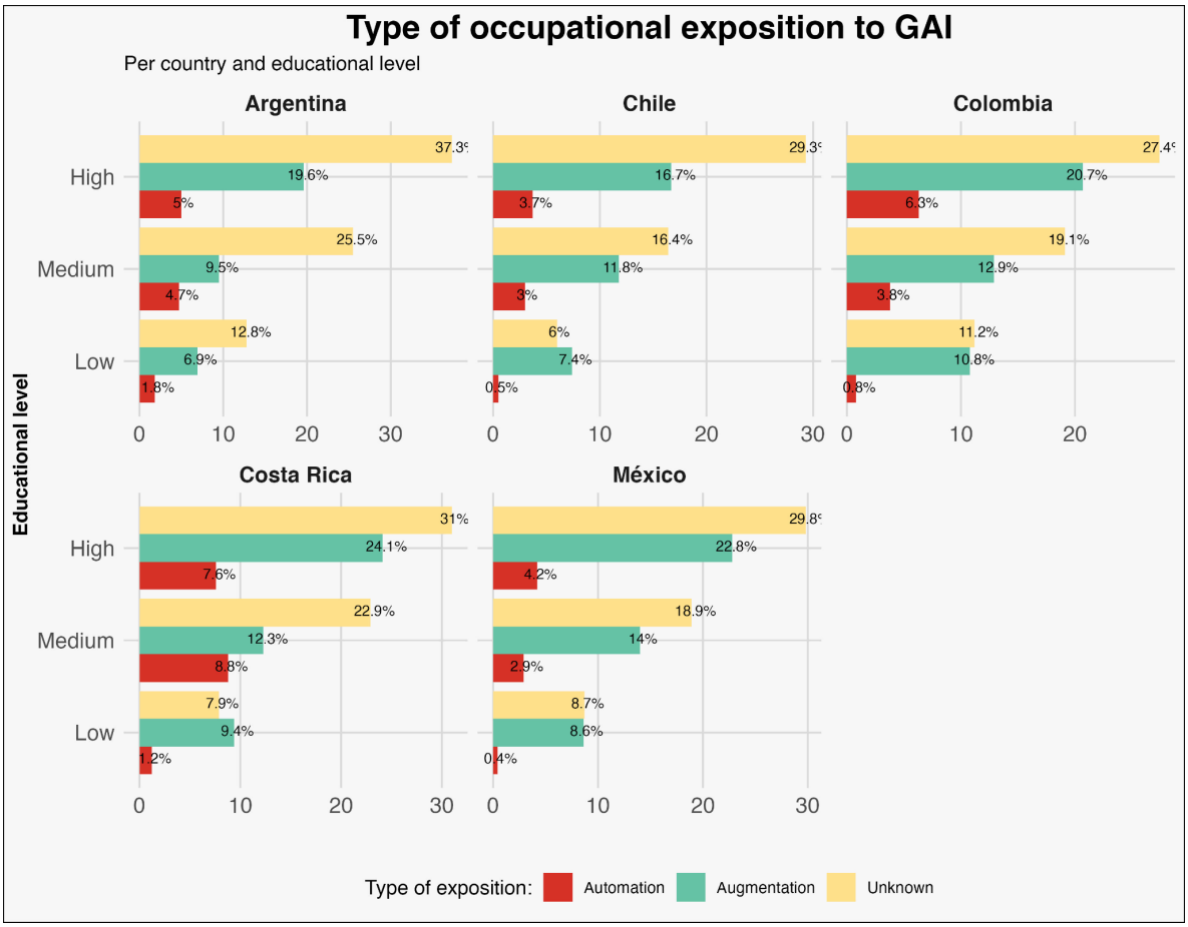

Figure 3: Type of occupational exposure to GAI by country and educational level

Own elaboration based on Gmyrek, Beng and Bescond (ILO, 2023) and Gmyrek, Winkler and Garganta (ILO, 2024).

Percentage of total employment under each exposure category, per country and educational level.

Income Level

Similar to the patterns observed with education level, the income quintile analysis reveals that, across all countries, higher-income groups generally exhibit greater exposure across all impact categories, particularly in the big unknown category. This indicates that better-paying jobs are the ones facing the most uncertainty regarding the impact of generative AI.

"Changes in the journalism industry are tied to media outlets that were already facing sustainability issues, and many used artificial intelligence as an excuse to cut costs. This cost-cutting approach led to a drop in content quality and revealed how media companies are turning to technological tools for revenue, often without fully considering the consequences for their business or for journalistic quality."

Worker from the journalism sector in Chile

As can be seen in Figure 4, in Argentina, the percentage of jobs in occupations exposed to automation increases steadily from Q1 (2.0%) to Q5 (5.9%), while exposure to augmentation shows less variability, ranging from 9.9% to 16.5%. Employment in occupations categorized under the big unknown also rises sharply, from 15.9% in Q1 to 37.3% in Q5. In contrast, Chile shows little variation in automation exposure across quintiles (2.0% in Q1 to 3.3% in Q5), as well as in augmentation exposure (12% in Q1 versus 15.2% in Q5). However, uncertainty marked by exposure to the big unknown increases significantly from 12.4% in Q1 to 28.7% in Q5, indicating heightened ambiguity in higher-income quintiles.

Colombia and Costa Rica display a pronounced increase in both automation and augmentation exposure as income rises, with Costa Rica showing the most significant jump: automation exposure climbs from 1.5% in Q1 to 7.0% in Q5, while augmentation exposure rises from 7.9% to 19.7%. Finally, Mexico exhibits the lowest levels of automation exposure in higher-income quintiles compared to the other countries, but conversely, it records a high augmentation exposure rate of 19.4% in Q5.

Overall, as with education level, the general trend is that AI exposure increases as income rises. This reflects both a pre-existing tendency for higher-income jobs to interact more with technology and a newer phenomenon: greater uncertainty and a higher risk of automation among higher-income occupations.

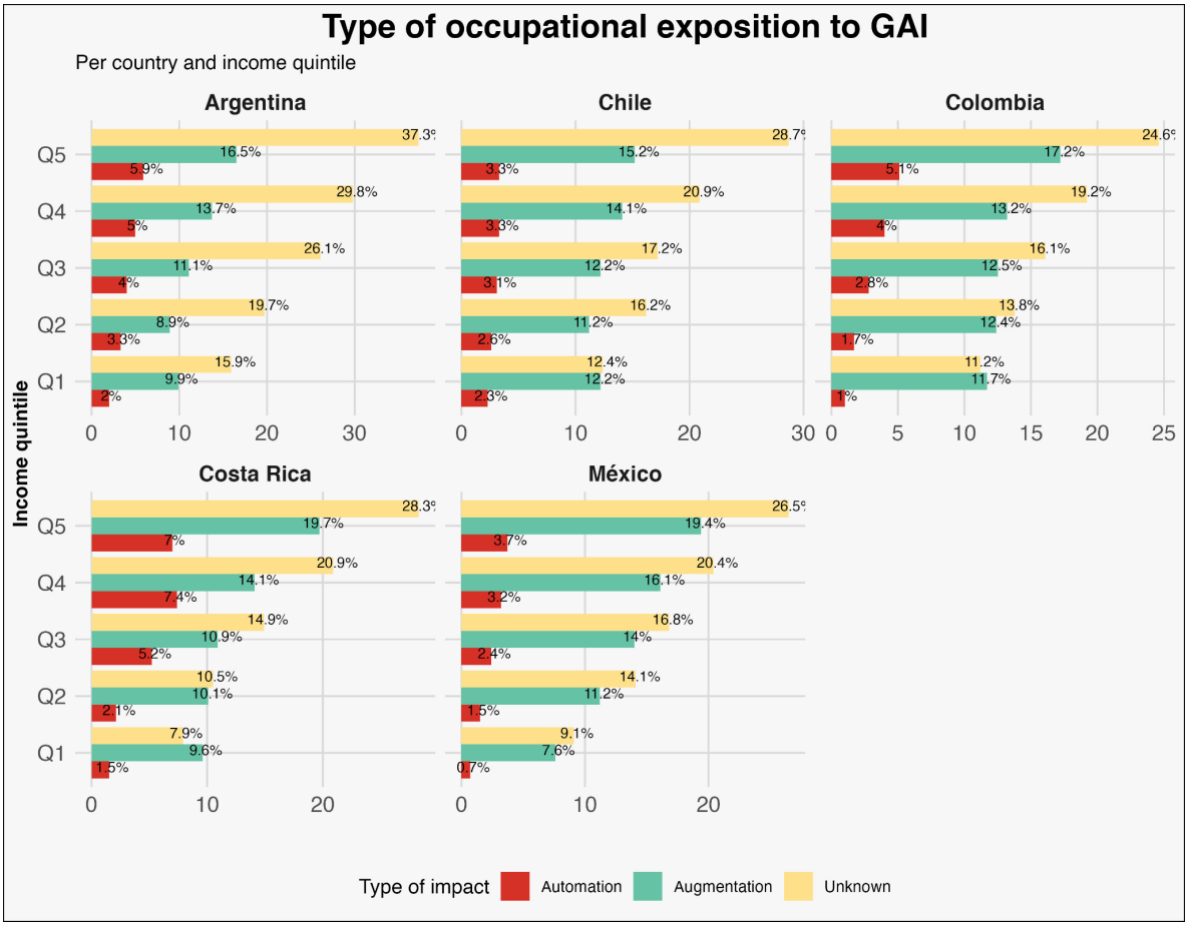

Figure 4: Exposure by income quintile according to country

Own elaboration based on Gmyrek, Beng and Bescond (ILO, 2023) and Gmyrek, Winkler and Garganta (ILO, 2024).

Percentage of total employment under each exposure category, per country and income quintile.

GAI Exposure of Selected Occupations

After reviewing the potential exposure of Latin American countries to generative AI (GAI) across different sociodemographic variables—based on the works of Gmyrek, Beng, and Bescond (ILO, 2023) and Gmyrek, Winkler, and Garganta (ILO, 2024)—we now focus the occupations covered in this study. In this section, we will briefly analyze the exposure scores of various occupations to GAI using the same methodology. This exposure score represents the average proportion of tasks within each occupation that could potentially be performed by AI, measured on a scale from 0 to 1. A score of 1 indicates that all tasks within the occupation can be executed by AI faster than by a human, with equivalent results. Conversely, a score of 0 means that none of the occupation's tasks are susceptible to AI automation. However, it is important to note that these scores are not static. The continuous advancement of AI technologies necessitates a cautious interpretation, as any improvements in GAI models could expand the range of tasks susceptible to automation.

Figure 5 illustrates the level of exposure to GAI for the occupations included in this study. It evaluates the average proportion of tasks per occupation exposed to GAI within the 0 to 1 range and, based on this score and its standard deviation, classifies occupations into different categories of potential exposure: automation potential, augmentation potential, big unknown, and, on the other hand, occupations unaffected by GAI.

When analyzing the occupations included in our study, we find that software developers have an average exposure score of 0.34, placing them in the "not affected" category. In contrast, programmers show a high level of exposure, positioning them in the category with automation potential. As will be discussed shortly, it may be more accurate to differentiate between senior and junior programmers.

These differences stem from the distinct tasks associated with each occupation, as classified by the International Standard Classification of Occupations (ISCO-08). According to this classification—used by the above mentioned authors—software developers primarily engage in project analysis and planning, coordination, communication, and task delegation[5], whereas programmers focus more on coding and testing. As a result, while coding tasks can largely be performed by AI coding models, the higher-level tasks of developers remain less susceptible to automation. However, as we will explore in the next section, although AI is being widely adopted in the software industry, its perceived impact has so far been more about productivity gains rather than immediate automation risks.

Application programmers, with an average exposure score of 0.62, exhibit a high degree of exposure to AI. This elevated score places them in the "automation potential" category, suggesting that routine or basic coding tasks could be taken over by AI, posing significant challenges for the profession.

On the other hand, photographers, with an average exposure score of 0.35, find themselves in a situation where AI has the potential to enhance their capabilities rather than replace them entirely. This balance between human intervention and AI capabilities suggests that technology may act as a complement rather than a substitute in their field.

Graphic designers have an average exposure score of 0.42, placing them in the "big unknown" category of uncertainty. This intermediate score reflects the lack of clarity regarding how AI could impact this profession. Similarly, journalists, with an average score of 0.55, also fall into an ambiguous zone in terms of AI exposure. The variability observed in these results indicates that journalism, like graphic design, faces an uncertain future regarding AI's impact on its practices and processes.

[5] Some of these tasks are: Analyze information to determine, recommend and plan the installation of a new system or the modification of an existing system; Analyze user needs and software requirements to determine design feasibility within time and cost constraints; Consult with project or data processing managers for information on limitations or capabilities of data processing projects; Consult with systems analysts, engineers, programmers, and others to design systems and obtain information about project limitations and capabilities, performance requirements, and interfaces.

"In our team, we already have an established prompting protocol. When we get a good prompt, we treat it like gold, as it is key to obtaining efficient results. We're even creating a prompt bank because we know each one holds great value and saves us a lot of time in the future."

Business representative from the design sector in Argentina

Authors and writers, on the other hand, are in a more vulnerable position, with an average exposure score of 0.68, placing them at risk of automation. This reflects the growing use of AI in generating written content, which threatens to replace traditional writing tasks—particularly for professions such as advertising copywriters. Once again, the difference in exposure between journalists and writers stems from variations in their occupational tasks as defined by the ISCO classification.

Finally, customer service and call center employees, with an average exposure score of 0.72, represent the group most exposed to automation. This result aligns with the current trend of replacing tasks in this sector with AI-driven chatbots and virtual assistants, signaling a profound transformation in these roles.

In conclusion, the data highlights the diverse ways AI could impact the different occupations examined in this study. While developers appear to be less affected by automation risks, programmers, writers, and customer service employees face significant exposure due to AI's automation potential. Meanwhile, occupations related to graphic design and journalism remain in a zone of uncertainty. This variety of *potential* outcomes underscores the need for deeper qualitative case studies within each of these sectors and occupations to better understand the different dimensions, benefits, and risks associated with AI adoption.

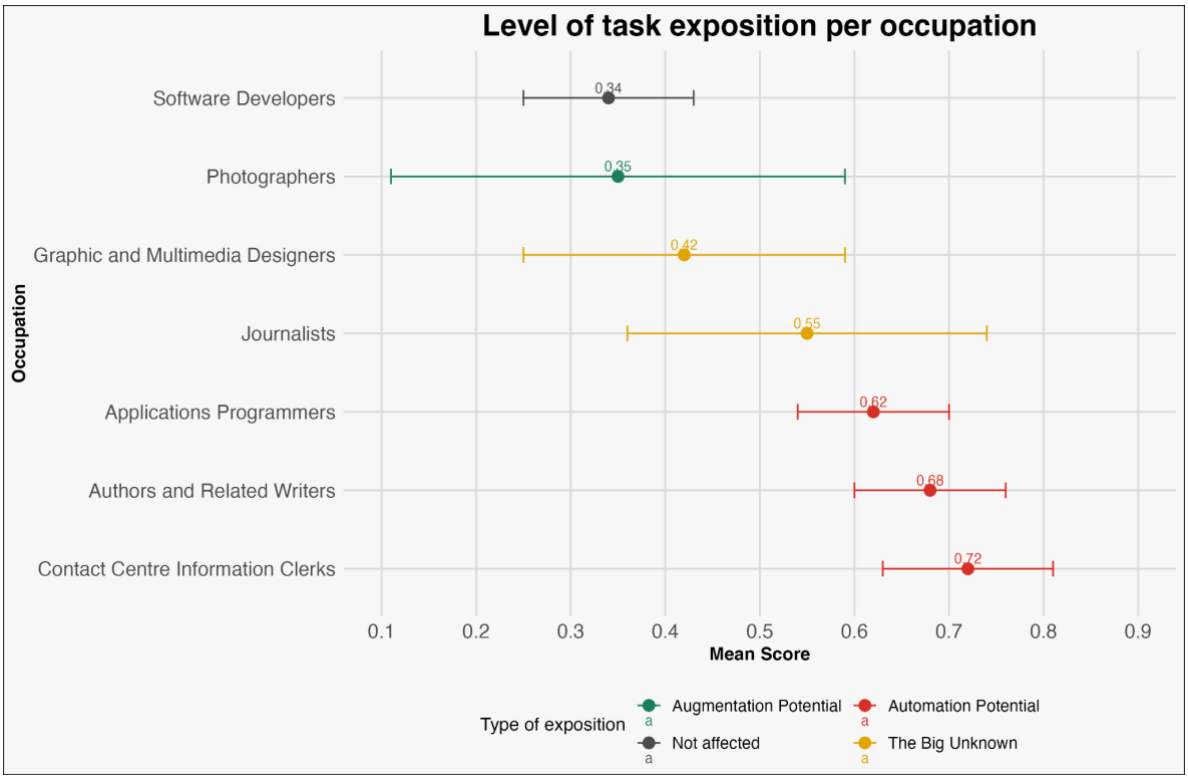

Figure 5: Level of task exposure in selected occupations

Own elaboration based on Gmyrek, Beng and Bescond (ILO, 2023). Mean and standard deviation of exposure levels to GAI for selected occupations (range 0 to 1), classified by level of exposure as: automation potential, augmentation potential, big unknown and occupations not affected by GAI.

2. Use of GAI and Perceptions about Benefits and Threats: the Case of Software Workers

The adoption of AI tools has progressed rapidly in the software sector. This sector is particularly interesting because it includes occupations with very high exposure scores, involves jobs that require high qualifications with extensive learning curves, and offers high salaries. These are all variables that correlate with AI exposure according to studies assessing potential impact based on the task-based approach.

In this section, we analyze the adoption and sentiment toward AI in the software sector across the five Latin American countries selected for this study, using data from Stack Overflow's global developer survey—one of the largest online communities for programmers.[6] As we will see, programmers in these countries exhibit a high rate of AI tool adoption, even surpassing

[6] The survey was carried out between May 19 and June 20, 2024 and collected 65,437 responses from 185 countries, of which 2,927 cases correspond to Latin American countries. Regarding the countries selected in this study, the number of cases for each one is: Mexico 402, Argentina 345, Colombia 217, Chile 133, Costa Rica 54. The survey covers various programming positions, with a predominance of Full Stack and Back-end programmers. For more information see https://survey.stackoverflow.com/2024.

the global average. At the same time, they express a positive attitude toward AI and a low perception of job-related threats. These findings suggest that, in the case of programmers, AI is being viewed more as a complement to human skills rather than as a force for complete substitution or automation.

High Adoption Rate

Figure 6 shows the use of AI tools among programmers in the five selected countries. Compared to the global average of 61.8%, the countries in the region display higher adoption levels, with Colombia leading at 74.1%, followed by Mexico at 65.4%, Chile at 63.9%, and Costa Rica at 63.0%. Argentina, at the lower end of the regional spectrum, has an adoption rate of 62.1%, slightly above the global average.

This high level of adoption suggests a rapid integration of AI tools into the workflows of Latin American programmers. There could be multiple reasons behind this trend. First, developing economies often look for ways to enhance their competitiveness in the global market, and adopting advanced technologies like AI—with relatively low entry barriers—can be seen as a strategy to achieve this. Second, the flexibility and informality that characterize labor markets in Latin America may have made it easier for workers to incorporate these tools on their own initiative, regardless of organizational decisions.

"I believe that rather than working more or less, what changes is the way we work. In my team, which has about 35 people, some were reluctant to use tools like ChatGPT. Sometimes I have to step in and tell them, 'Look, this is something we need to take advantage of.' *I explain that the tool isn't going to do all the work, but it can save time and reduce the strain when creating or writing, which makes the process easier."*

Business representative from the advertising copywriting sector in Costa Rica

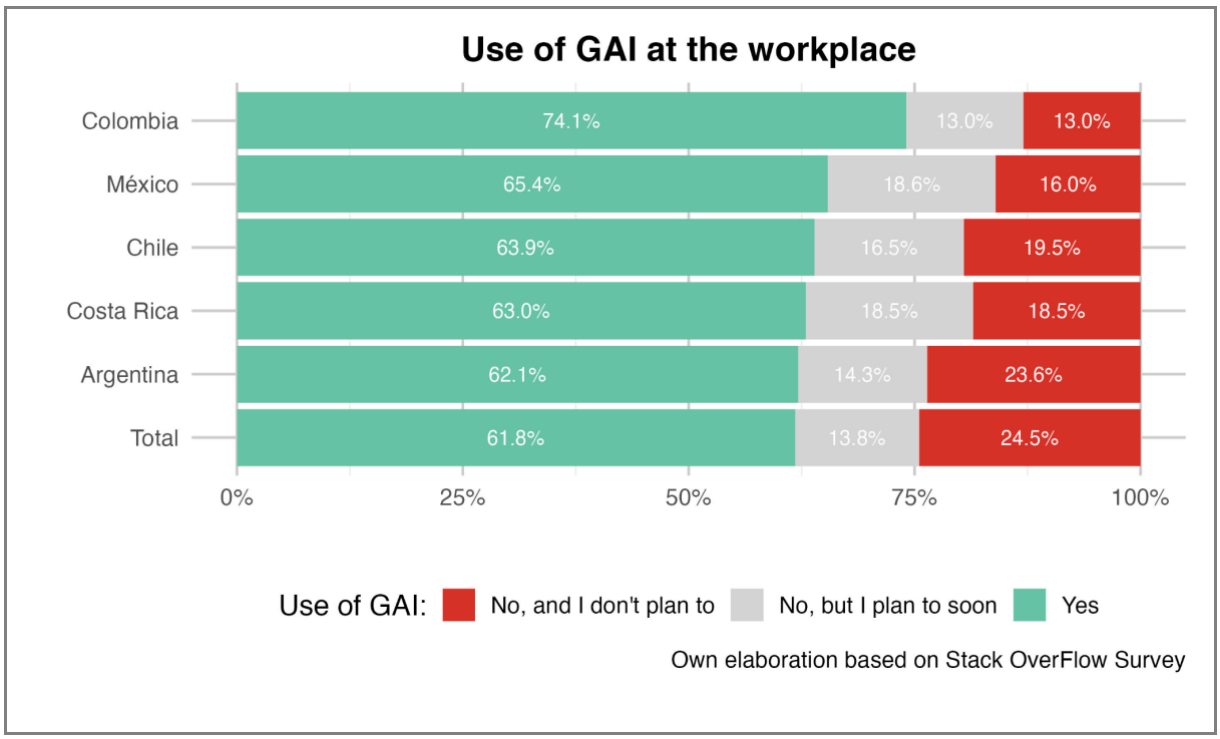

Figure 6: Use of GAI tools among programmers by country

Favorable Sentiment Towards AI

Figure 7 reflects sentiment toward AI in software development. The data suggest that AI is viewed favorably by most programmers, and once again, Latin American countries exhibit more positive attitudes toward AI than the global average. Countries like Costa Rica (90.9%) and Colombia (82.4%) show very high levels of acceptance. Argentina (80.9%) and Chile (78.5%) also reflect a predominantly positive outlook. Mexico, at 77.2%, also remains above the global average of 71.8%.

This favorable sentiment may be linked to the positive experiences programmers might have had integrating AI into their daily tasks, which, as we will see later, are reported to bring benefits such as increased productivity, faster learning, improved efficiency, and greater accuracy.

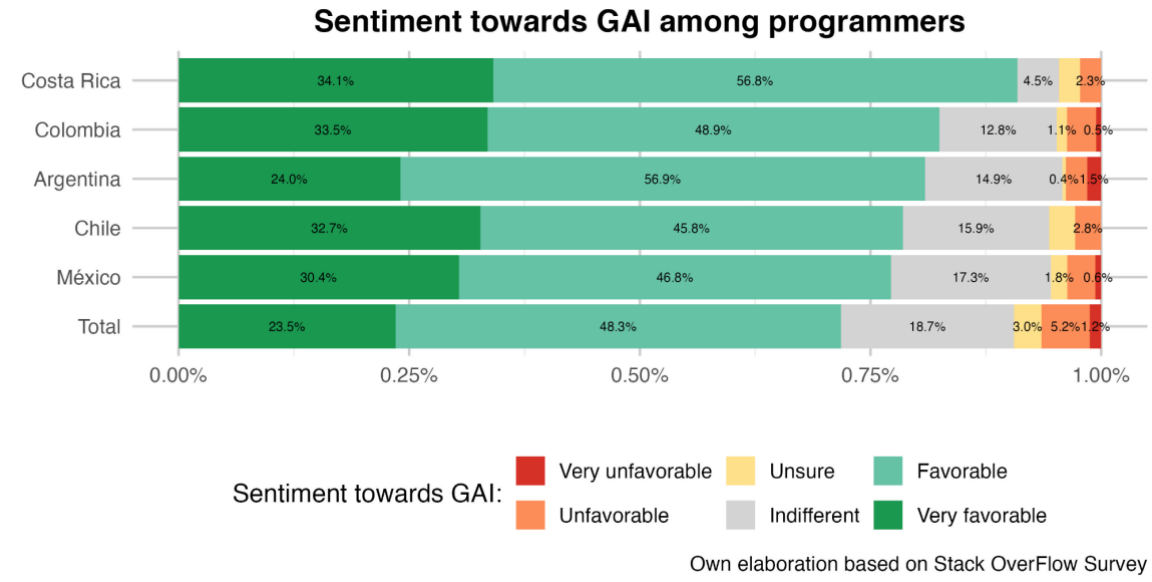

Figure 7: Sentiment towards the GAI among programmers in selected countries

Low Perception of Job Threat

The low perception of job threat associated with AI among programmers reinforces the hypothesis that AI is seen as a complement rather than a threat in the workplace. In Colombia, the Latin American country with the highest adoption of AI for programming jobs, only 15.1% of programmers perceive AI as a job threat. This percentage drops even further in other countries, such as Mexico (9.8%) and Chile (11.2%). Globally, the perception of threat is also low, at 12.1%.

"Actually, I'm not sure if the lack of questions is due to ignorance or if, by using the tool regularly, its use has become normalized. Personally, I haven't noticed significant resistance so far. However, I imagine that as more information spreads about the negative aspects — beyond the benefits — concerns may start to arise and trigger alerts about it."

Journalism worker from Costa Rica

This low perception of threat suggests that programmers in Latin America do not see AI as having the potential to replace their roles, so the complementarity between human skills and AI functions appears to be the more likely path, at least from the workers' perspective. Figure 8 shows the level of perceived threat in each of the selected countries.

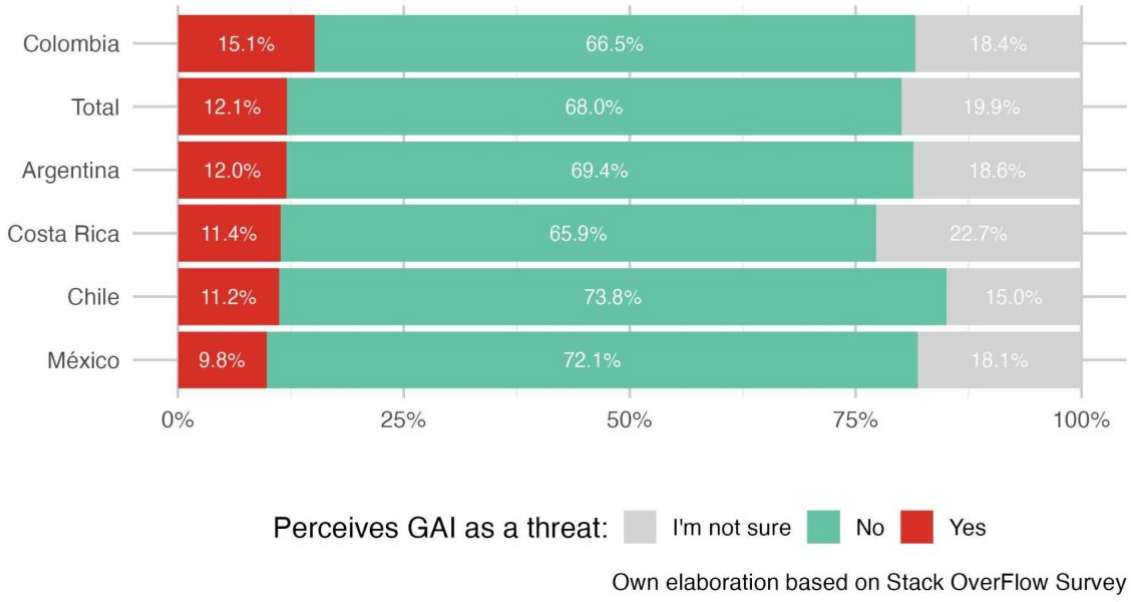

Figure 8: Perception of GAI as a threat among programmers in selected countries

Increased Productivity

The main benefit perceived by programmers is increased productivity. In Costa Rica, 82.4% of respondents consider that AI tools increase productivity, which even exceeds the global average of 79.4%. This pattern is repeated in other countries such as Chile (80.0%) and Argentina (78.9%), which seems to indicate a consensus on the positive impact of AI on productivity among programmers globally.

"The incorporation of generative AI can both simplify and complicate human tasks. If we understand 'complicate' *as the increase in tasks with higher cognitive value, and* 'simplify' *as the elimination of routine tasks, then AI has the potential to do both. In the past, for example, there were data entry jobs, which focused on repetitive and manual tasks, and with the arrival of new technologies, those tasks were replaced, leaving many people without jobs."*

Union representative from the journalism sector in Argentina

This finding aligns with literature reporting productivity gains from the use of AI, as AI can automate repetitive tasks and simplify complex tasks, allowing programmers to devote more time to tasks that AI cannot handle. Details on the perception of productivity increase by country and task are found in Figure 9.

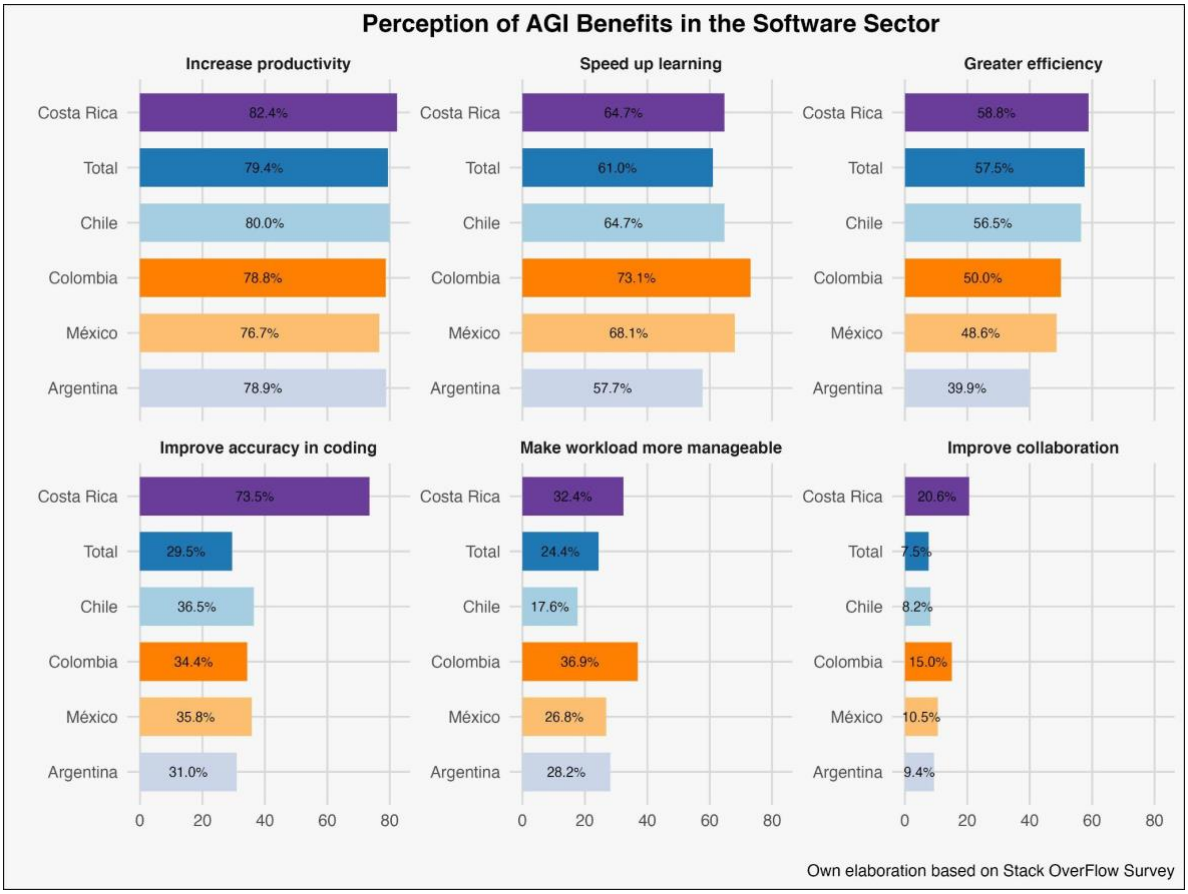

Figure 9: Perception of Benefits in Productivity and Learning in the software sector

Own elaboration based on Stack Overflow Programmers' Survey.

Accelerated Learning

Another benefit with a high perception rate is the ability of AI to accelerate learning. Colombia stands out in this regard, with 73.1% of programmers perceiving that AI tools accelerate their learning, surpassing the global average of 61%. This benefit is also highly valued in Mexico (68%), Chile (64.7%), and Costa Rica (64.7%).

The ability of AI to shorten the learning curve is particularly significant in a dynamic sector like software development, where technologies, methodologies, and skills evolve rapidly. In this sense, AI can provide real-time recommendations, correct errors, and suggest best practices, making it easier for programmers to perform complex tasks without the need for extensive training. This acceleration of the learning curve, and the relative loss of value of experience it may imply, could also lead to a reduction in the barriers to entry for highly skilled roles, allowing

more workers to access jobs that previously required high learning costs and accumulation of experience.

> *"In our country, there is a large divide between private and public education. At the school level, the private system is much better than the public one. However, when you reach university, the situation changes, and the public system is superior. As for artificial intelligence, we work with one of the most important private schools, and I must say that, despite being very advanced in other areas like robotics and social networks, they don't have a specific focus on AI. For now, private schools are not formally incorporating AI, although I believe they will be the first to adopt this technology when they do."*
>
> Business representative from the graphic design sector in Costa Rica

However, it should be noted that there is a difference between the perception of learning by programmers and the actual internalization of knowledge. It is possible that the information made easily available by AI, precisely because of the ease of access, does not result in real learning. This aspect might warrant a dedicated study in the future.

Job Implications: Impact on Wages and Qualifications

Reduction of Barriers to Entry and Pressure on Wages

The ability of AI to reduce the learning curve and increase productivity can have a dual effect on the labor market. On the one hand, by lowering entry barriers and increasing the supply, more people can access jobs that were previously reserved for those with higher education and experience. This could be interpreted as a "democratizing" effect by facilitating access to relatively high-income technical jobs and increasing the supply of skilled labor in the software sector.

However, the simplification of tasks along with the expansion of the labor supply could lead to a loss of skills while also putting downward pressure on wages. In economic terms, the reduction of scarcity in key skills could lead to a depreciation of those skills in the labor market, especially if the adoption of AI becomes a widespread norm.

> *"A skilled analyst with a good grasp of generative tools can begin to take on tasks that were previously exclusive to a data scientist. There is a redefinition of roles underway."*
>
> Business representative from the software sector in Mexico

Deskilling

On the other hand, although AI facilitates the learning of new skills, there is also the risk of a loss of qualification among workers. If AI tools take an increasing role in performing technical tasks, programmers could become more dependent on these tools, potentially eroding their ability to solve complex problems without assistance. This phenomenon, known as deskilling, could have long-term adverse effects, diminishing the adaptability and resilience of the workforce in the face of future technological changes.

Pressure on Employment Levels

Despite the predominance of complementarity or augmentation over automation of occupations, a scenario where artificial intelligence significantly increases human labor productivity could also lead to net job losses if the increase in aggregate demand does not proportionally match this growth. The incorporation of AI raises the marginal productivity of labor, reduces the unit cost of production, and increases the total supply of goods and services. In this scenario, to avoid net labor displacement, it is necessary for this expansion in productive capacity to be absorbed by sufficient increases in aggregate demand, derived, for example, from higher levels of investment and real income or the expansion of new markets. In the absence of such a demand response, the result will be an oversupply that, combined with short-term difficulties in labor retraining, could lead to a reduction in total employment. Thus, while complementarity between AI and human labor prevails, active public policy is required to ensure that the productivity increase translates into sustainable labor benefits over time.

> *"I believe that upper management hasn't been impacted by generative AI yet... for them, it's more like: 'Hey, this is happening, we should implement it,' and then they tell that to those below. So, we at the bottom have to figure out how to handle this thing."*
>
> Worker from the graphic design sector in Chile

General Remarks

The adoption of AI among programmers in Latin America is high, with mostly positive perceptions regarding its benefits in productivity and learning, and a low perception of labor threat. The combination of high adoption rates, favorable sentiment, and low perceived threat reinforces the hypothesis that AI is having a complementary or enhancing effect on human capabilities rather than automating or replacing jobs in the labor market in this sector, even in occupations with high exposure scores. However, it is important to note that the adoption of AI for work comes with significant challenges. Excluding issues of security and ethics beyond the scope of this study, when strictly related to the labor market, the simplification of tasks that previously required high qualification and experience, the increase in the supply of labor capable of performing these tasks, potential pressure on wages, and the risk of deskilling are issues that will require careful attention from organizations and policymakers. On the other hand, as AI continues to evolve, it is likely that its impact on the labor market will also change, and the exposure of different occupations and sectors may shift drastically. In this sense, while it does not seem to be the current trend, a scenario of greater complete automation and mass job losses cannot be ruled out. Therefore, continuous monitoring as well as a detailed case analysis within each sector will be necessary.

3. Estimation of the Effect of GAI on the Salary of Argentine Programmers

In this section, we delve deeper into the software sector for the specific case of Argentina, based on a survey from the Sysarmy community[7] conducted with local programmers. The survey took place between June and July 2023, with a total of 5,805 cases. This in-depth analysis allows us to more precisely explore the relationship between the use of generative AI

[7] Available at https://sueldos.opengube.io/encuesta-sueldos-2023.02/

and salaries. As we will see below, one of the main findings is that 73% of the sample reported using AI tools for coding (such as ChatGPT or GitHub Copilot) in their work. Additionally, usage is inversely related to work experience, meaning that workers with less experience show higher levels of usage. The use of AI tools is associated with a salary premium of approximately 22% compared to those who do not use them, after controlling for age, experience, position, contract type, and educational level, which can be interpreted as an effect on productivity.

From the presented data, a significant use of AI in software development is observed. As shown in Table 1, around 73% of the sample states they use AI in their daily work, while nearly 19% report using it very frequently.

Table 1. Use of AI for software programming (0 does not use, 5 very intensive use)

Use of GAI	Freq %
0	26.7%
1	19.7%
2	16.4%
3	18.4%
4	10.3%
5	8.5%

Source: own elaboration based on Sysarmy (2023).

On the other hand, the relationship between work experience and frequency of AI tool usage shows a pattern that may initially seem counterintuitive. According to Table 2, the frequency of use of these tools is higher among programmers with less experience, indicating an early adoption by less established profiles in the labor market. This finding raises relevant questions: Are the new generations of professionals incorporating AI from the start of their careers, thus altering traditional dynamics of learning and skill development? Is the value of accumulated experience being redefined in a context where AI tools facilitate the acquisition of complex skills? The data emerging from this analysis, as well as the literature reviewed in the background, seem to indicate that these transformations are indeed taking place.

However, at least in the current situation, as observed in Table 3, positive salary gaps associated with AI usage are identified across all levels of experience, suggesting that the early adoption of these tools is linked to higher remuneration.

"Regarding jobs, I think many will tend to disappear, and what will matter is the added value that each person or role can bring in. What will matter is the ideas, the creation, and how you can make these processes run faster, more efficiently, and at a lower cost through AI-based automation algorithms."

Business representative from the software sector in Argentina

Table 2. Years of experience according to level of AI use

Use of GAI	Average experience	Median experience
0	9.3	7
1	8.5	6
2	8.2	5
3	7.1	4
4	6.0	4
5	5.9	3

Source: own elaboration based on Sysarmy (2023).

Table 3. Average net salary (in thousands of argentine pesos) according to work experience and frequency of AI use

Years of Experience	Use little or no GAI	Always use or use GAI a lot	Gap %
0	217.2	269.5	24.1%
1	258.2	258.5	0.1%
2	345.4	365.5	5.8%
3	456.6	561.3	22.9%
4	561.6	697.6	24.2%
5	583.1	644.5	10.5%
6	617.3	931.3	50.9%
7	611.7	734.4	20.1%
8	619.3	887.7	43.3%
9	617.1	1197.4	94.0%
10	678.2	1011.8	49.2%

Source: own elaboration based on Sysarmy (2023).

This relationship holds even when controlling for variables such as age, education level, position, and contract type, as shown in Figure 10, which displays the log-linear regression coefficients on net salary. According to these results, there is a salary premium of approximately 20% for those who report low or very high use of AI tools, compared to those who do not use them. This relationship allows for two interpretations: on the one hand, the increase in productivity derived from the use of these tools could translate into higher earnings, rewarding programmers who incorporate them into their routine. On the other hand, it is possible that those with higher salaries and better working conditions are the ones who integrate emerging technologies early, thus perpetuating the gaps and reinforcing labor market segmentation. In any case, both interpretations seem to suggest that, so far, the adoption of these technologies is more of an initiative by the workers themselves than a decision made by organizations. Therefore, if this adoption pattern shifts toward institutional integration by organizations, it could be expected to also find changes in the relationship between use and salaries.

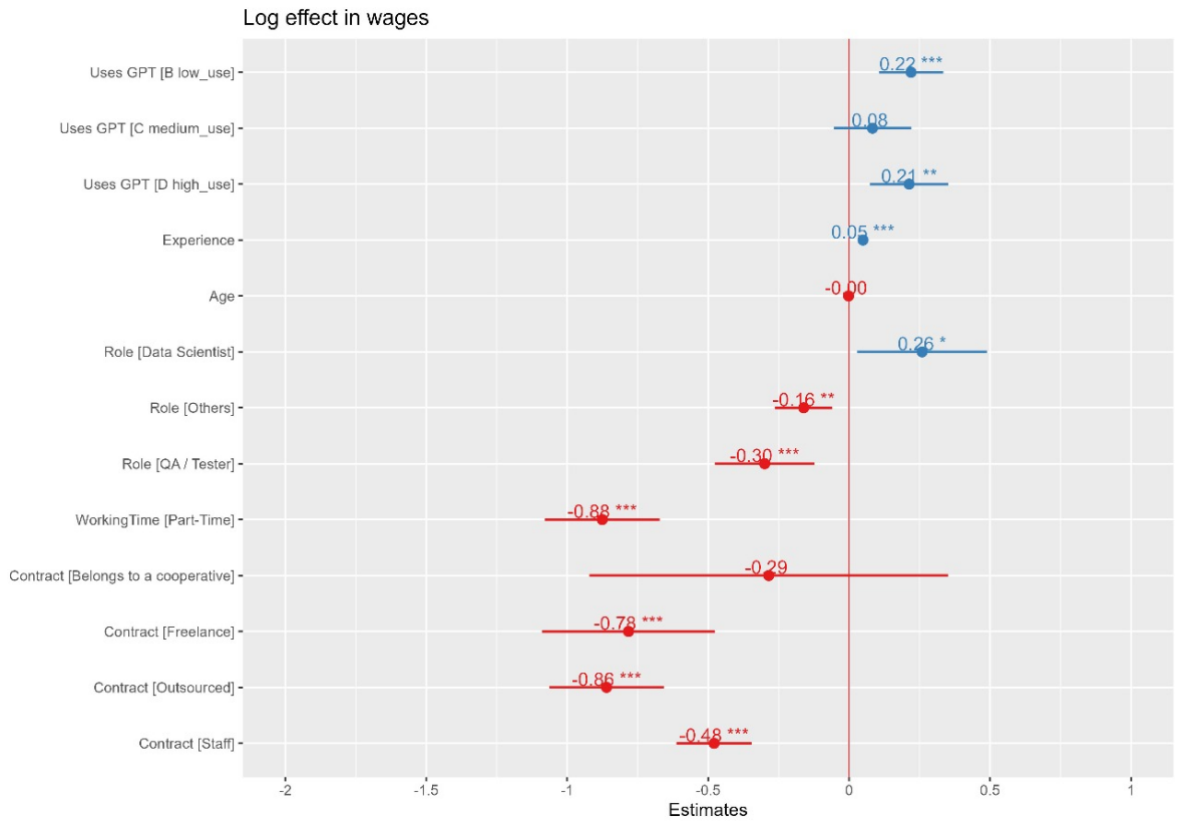

Figure 10: Salary premium for the use of GAI. Log-linear regression coefficients.

Source: own elaboration based on Sysarmy (2023).

Statistical significance:
***: p < 0.001 **: p < 0.01 *: p < 0.05

"We are at the beginning of it all, everything is in 'green pastures,' everything is yet to come. There's no street that isn't affected by artificial intelligence. Innovation accelerates as the generation that manages things gives way to the younger ones, who understand this new wave and teach the older ones how to adapt, because if not, we're going to disappear. That's the barrier: the capacity of companies to adopt new technologies."

Business owner from the graphic design sector in Mexico

IV. Thematic exploration: perceptions and results for a heterogeneous region

This chapter takes a qualitative approach to examining the impact of generative AI on the labor market in Latin America, focusing on key sectors such as Software Development, Call Centers and Customer Service, Graphic Design, Art and Photography, Copywriting, and Journalism. The research was conducted in Argentina, Chile, Colombia, Costa Rica, and Mexico with the aim of capturing the perceptions and experiences of relevant stakeholders regarding the integration of generative AI in the workplace.

Interviews were conducted with representatives from business chambers, entrepreneurs, micro-enterprises, journalists, editors, software developers, graphic designers, marketing managers, lawyers, and union leaders, among others. The geographic selection included a diverse sample to capture variations in generative AI adoption across different countries and sectors in Latin America. While the sample is not representative of the entire workforce, efforts were made to ensure sufficient heterogeneity to provide a broad perspective on the phenomenon. Sample demographic characteristics can be found in the appendix.

It is important to highlight that the qualitative nature of the study and the use of a non-probabilistic sample limit the generalizability of the results. The collected perceptions are subject to individual biases and do not necessarily reflect the full range of experiences in each sector or country. Additionally, the continuous evolution of generative AI technology may impact the relevance of these findings, as use cases and labor market effects could change rapidly.

The interview questions focused on identifying changes in work tasks, skill requirements, employment conditions, and perceptions of generative AI as a disruptive tool in the workplace. Additionally, data from secondary sources—including industry reports, academic studies, and news articles—were collected to complement and contrast individual perceptions.

A thematic analysis was applied to identify emerging patterns in participants' testimonies. Transcriptions were coded to isolate recurring themes such as perceived benefits of generative AI (eg, automation, efficiency) and reported challenges (eg, job losses, new skill requirements). This approach allowed the findings to be structured around key focus areas.

Data triangulation was implemented by comparing interview findings with relevant secondary sources. This process helped validate and contextualize participants' perceptions within a broader framework, ensuring greater robustness in the study’s conclusions.

The confidentiality of the participants and the anonymity of their responses were guaranteed. All interviewees were informed about the objectives of the study and provided informed consent before participating. The principle of non-maleficence was respected, ensuring that the responses were not used in a way that could generate negative consequences for the participants. Furthermore, any conflict of interest was avoided by ensuring that the researchers had no ties to the organizations or sectors studied.

1. Customer Service

This analysis is based on interviews with union representatives from the call centers and telecommunications sectors, as well as executives from companies in the industry. These interviews provided a broad perspective on the realities faced by both businesses and workers in the analyzed countries, offering diverse viewpoints on the impact of generative AI.

In this sector, generative AI is being implemented in highly tangible ways, such as through chatbots, knowledge assistants, claims management, sentiment analysis, and customer satisfaction prediction. A shift is currently being observed, with workers moving toward chatbot-related tasks and applications, while traditional phone-based customer service is declining. However, there is still a preference for human interaction among customers, especially among older adults who continue to rely on in-person service or telephone contact with human agents.

Generative AI has enabled companies to automate a wide range of repetitive, low-value tasks, such as call transcription, basic inquiry management and training material creation. One widely adopted application is the development of virtual assistants that allow agents to quickly access relevant information during customer interactions. These assistants can process large volumes of unstructured data, such as procedure manuals or customer histories, and provide accurate responses in natural language. This functionality improves response accuracy and optimizes service times, ultimately increasing customer satisfaction. Additionally, real-time sentiment analysis, a capability enhanced by generative AI, helps detect customer emotions and adjust responses to improve user experience.

AI-powered systems like chatbots and virtual assistants allow companies to provide customer service 24/7. Additionally, the ease of use of generative AI has drastically cut down the time needed to develop training materials and assistants, reducing it from weeks to just hours. This increased accessibility enhances the customer experience and enables even small and medium-sized businesses (SMBs) to compete with larger companies by offering personalized and efficient services without requiring large workforces.

Businesses are actively exploring different strategies with language models to find the best balance between cost and efficiency. One notable example is the use of LLMs to analyze and extract valuable insights from customer feedback. Some companies have chosen to take full control of the development process, creating internal applications and solutions, while others prefer a collaborative approach, working alongside their technology providers to develop tailored solutions. Across various documented experiences, two recurring concerns stand out: data privacy and the perceived lack of control over the technology.

The Union Perspective

Union representatives focused their analysis on the risks AI poses to employment and the need for corporate transparency. Their experience gives them a close perspective on workers' concerns. In their interviews, they emphasized a prevailing sense of uncertainty, accompanied by a perceived risk to job security. Union leaders highlighted fears of job losses and worsening working conditions.

"Productivity often increases due to the automation of tasks like report generation, but instead of leading to higher wages, we could see a trend toward wage reductions in response to these changes."

Union representative from Colombia

They based their concerns on concrete experiences, referencing past instances where automation had already impacted their industry. For example, one interviewee recalled periods when automation in call centers and telecommunications led to workforce reductions. Another pointed out that AI is speeding up tasks, particularly in chat-based customer service, increasing the need for workers to manage AI applications, while traditional phone support is declining. Additionally, they noted that these technological shifts are often accompanied by increased outsourcing in some companies, leading to greater job instability.

"For lower-skilled workers, their tasks may become simpler, but the workload increases. In the short term, automation eases work demands, but financially, it can result in staff cuts if processes become fully automated. This would have a particularly significant impact on large companies with thousands of employees, where automation could replace many routine tasks."

Union representative from Colombia

"I believe human presence will always be necessary to guide, train, and oversee everything that is happening. I remain hopeful that workers will never be completely replaced but will instead find ways to adapt. We will seek alternatives. We also can't deny technology—it's here to stay. What we must do is move forward, continue learning, and ensure that young people are prepared from an early age to take advantage of these new applications and technologies so they can access better jobs and not be left behind."

Union representative from Argentina

The Business Perspective

"The implementation of technology has significantly reduced costs. For example, they have managed to cut transcription expenses by 80%, allowing them to listen to and analyze more interactions without increasing costs. This not only optimizes resources but also expands their analytical capacity and improves operational efficiency."

Executive from a multinational company

On the corporate side, in contrast, AI is seen as an opportunity to enhance efficiency and productivity—provided it is implemented responsibly and employees receive proper training to adapt to the changes. The prevailing view positions AI as a complement to human skills rather than a replacement. One interviewee cited a concrete example where AI-powered knowledge assistants led to a 10% reduction in average call-handling time.

Executives emphasized that AI has the potential to reshape job roles, much like the disappearance of typists in the past. However, they argued that AI does not pose a threat to workers but rather serves as a transformative tool that necessitates specific training and adaptation within the workforce.

Agreements and Divergences Among Interviewees

One area of agreement between both sides of the sector is the recognition that AI is transforming the nature of work. All interviewees acknowledged that AI significantly increases productivity and reduces costs through automation, enabling agents to handle more cases in less time. For instance, the corporate side cited an example where transcription costs were reduced by 80%, allowing them to listen to and analyze more interactions without increasing expenses.[8] This not only optimized their resources but also expanded their analytical capacity and improved operational efficiency.

There is a shared observation about the trend toward automating repetitive tasks, the importance of training, and the recognition of the digital divide in the region's countries. A common solution proposed by all interviewees was increased education.

Points of Divergence

While both unions and companies offer specialization and training courses in new technologies, there is concern that this training may not be sufficient to prepare workers for the changes in the labor market, leading to the possibility of not being able to retrain all workers. Additionally, handling private and sensitive data emerged as a scarce skill among workers.

In terms of differences, one key concern raised by the union side was the potential for job losses and the lack of transparency from companies regarding their investment plans in AI. In contrast, company representatives presented a more optimistic view, arguing that generative AI is not intended to replace workers, but rather to increase their productivity. They emphasized the role of AI as a "copilot," where humans remain in control, but their capabilities are enhanced.

This divergence reflects the tension between the pursuit of business efficiency and the protection of employment. The concern is not unfounded, as concrete examples highlight this issue. The union side pointed out that AI is driving the automation of entire areas, replacing workers with chatbots and automated systems. They cited an example where 100 people were replaced by only three, with AI-powered chatbots doing the work. Another union representative mentioned that their workplace plans to reduce the workforce by 30% over the next five years due to advancements in AI. This would affect operations in Spain, Morocco, and Colombia, where the company has a presence.

Additionally, some within the union sector argue that the increase in productivity has not led to higher wages and warn about the high volatility of the sector. On the other hand, a success story was shared from a highly unionized company where AI applications were developed in-

[8] It should be noted that this use case does not necessarily involve the use of GAI tools.

house, and workers were trained to use them. This allowed them to specialize and earn better wages.

From the business side, this phenomenon was compared to the agricultural revolution, where mechanization reduced the need for basic labor but increased the demand for specialized skills like engineering. Thus, they conclude that technology pushes people toward more advanced and specialized roles.

On the other hand, the use of tools powered by generative AI is transforming the organization of the workday—specifically, the tasks performed throughout the day, creating the challenge of adapting employees to more creative and sophisticated roles as AI automates manual tasks. This shift is primarily focused on areas where AI still cannot replace human skills, such as empathy, creativity, and complex problem-solving.

Regarding labor conditions, the union representatives point out that automation could lead to salary reductions for workers replaced by AI.

Summary of Perceptions and Trends in the Customer Service and Call Center Sector

The perceptions gathered in the customer service sector reflect the inherent tension between the pursuit of business efficiency and the protection of jobs, a phenomenon that is also observed in academic literature on the impact of generative AI in this sector.

Indeed, both the literature and the interviews align on several key aspects: they acknowledge that generative AI is significantly transforming the nature of work, identify a trend toward the automation of repetitive tasks, and emphasize the critical importance of continuous training. The observed migration of workers toward tasks related to chatbots and applications, while traditional telephone support decreases, suggests that the sector is undergoing a gradual transformation rather than an abrupt disruption. This transformation, in line with findings from studies such as Brynjolfsson, Li, and Raymond (2023), which document a 14% increase in productivity through the use of generative AI-based conversational assistants, indicates that the future of the sector could be characterized by a combination of automation and soft skills enhancement, where human capabilities complement technology, rather than a total replacement of human labor. However, the balance between these forces remains unclear, and therefore, it should not be assumed that the sector will continue to employ the same number of workers.

Thus, distinctive challenges and opportunities for the Latin American region emerge. On the challenge side, the urgent need for effective social dialogue frameworks between companies and workers to manage the technological transition stands out, especially given that the automation of tasks could impact a significant portion of the workforce in the short term. On the opportunity side, there is potential for the development of new, more specialized job profiles, particularly in the management and oversight of automated systems, as well as in handling complex cases requiring advanced interpersonal skills. The sector’s experience suggests that the success of generative AI implementation will depend not only on the technology itself but also on the organizations' ability to manage change inclusively.

2. Software Development

For this sector, interviews were conducted with various stakeholders, including executives, consultants, workers, and union representatives, who reflected on the impact of generative AI on their industry.

Among the most commonly identified applications in software development are the automation of routine tasks such as code generation, manual testing, and workflow automation. These advancements allow developers to focus on more complex and strategic tasks.

The discussions with participants revealed a mix of optimism and concern regarding the effects of this technology on employment. Interviewees noted that generative AI represents not only a quantitative shift but also a qualitative one, altering how work is performed and generating uncertainty about its true impact on the labor market. This uncertainty stems from the continuous advancement and improvement of AI technologies, which has driven companies to adopt them at an increasingly rapid pace to remain competitive in such a dynamic industry. Given this context, both businesses and workers in the software sector will face growing pressure to integrate AI into their strategies.

The interviews reflected a general sense of uncertainty regarding how these new tools will affect both the job market and the broader industry. While the technological revolution is well underway, its precise effects and the full extent of the transformations it will bring remain unclear. Some interviewees expressed a degree of disappointment regarding the initial expectations surrounding generative AI. Nonetheless, all agreed that the automation of tasks, cost reductions, and the expansion of AI-integrated products and services across various sectors represent significant achievements.

The Union Perspective

> *"One must be cautious about where Generative AI is applied. It can undoubtedly replace jobs, but it can also create them by generating new roles. We must consider the importance of so-called 'soft skills,' which are inherent to human work and cannot be replicated by AI."*
>
> Union representative from Argentina

Union representatives in the software sector adopt a cautious and critical stance toward generative AI, acknowledging its transformative potential while also voicing concerns about its impact on employment and wages.

On one hand, they expressed fears that generative AI could automate tasks currently performed by workers, leading to job losses, particularly in routine and repetitive roles. They pointed to concrete cases where AI-driven automation has replaced jobs—such as chatbots—while recognizing that, for now, human oversight remains necessary to guide these processes. However, they also noted that AI's productivity gains could ultimately result in workforce reductions.

Another concrete example of job replacement concerns raised was the development of complex systems using *low-code* or *no-code* tools.[9] These technologies enable fewer people—and even individuals with no prior programming experience—to participate in software development. While this shift could create new job opportunities for less-skilled workers, it may also lead to the automation of additional tasks, such as manual testing[10], ultimately reducing the need for personnel in certain areas.

Regarding wages, union representatives reiterated their concerns, highlighting the uncertainty over whether AI-driven productivity gains will translate into higher salaries for workers or, conversely, lead to lower incomes. Generative AI, by increasing individual productivity, could exert downward pressure on wages, as companies might choose to cut labor costs by replacing workers with technology. Additionally, in some countries, representatives pointed out that the sector lacks a specific collective bargaining agreement for IT professionals, further increasing workers' vulnerability to these changes.

All union representatives emphasized the importance of training and retraining to help workers adapt to new labor market demands and avoid being left behind. Some unions are already offering such courses and are also engaged in dialogue with businesses, workers, and governments to manage the impact of generative AI in the sector. They advocate for coordination between companies, universities, and workers to develop initiatives tailored to the needs of the country's businesses.

In summary, union representatives view generative AI as a highly transformative technology but also as a challenge that must be managed responsibly to protect workers' rights and ensure a fair and equitable transition to a labor market with increased AI presence in the software sector.

The Business Perspective

> *"We are currently in a phase of technological disruption that can be chaotic and evolve rapidly. However, the potential of generative AI is exciting, as it could revolutionize fields such as early disease detection—for example, MIT's Zedo system, which can detect cancer up to eight years in advance—and disease prevention. This technology has the power to propel humanity forward, much like the discovery of electricity or the wheel. Being part of this disruption is thrilling because of its transformative possibilities."*
>
> Business representative from Mexico

From the business sector's perspective, the interviewed executives expressed a mix of optimism and pragmatism regarding generative AI, acknowledging its potential to revolutionize the industry while also recognizing the challenges of its implementation.

[9] Low-code and no-code are methods for designing and developing applications using intuitive tools that allow users to drag and drop components, significantly reducing or even eliminating the need for traditional developers who write code.

[10] The term "testing" refers to the software verification process aimed at identifying defects, ensuring compliance with requirements, and guaranteeing proper functionality.

They highlighted AI's ability to automate repetitive tasks, speed up software development, and boost overall productivity. Specific examples included reducing time spent on manual tasks, freeing up capacity for strategic analysis, leveraging vast amounts of data to enhance decision-making, and modernizing outdated and complex systems—especially for small and medium-sized enterprises (SMEs).

> *"...using artificial intelligence tools like OpenAI is relatively affordable as long as you have a clear understanding of what you need. Additionally, there are free options available with open-source tools like Mistral or Llama. However, the real cost challenge arises when trying to expand or scale the project."*
>
> Business representative from Colombia

Agreements and Divergences Among Interviewees

Most interviewees share a general optimism about the potential of GAI to enhance efficiency, productivity, and creativity across various fields. They also agree on the need to train the workforce in the effective use of GAI tools.

There is broad recognition that GAI is reshaping the nature of work by automating routine tasks and freeing up time for higher-value activities, such as the well known advancements in code production and review.

Both business leaders and union representatives acknowledge the existence of a digital divide in Latin America, although its extent varies by country. In Chile, for example, they point out that while the digital divide is relatively small due to strong internet connectivity, the real challenge lies in learning how to use digital tools effectively. Colombia presents a different case. Despite efforts to promote digital literacy, the country's topography limits access to commercial internet in certain regions, creating a significant digital divide between major cities and rural areas. This same gap could pose challenges for the implementation of generative AI, potentially widening the divide even further.

There is also a shared emphasis on the importance of education and training in addressing social impacts and bridging digital gaps. Specific training programs tailored to each sector are needed to prepare workers for the demands of the evolving job market.

However, perspectives diverge when it comes to the pace of GAI adoption in Latin America. Some interviewees describe adoption as still in its early stages, while others note that implementation is already underway.

Opinions on whether AI is cost-effective vary as well. Some business leaders believe the technology is relatively inexpensive, particularly if the objectives are well-defined. Others, however, caution that the actual costs can be higher than they initially appear. They argue that developing custom AI models is extremely costly and question the long-term sustainability of free tools, emphasizing that someone ultimately bears the cost of the computing power required for AI training and development.

Regarding the impact on employment, views are mixed. Some interviewees anticipate job losses in routine and repetitive roles, particularly in lower levels of organizations. Others argue

that AI will not eliminate jobs but rather increase demand for individuals who know how to use it. Some also foresee a shift not in the number of jobs but in their nature—toward more remote and flexible work, with a possible rise in people opting for freelance opportunities.

Only a few interviewees raised concerns about the high energy consumption involved in training GAI models.

Summary of Perceptions and Trends in the Software Development Sector

The analysis of perceptions within the software development sector reveals an interesting contrast: while quantitative data indicates a high potential for automation, ie, replacement of workers, real-world implementation experiences suggest that GAI primarily functions as a tool that enhances and complements developers' capabilities. This duality is reflected in the collected testimonies, where both business leaders and workers acknowledge significant transformations in the nature of work, though they differ in their interpretations of the long-term implications.

Interviews highlight broad agreement on the immediate benefits of GAI in terms of productivity, particularly in tasks such as code generation, testing, and workflow automation. However, concerns emerge regarding its impact on the labor market, especially the potential downward pressure on wages due to the simplification of complex tasks. This concern is further amplified by the rise of low-code and no-code tools, which some see as democratizing access to the industry, while others view them as potentially leading to job precarity. Given that high labor costs are one of the main components of the pricing structure for software development companies, there is also the possibility of a decline in profit margins for businesses.

The sector faces both unique challenges and opportunities in the Latin American context. One major challenge is balancing the rapid adoption of GAI—driven by global competition and the pursuit of efficiency—with the need to safeguard working conditions in a traditionally well-paid industry. On the other hand, the region has the opportunity to develop its own GAI capabilities and narrow the technological gap with more developed countries, taking advantage of the relatively low cost of entry for using existing AI models.

The sector’s experience so far suggests that the most promising approach is not to resist the adoption of GAI but rather to establish governance frameworks that ensure its implementation benefits both companies and workers. In this regard, it is crucial to pay attention to local, regional, and international governance structures to promote a strategy of productive integration and the development of policies aimed at strengthening each country’s technological capacity, as well as that of the region as a whole.

3. Graphic Design, Art and Photography

The emergence of generative AI in the fields of graphic design, art, and photography presents a complex landscape. To gain firsthand insight into its impact, interviews were conducted with various industry professionals, including designers at creative agencies, freelance artists, visual artists, musicians, agency executives, and union representatives.

The testimonies gathered reveal that generative AI is already significantly transforming creative processes. On one hand, it automates repetitive tasks and streamlines production

stages, enabling freelancers and small businesses to access advanced tools that were once exclusive to large corporations. However, interviewees also voiced concerns about the challenges posed by AI adoption. One of the primary fears is the threat it poses to traditional roles within the creative sector, alongside ethical debates surrounding authorship of AI-generated works.

Creativity remains a core and irreplaceable value in these industries. Some interviewees warned that generative AI could threaten aesthetic diversity by promoting homogenized visual styles, potentially limiting artists' ability to express individuality. Additionally, an overreliance on these models might restrict conceptual exploration and artistic experimentation, both of which are essential to the creative process.

Nonetheless, other professionals see generative AI as a powerful complementary tool—one that, rather than replacing human creativity, could enhance and expand it. From this perspective, AI is not a substitute for artistic creation but a resource that can serve as inspiration and a catalyst for new ideas, unlocking unprecedented possibilities in visual and artistic production.

"It's difficult for a model to generate a piece that fully captures the concepts, trends, or emotions an artist seeks to convey. It might grasp certain elements, but it rarely succeeds in doing so for a complete piece."

Artist from Colombia

The Union Perspective

One example of concern was raised by a union representative from Colombia, who pointed out that the adoption of new technologies has led to a reduction in the number of workers needed. Compounding this issue is the fact that vacant positions left by those retiring or leaving the workforce are not being replaced, due to a decreased demand for labor.

Additionally, the need to adapt to the new labor market demands brought about by the integration of GAI is a growing concern, particularly among older workers, who face greater barriers to acquiring advanced digital skills. In this context, both union representatives and workers emphasize the importance of implementing continuous training programs that enable ongoing skill development.

However, despite these concerns, there is also recognition of AI's potential to improve work processes. Interviewees acknowledge that this technology could enhance efficiency, optimize production times, and, in some cases, even boost human creativity by offloading repetitive tasks to automated systems. Nonetheless, several interviewees agree that while generative AI has increased productivity, this increase has not translated into significant wage improvements.

"…The current problem is that some people become much more efficient thanks to the use of generative AI compared to those who don't use it. However, this

does not translate into higher wages but rather into a heavier workload for the same pay."

Union representative from Chile

The Business Perspective

The majority of business leaders interviewed agree that generative AI enables substantial savings in both time and production costs. For instance, in the photography sector, the implementation of AI has significantly reduced the expenses associated with a photo shoot, making it an attractive option for clients:

"I surprised a client with an AI-generated photo shoot. Normally, a production like that requires assembling a cast of actors, renting a location, setting up lighting—there are so many moving parts that not only add costs but also create logistical headaches. Now, suddenly, I can deliver a fully finished campaign featuring people who look just like you and me—but who don't actually exist. It's amazing because we achieve the same result at the cost of a graphic design project. It's a win-win: we massively increase our productivity, and our clients see a huge reduction in costs."

Advertising agency executive from Argentina

However, despite enthusiasm for its benefits, some business leaders express concerns regarding intellectual property and copyright in the context of AI-generated content. The lack of clear regulations on ownership of works produced by algorithms presents legal challenges that have yet to be fully addressed.

Additionally, while many companies are increasingly interested in training their staff to use AI, some hesitate due to factors like high employee turnover. Investing in training can feel risky if there's no certainty about workforce stability or the long-term impact of AI on job roles within their organizations. Nonetheless, business leaders acknowledge that AI training is essential to maximizing its potential and ensuring a return on investment. One interviewee emphasized that training employees is crucial for a company's long-term success:

"Employee turnover is extremely high, which creates a constant training challenge. You train a designer for six months, and then they leave. When you bring in someone new, they likely don't have the skills we had already established in the agency. This issue doesn't just affect our company—it's an industry-wide challenge."

Business representative from Costa Rica

In the visual arts sector, concerns were raised about the fierce competition that AI can create. Some professionals reported cases where clients demanded lower prices for their work, arguing that AI makes image creation easier and more accessible.

Agreements and Divergences Among Interviewees

Both business leaders and union representatives agree that generative AI enhances efficiency, streamlines processes, and automates tasks, leading to significant cost savings. Both sides

also acknowledge that AI training is essential for workers to effectively use new tools and adapt to the evolving demands of the job market. There is a shared understanding that the rapid advancement of AI presents challenges not only for workers and businesses but also for educational systems, which must adjust to this transformation.

Regarding wages, unions point out that increased productivity has not translated into higher salaries. They recognize that this could be due to pressure from some clients to lower project costs. While this argument could also be used by business leaders, interviews revealed that, in some cases, companies reported increased revenues as a result of greater productivity.

Summary of Perceptions and Trends in the Design, Art and Photography Sector

The insights gathered show that while generative AI has an unprecedented ability to create visual content and automate technical aspects of creative production, the value of human input in the creative process remains a key differentiating factor. This observation is particularly relevant in light of Bernaschina's (2023) work, which warned about the risks of job displacement and the need for standardized ethical guidelines in AI-driven digital art. The interviews confirm these concerns but also highlight a more immediate tension: the potential of generative AI to democratize access to creative tools versus the risk of aesthetic homogenization resulting from its widespread use.

The main challenges fall into two key areas. First, there is an urgent need to establish clear regulatory frameworks to protect intellectual property and copyright in a landscape where AI-generated content blurs traditional notions of authorship. Second, there is increasing pressure on pricing within the sector, as the ease of generating visual content with AI has led some clients to question the value-cost relationship. This issue is particularly significant given that, unlike the software industry—where AI adoption has been linked to wage increases—the creative sector appears to be experiencing downward pressure on prices due to these new technologies.

On the other hand, there are clear opportunities. The region has the potential to build a creative ecosystem that integrates generative AI as a complementary tool, allowing local creatives and artists to compete in global markets with lower production costs. Industry experience suggests that the most promising path forward lies in striking a balance between the efficiency of automation and the preservation of human creativity as a unique value proposition. In this context, ongoing professional training will be essential to help creative professionals adapt to an ever-evolving technological landscape. Additionally, developing governance frameworks that safeguard both technological innovation and the labor and creative rights of workers in the sector will be crucial.

4. Journalism and Copywriting

The interviewees acknowledge that GAI has significant potential to streamline processes, boost productivity, and speed up content creation. Concrete examples of automated routine tasks include audio transcription, summary generation, and draft writing. However, some also express concerns about job losses, the quality of AI-generated content, and the risk of misinformation.

In advertising copywriting, GAI's ability to explore multiple campaign approaches, generate headline ideas, and create prototypes for videos and graphic pieces is widely recognized. According to a creative director interviewed, GAI has the potential to "open creative doors" and provide "starting points" that serve as a foundation for the creative process.

Despite these advantages, interviewees agree that human creativity remains irreplaceable. GAI still lacks an understanding of cultural context, linguistic nuance, and the ability to capture human emotions—essential elements for creating meaningful and original content. In this sense, human oversight is crucial to ensure the relevance, accuracy, and ethical integrity of AI-generated content.

Regarding the job market, most interviewees agree that those who successfully integrate these tools will gain a competitive edge. However, they also warn that adopting GAI comes with challenges. Several journalists and editors expressed concerns about automation replacing certain human tasks and potentially affecting journalistic quality. The spread of misinformation is seen as an ongoing risk if GAI is used without proper knowledge or ethical standards.

A particular concern among journalists working in audiovisual media is voice cloning and the unauthorized use of their work. This issue not only affects intellectual property rights but also negatively impacts the earnings of professionals in the voice-over industry. Those affected by GAI usage raised ethical dilemmas related to plagiarism, intellectual property, and consent in the use of voices and images.

Lastly, some interviewees expressed concerns about a possible intensification of work. The pressure to increase productivity could lead companies to demand a higher volume of tasks, despite the efficiency gains provided by GAI tools.

> *"…I believe GAI is a true turning point for the industry. In my sector, specifically, it presents a dilemma: it either drives growth for the next 20 years or pushes you out of the market. At first, we feared no one would hire our services anymore, but as we became familiar with these tools and their ease of use, we realized we could integrate these advances into our offerings. Today, a growing share of our revenue comes from GAI-based services."*
>
> Business representative from Argentina

The Union Perspective

The union stance regarding the impact of GAI on these sectors is one of concern, particularly with respect to its effects on the labor market and the potential worsening of working conditions. The focus is on protecting labor rights, ensuring the ethical regulation of these technologies, and promoting a fair and dignified working environment. A concrete example of union action was provided by the case in Chile, where union representatives presented regulatory proposals in Parliament.

The interviewees agreed on the uncertainty regarding the potential replacement of human workers in key writing and editing roles. There are fears that companies' adoption of GAI, driven by the pursuit of greater efficiency and cost reduction, could lead to labor precarization, including mass layoffs or the transformation of stable jobs into temporary or poorly paid ones.

Unions also express concern about the intensification of work and labor precarization in the sector. While these technologies may streamline certain tasks, they also increase the workload, as companies expect professionals to produce more content in less time. However, this greater demand is not reflected in a proportional increase in wages.

A particular aspect noted in the analyzed sectors is that the introduction of GAI occurs in a context of pre-existing labor precarization, characterized by low wages and unstable employment conditions. Unions warn that the adoption of these technologies could exacerbate this situation, putting additional downward pressure on workers' incomes. The drive for efficiency and cost reduction by companies, facilitated by automation, could deepen wage inequalities and further precarize the labor market in these creative industries.

> *"…Imagine how much money I've lost. There's a news portal that publishes content with an option to read or listen, and guess who's reading it? Me! Through the TTS software I mentioned. Also, I just found out from third parties that a multinational company is using my voice in an automated answering system to request payments. I haven't been able to record it, but this could lead to legal action, as large companies are using my voice without permission. This has significantly harmed our income."*
>
> Union representative from Colombia

The Business Perspective

The business perspective on AI-generated content in the analyzed sectors is generally optimistic, focusing on efficiency gains and cost reduction while also recognizing the need for employee training.

Interviewees provided concrete examples of how GAI has streamlined processes, emphasizing its potential to reduce human labor as a strategy to cut costs and increase profit margins. Additionally, they highlighted how GAI enables companies to meet the growing demand for personalized content and faster delivery times.

However, despite this optimism, there is widespread recognition among interviewees that GAI cannot fully replace human creativity and judgment. They acknowledge that human oversight remains essential to ensuring both the quality and ethical integrity of AI-generated content. Some interviewees expressed concerns that relying too heavily on GAI could lead to the production of low-quality or superficial work due to the lack of human discernment.

Regarding workforce training and adaptation, there is a growing trend among companies to invest in employee development, particularly for operational roles such as design and copywriting. The goal is to equip workers with the necessary skills to effectively use GAI and maximize the opportunities presented by these new technologies.

The business perception of GAI's cost relative to its value suggests that many entrepreneurs see it as highly affordable, and in some cases, even free—particularly when using tools that offer basic functionalities at no cost. This accessibility has contributed to the view that the technology is inexpensive compared to the possibilities it unlocks. However, industry experts

caution that this perspective does not fully account for the actual costs of developing and maintaining the technological infrastructure that supports these tools.

> *"...When it comes to costs, the difference is significant. For instance, ChatGPT costs $20 per month, whereas hiring an employee requires at least $500 monthly. If a worker's contribution is limited to tasks that can now be automated or performed at a much lower cost thanks to GAI, their value proposition becomes less relevant. However, if that worker combines their skills with GAI tools, their market value could actually increase. It wouldn't make sense to hire someone just to manage a writing bot without a deep understanding of the content being generated or without having previously developed that expertise."*
>
> Business representative from Colombia

Agreements and Divergences Among Interviewees

The interviewees broadly agree on key aspects of GAI's impact, though they differ on the extent of that impact and the strategies that should be implemented.

One common point is the recognition of generative AI's potential to transform the industry, particularly its ability to automate repetitive tasks and streamline processes. There is also a shared understanding of the need to adapt quickly, which is why continuous training is emphasized as essential to staying competitive in an increasingly demanding market.

> *"...I don't know how journalism school programs are structured today, but they're probably outdated. This is moving way too fast, you know? You have to stay on top of it every single day and have a relentless drive for self-learning. You have to commit to constantly educating yourself to avoid falling behind. And you have to know who to read, follow the right newsletters, sign up to different applications, experiment, test things out, try to figure stuff out, and surround yourself with the right people. It's a huge effort to stay updated. Honestly, I try, and it's tough—but I keep at it."*
>
> Union representative from Argentina

Additionally, workers, union representatives, and business leaders alike stressed that human oversight remains essential to ensuring the quality, ethics, and originality of AI-generated content, preventing total reliance on technology.

However, stark contrasts emerge between the perspectives of unions and businesses regarding job security and working conditions. Union representatives voiced serious concerns about the potential negative impact of GAI, fearing job losses and wage cuts that could further exacerbate precarious working conditions. While GAI enables the rapid, cost-effective generation of text, images, and audio, these efficiency gains have not translated into higher wages. Workers and union leaders also feel pressured to keep up with the technology's fast pace.

In contrast, business leaders took a more optimistic stance, viewing GAI as a tool to reduce costs while improving efficiency and profitability. This divergence highlights a fundamental difference in how GAI's impact on the labor market is interpreted—unions focus on the risks to workers, while employers emphasize the economic benefits.

Summary of Perceptions and Trends in the Journalism and Copywriting Sectors

The analysis of perceptions in the journalism and copywriting sectors reveals a particularly complex dynamic in the adoption of generative AI. While quantitative studies place journalists in an area of uncertainty, with an average exposure score of 0.55, and copywriters in a high-risk category with an average of 0.68, interviews suggest that the actual impact is more nuanced—reshaping work processes rather than outright replacing workers.

The transformation of journalistic tasks signals a significant shift in the nature of the profession: while AI takes over functions such as transcription, summary generation, and initial draft writing, journalists may refocus their efforts on in-depth investigations, source verification, and the development of complex narratives. However, this redistribution of tasks is happening in a broader context where the demand for immediacy and constant content production had already been eroding working conditions in the sector. Rather than introducing entirely new challenges, AI appears to be accelerating preexisting trends of job precarization in a profession that has long struggled with the pressures of real-time reporting and continuous content creation.

It is particularly revealing to contrast these findings with prior sectoral studies analyzed in this research. While studies such as Segarra-Saavedra et al. (2019) emphasized the evolving role of journalists toward a greater reliance on Big Data and AI—suggesting a shift toward automated news writing—our interviews depict a more complex reality. Although automation of certain tasks is indeed occurring, journalists and copywriters are finding ways to redefine their professional roles, focusing on aspects that AI still struggles to replicate effectively, such as critical analysis and contextualization. However, this adaptation is unfolding within an increasingly pressurized work environment that demands urgent attention. The study by Flores Vivar (2019), which highlighted AI's potential in combating misinformation, finds support in our interviews, but with an important caveat: professionals stress that effective fact-checking requires a combination of AI tools and human judgment.

This scenario underscores the urgent need for regulatory frameworks at both national levels and through collective bargaining. Regulation is particularly critical in three areas: protecting intellectual property, especially in cases of voice cloning and content reuse; establishing quality standards to ensure journalistic accuracy and depth in an increasingly automated environment; and safeguarding labor conditions in a context where increased productivity could lead to intensified workloads without corresponding salary improvements. Without these regulatory measures, there is a risk that AI, instead of enhancing quality journalism, could accelerate a race to the bottom in terms of investigative depth and labor conditions.

Conclusions

The analysis of the impact of Generative AI (GAI) on labor markets in Latin America reveals a complex landscape where technological transformations intertwine with the region's structural characteristics. Throughout this research, patterns have emerged across the different sectors analyzed, suggesting that the effects of GAI cannot be understood merely as a simple driver of automation and potential job displacement, but rather as a multifaceted process that simultaneously creates opportunities for democratization and risks of increased precarization—both in employment and in the income of small and medium-sized enterprises.

One particularly significant dynamic emerging from the analysis is the inherent tension between GAI's democratizing potential and its tendency to intensify existing processes of labor precarization in the region. On one hand, the adoption of these technologies is breaking down historical barriers in sectors traditionally characterized by long training periods and high upfront investments—such as the development of specialized chatbots, automated code generation, graphic design, or the creation of advertising campaigns using artificial intelligence. However, this democratizing effect inevitably brings in downward pressure on wages, directly resulting from the structural changes in labor costs. As tasks that previously required high levels of human specialization become simplified and widely accessible, the relative value of labor depreciates—posing not only the risk of wage precarization but also a profound shift in the social perception of the value of advanced human skills.

This phenomenon is particularly evident in professional fields that historically based their competitive edge on specific competencies and advanced expertise, which could jeopardize both the sustainability of employment and the economic value of specialized work in the medium and long term. Moreover, high labor costs—driven by the level of specialization required—have traditionally been a key factor enabling many SMEs to set high rates for their clients. If these tasks no longer require highly specialized personnel, clients may also exert downward pressure on prices.

This phenomenon is further amplified in the Latin American context due to the structural characteristics of its labor markets, where high levels of informality and weak regulatory frameworks risk turning the democratizing potential of generative AI into a driver of greater precarization. **The evidence gathered suggests that, in the absence of active policies and effective governance frameworks, lowering barriers to entry may not lead to broader access to quality jobs. Instead, it could result in an expansion of precarious work, now taking on new, technologically mediated forms.**

The research reveals a concerning trend in how generative AI skills are being acquired across the region. **Unlike previous technological shifts—where companies typically led workforce training efforts—the adoption of generative AI tools is now largely driven by individual worker initiatives.** This emerging dynamic carries significant implications for the future of work. On one hand, it reflects the agility and adaptability of certain segments of the workforce. However, this "self-training" model is creating a new form of labor segmentation that compounds existing inequalities.

Tech-savvy workers—who also tend to have better access to educational resources and higher cultural capital—are gaining substantial competitive advantages. Meanwhile, those with fewer

resources or less inclination for self-directed learning risk falling behind. This is especially problematic in the Latin American context, where pre-existing educational and digital inequalities could amplify these effects, creating a vicious cycle. As a result, the gap between "AI-augmented" workers and those unable to adopt these tools is likely to widen progressively.

Another key finding is the **discrepancy between the widespread fear of mass worker displacement due to generative AI and the empirical evidence gathered across sectors**. While occupational exposure studies suggest high levels of vulnerability in certain jobs, real-world implementation paints a more nuanced and complex picture.

In the software sector, for instance—where exposure metrics predict a high risk of automation for programmers—the reality shows a transformation process where generative AI primarily serves as a productivity-enhancing tool. Similarly, in design and visual arts, AI is reconfiguring workflows rather than replacing workers outright, though this reconfiguration still brings pressures on working conditions, as seen in journalism as well. Even in customer service—where chatbot automation is most visible—there is more of a task redistribution than a massive replacement of workers. Many are shifting into roles requiring stronger interpersonal skills and the ability to solve complex problems.

This heterogeneity in impacts suggests that the future of work in the generative AI era will be shaped less by the technical capacity for automation and more by social and organizational choices around how these technologies are implemented. The uncertainty surrounding future impacts—evidenced by the large proportion of occupations falling into the "big unknown" category—signals that we are in the midst of a transformation whose ultimate direction will depend heavily on the policies and governance frameworks developed to manage it.

On the other hand, there is a clear paradox between the levels of potential exposure to generative AI suggested by quantitative studies and the real-world implementation experiences emerging from fieldwork. This discrepancy is particularly striking in the software sector, where exposure indicators point to a high risk of automation for programmers (with an average exposure score of 0.62). Yet, in practice, generative AI is primarily functioning as a productivity-enhancing tool. In some cases, there are even reports of wage premiums for workers using these tools—though, based on the available information, causality between AI use and higher pay cannot be confirmed.

A similar, though distinct, pattern emerges in the design and visual arts sector. While exposure indexes suggest a moderate automation risk, practical experiences show that generative AI is reshaping creative processes and market dynamics more than it is directly replacing workers. The key to understanding this apparent contradiction lies in recognizing that potential exposure to AI does not directly predict how the technology will be implemented in specific contexts. Organizational decisions, cultural resistance, client preferences, and, crucially, workers' ability to adapt and redefine their professional roles all serve as mediating factors between technical automation potential and actual labor market outcomes.

This observation carries important implications for public policy design: while the possibility of massive job displacement cannot be ruled out, it is not yet evident. This suggests that the initial focus should be on managing the qualitative transformations that generative AI is already bringing to the nature of work.

A critical finding of this research is the **sharp divergence in perceptions of generative AI among different labor market actors—differences that could hinder a productive technological transformation in the region**. Interviews revealed that while business leaders largely view generative AI as a tool for boosting efficiency and competitiveness—emphasizing productivity gains and cost reductions—union representatives voiced serious concerns about its impact on employment and working conditions.

This divide is not merely rhetorical; it translates into concrete decisions regarding AI implementation, training policies, and work reorganization strategies. If left unaddressed, it could escalate into significant conflict. The region's historical experience shows that successful technological transformations require a basic consensus between workers and employers—something that, so far, appears distant when it comes to generative AI. Building this consensus therefore emerges as one of the most urgent challenges to ensure that AI adoption contributes to productive development in the region without deepening existing inequalities.

This analysis also **challenges the dominant narrative that reskilling is the primary solution to the challenges posed by generative AI. While upskilling and reskilling are undeniably important, the interviews reveal the practical limits of this approach**. Not all workers have equal opportunities to retrain. Barriers range from limited time and financial resources to structural obstacles such as age, unequal access to digital infrastructure, or family responsibilities—which disproportionately impact women. Furthermore, evidence suggests that even when reskilling is successful, it does not automatically guarantee decent working conditions.

In this context, **the research suggests that the most promising path forward is to strengthen clear implementation strategies, define specific use cases, and create effective spaces for social dialogue**. This approach would help address the fundamental concerns emerging from the study: the need to manage technological transformation in an inclusive way, the importance of distributing the productivity gains fairly, and the urgency of establishing basic protections for workers in a rapidly changing environment. Social dialogue, in particular, emerges as a crucial tool to bridge the divergent views of employers and workers and to develop technological implementation strategies that balance the pursuit of efficiency with the protection of fundamental labor rights.

One key concern highlighted by the analysis is **the growing gap between the speed of AI adoption and the ability of institutions to adapt and respond to these changes**. While AI tools are being deployed at an accelerated pace—driven by their relative accessibility and the competitive pressures of the global market—traditional institutions such as unions, regulators, educational systems, and governance frameworks are struggling to keep up. This time lag creates an institutional void that could exacerbate existing vulnerabilities in Latin America's labor markets. For example, while workers individually adopt these technologies to remain competitive, educational systems struggle to update their curricula, unions face challenges representing workers in emerging job roles, and regulatory frameworks become outdated before they are even implemented. This gap between technological change and institutional adaptation is not merely a technical challenge—it represents a fundamental risk to the region's ability to manage this transition in an equitable and sustainable way.

The study finds that **establishing ethical and governance frameworks is an urgent need across all sectors analyzed, but it also suggests that this path requires a process of**

collective construction. The experiences gathered reveal diverse concerns depending on the sector: in journalism, the urgency focuses on protecting intellectual property, ensuring information quality standards, and safeguarding working conditions; in design and visual arts, the focus is on authors' rights and preserving creative diversity; in software development, the issues revolve around data governance and privacy protection; and in customer service, on safeguarding sensitive information and ensuring decent working conditions—just to mention some of the dimensions addressed throughout the study. This diversity of needs highlights why such a framework cannot emerge solely from technical or bureaucratic spaces: it requires the active participation of workers, employers, unions, professional associations, and civil society as a whole. Historical experience in regulatory matters shows that regulations imposed without social dialogue tend to be ineffective or, worse, may deepen the very inequalities they seek to address. Therefore, it is crucial to establish effective spaces for social dialogue where these diverse voices can express their needs and concerns. Only then will it be possible to develop regulatory frameworks that not only address the technical aspects of AI but also fully consider its ethical, labor, and social implications.

Ultimately, the research reveals that the impact of AI in Latin America is shaping a complex and multifaceted labor transformation, where promises of greater productivity and technological democratization coexist with tangible risks of precarization and the deepening of existing inequalities. The findings suggest that we are not simply facing a process of automation and labor displacement, but rather a profound reconfiguration of the nature of work—one that demands equally sophisticated responses. The observed gap between potential exposure to AI and concrete implementation experiences indicates that there is room to steer this transformation toward socially beneficial outcomes—but this will not happen spontaneously. Coordinated action is required, combining the strengthening of regulatory frameworks, the development of effective spaces for social dialogue, and the implementation of public policies that ensure a fair distribution of the productivity gains.

The experience of the sectors analyzed suggests that success in adopting AI will depend less on the technology itself and more on our collective ability to build institutions and agreements that harness its transformative potential while protecting workers' fundamental rights. In this sense, the region faces both the challenge and the opportunity to develop its own model of technological integration—one that responds to its specific needs and aspirations for inclusive development.

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Methodological Annex

1. Interview Guide

Sectors to cover:

- Call Centers and Customer Service
- Graphic design, art and photography
- Copywriting and journalism
- Software development

The dimensions of interest are:

- Wages
- Working hours
- Working conditions
- Inequality
- Current Education, Required Skills, and Career Goals
- Canned Packages vs. of design.

Questionnaire guide:

1. General Outlook
    a. Do you know the difference between AI and generative AI?
    b. What sensation do they cause you? fear? optimism? other?
    c. How did the emergence of these new tools impact the job market/sector?
    d. Based on your own experience in the sector, what do you think is the relationship between the promises associated with a new technology and its actual results in the workplace?
    e. The technology is cheap in relation to what it offers. Do you consider this statement to be true, false or neutral?
    f. Since the emergence of generative AI, have there been changes in the sector? What technologies based on generative AI were incorporated?
    g. Was the GAI incorporated in your workspace/sector designed for the requirements of that workplace? Or is it a generic GAI that came on the market and they simply use it?
    h. Do you think the landscape would change if they had tools specifically designed for your sector/company? as?
2. Working conditions and schedules
    a. Were there layoffs? New forms of contracting?
    b. What were the momentous changes in your day-to-day work?
    c. Are there more outsourced companies? Is this change related to AI or other issues?
    d. Was the number of hours worked increased or decreased?
    e. Is the volume and pace of work more intense?
    f. Are the tasks the same? Do you feel that your work has become simpler or more complex?
    g. Do you use them daily? Does the use depend on each worker or is it encouraged by the company? (this question does not apply to freelancers)
    h. Would you organize your day differently with the use of these tools? In what way?

i. Can you assure that there is more replacement of labor? Or is AI a work tool? Which of these two realities do you find most in line with the sector?
j. Do you think your work tasks can be replaced by GAI tools in the coming years?

3. Wages
   a. Did salaries increase or decrease in the sector due to the emergence of tools based on generative AI?
   b. Are they more stable?
   c. How do you rate productivity levels?
   d. Are there bonuses for productivity or for training and use of new technologies?
4. Inequality
   a. Do you feel that workers' tasks have become more routine or more creative?
   b. Do you think that more rank-and-file workers, middle managers or senior managers are being replaced?
   c. What is your perception regarding the changes you see? What sectors or professions within the sector changed the most? as?
   d. What is your final perception regarding the change that has occurred? Has the situation improved or worsened?
   e. Is there a plan in the organization (business or union) to alleviate these changes if they are negative? Which?
   f. What actions were carried out?
5. Skills
   a. Did they have training in AI-based tools?
   b. What training do you think is needed?
   c. Are new skills valued?
   d. Do you consider that workers are prepared for the transformation?
   e. Is there resistance to the incorporation of AI in work spaces?
   f. Does current basic education provide the necessary content to use these tools?
   g. Is there a digital divide in the sector (in terms of access to technology, training and connectivity) and how does it affect it?
6. Perspective
   a. Final comment on where you see technology, the sector and the future of work going.

2. Interviews Summary Chart

		Activity/Sector				
Country	*Category*	Customer Service	Design	Journalism	Software	Total sum
Argentina	enterprise	1	2	3	3	9
	union	1		3	2	6
Total for Argentina		2	2	6	5	15
Chile	enterprise	1	3	2	2	8
	union			3	1	4
Total for Chile		1	3	5	3	12
Colombia	enterprise	2	4	1	4	11
	union	1	2	2		5

Total for Colombia		3	6	3	4	16
Costa Rica	enterprise	1	2	4	1	8
	union			2		2
Total for Costa Rica		1	2	6	1	10
Mexico	enterprise	2	1	1	5	9
	union			2		2
Total for Mexico		2	1	3	5	11
Total sum		**9**	**14**	**23**	**18**	**64**

It is important to note a significant methodological limitation regarding the union representation in the sample. The coverage of interviews with union representatives was not homogeneous across countries and sectors due to various structural factors. First, several of the sectors analyzed, particularly in the graphic design and software development fields, lack traditional union structures in several countries in the region, reflecting both the relative novelty of these industries and their particular forms of labor organization. Additionally, in sectors where formal union representation does exist, such as in customer service, difficulties were encountered in establishing contact with some unions due to organizational fragmentation and, in some cases, reluctance to discuss issues related to the implementation of new technologies. This situation resulted in an unequal distribution of union voices in the sample, with greater representation in countries like Argentina, where there is a more established union tradition, and a lower presence in other countries where collective representation structures are weaker or in the process of formation.