Gen Z’s role in shaping the US digital economy
We have set out to understand how the evolution of the labor market and the changes caused by the COVID-19 pandemic can be expected to shape future demand for aptitudes and skills and what this means for Gen Z in the US—the fully digitally native generational cohort comprising those born between the mid-1990s and 2010. Our main findings are as follows:

In the US, Gen Zers remain predominantly on the periphery of the labor market. However, the next decade will see them become an engine of economic growth—we forecast that the number of Gen Z in work will triple to 51 million by 2030, and their income (after tax) will increase to almost $2.0 trillion.

The next wave of digital technology, whose adoption will be accelerated by the pandemic, will be highly disruptive to the workplace and place a greater premium on higher cognitive skills such as critical thinking and problem solving. This plays to the natural strengths of US Gen Z:

**Agility:** an ability to adapt and fuse new concepts on-the-job will be crucial to successfully navigating the future workplace.

**Creativity:** previous research by Snap Inc. has shown that Gen Z are significantly more likely to both consider themselves to be creative and to undertake creative tasks. Around two-thirds of Gen Z in our survey said that they ‘knew how to create something new’ from online content, much higher than older generations. Further US Gen Z are more entrepreneurial with nearly one-in-three saying they knew ‘how to monetize content’, significantly ahead of older generations.

**Curiosity:** consistent with their youth, Gen Z are more eager to learn compared to older cohorts—in our survey over 90% of US Gen Z had taken part in some form of online learning activity in the past week compared to less than 80% of older adults.

Augmented Reality (AR) technology will exemplify the disruptive trends of the next decade and has the potential to transcend both the business and consumer worlds. Our analysis shows that the US is the global hub for this technology, and estimated to be home to around one-in-four of the world’s AR firms.

Moreover, our survey highlights that US Gen Z are significantly more familiar with AR and are more likely to apply the technology in a range of everyday situations. Such a familiarity will confer a major competitive advantage if the technology’s growth potential is fully realized.

**Background context**

Commissioned by Snap Inc., Oxford Economics has undertaken research to further understand the implications of the Coronavirus pandemic, and the associated global recession, on the long-term economic prospects of Gen Z. This companion report summarizes evidence collected and draws out the major implications for Gen Z in the United States, one of the six markets that formed the basis for our analysis.
Gen Z will become a dominant force in the workplace by 2030

In the US, there were 63 million Gen Zers in 2019, equivalent to almost one-in-five of the total population. Reflecting their youth, most of Gen Z is currently on the periphery of the labor market with many opting to focus at this stage on education. In 2019, nearly 80% of US Gen Z was enrolled in school or college whilst just over one-in-four had some form of job, with many mixing their studies with part-time employment.¹

This picture is set to rapidly change over the next decade. Our forecasts show how Gen Z will become the heartbeat of economic growth, with those in-work more than tripling to 51 million—more than 30% of US employment—by 2030. Moreover, the group’s migration into more full-time working patterns combined with greater experience will naturally see their earning power rise sharply, outstripping the rest of the workforce. As a result, we expect their income (after tax) to have climbed to almost $2.0 trillion in 2030, a seven-fold increase on 2019

By 2030, Gen Z will make up almost a third of the workforce
Gen Z’s share of total employment will rise rapidly, from 11% in 2019 to 31% in 2030.

Their incomes will balloon over the next 10 years
Gen Z disposable incomes will increase more than seven-fold, from around $255 billion in 2019 to almost $2.0 trillion in 2030.

They will become the engine of consumer spending
Gen Z’s consumer spending will increase more than nine-fold, from $245 billion in 2019 to $1.9 trillion in 2030.

¹ Based on analysis of US American Community Survey data. Further details can be found in our main report.
Technology and COVID-19 set to transform skills demand...

Over the past decade, our analysis of job postings data in the US has highlighted how the growth of social platforms, and the associated proliferation of data, have had substantial spillover effects for demand for digital skills. The US labor market is set to experience a wave of change underpinned by advancements in artificial intelligence (AI). As AI and related technologies proliferate in the workplace, they will place a greater premium on digital know-how and advanced cognitive skills such as creativity and problem solving.

These disruptive forces will be accelerated and, perhaps, exacerbated by COVID-19. Digital society is at the heart of these trends. Social distancing has encouraged a new generation of online shoppers—growth in the share of e-commerce in Q2 2020 was greater than in the previous five years combined.

Moreover, compared to previous recessions, this downturn can be expected to engender more significant structural change assuming that the pandemic, to some extent, has permanent effects on consumer behavior. This has been already visible in start-up activity which has sky-rocketed over the past year to a rate well in excess of anything recorded in the past 15 years. Beyond creativity and technological savvy, all this disruption will create a greater requirement for re-training among the existing workforce, and, more broadly, place an increased emphasis on lifelong learning.
...in favor of Gen Z’s innate agility, creativity and curiosity

All these trends would seem to play to the natural strengths of Gen Z in the United States. Past literature has highlighted the potential for AI to generate age-biased technological change, with older workers less incentivized to retrain (due to fewer remaining working years) and less mobile. Moreover, our consumer survey highlighted Gen Z’s relative eagerness to embrace digital technology as a tool for learning.

US Gen Zers were almost twice as likely as Gen X to have participated in an online class for fun, used a chat forum to solve a problem or watched an online lecture to learn about a new topic. Further, a survey by Cassandra Research on behalf of Snap, Inc. shows that 8 in 10 Gen Z describe themselves as creative.

Our survey also showcased US Gen Z’s natural aptitude in digitally creative tasks. Around two-thirds of Gen Z we surveyed, said that they ‘knew how to create something new’ from online content, much higher than the overall sample share of 55%. Moreover, US Gen Z’s entrepreneurial instincts were apparent in the fact that nearly one-in-three knew ‘how to monetize content’, a significantly higher share than among US Millennials and Gen X surveyed.

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3 2021 Cassandra research, “Say Hello to the Snapchat Generation,” commissioned by Snap Inc.
Augmented reality has the potential to transcend business...

Our research has pinpointed AR technology as a perfect example of some of the important structural trends that will shape the labor market over the next decade. To overcome shortcomings of official data, we have used web-scraping to understand more about the current state of the sector. This suggests that the US is home to around one-quarter of the world’s AR companies, which collectively currently employ around 70,000 workers. Geographically, these are well spread around the country, with cities such as Austin, Chicago, Portland and Atlanta centers of AR start-up activity alongside more traditional tech hubs in California. Since 2018, AR usage in the US has grown at an average rate of 18% per year and is expected to go up to 95.1 million in the US by 2022, according to estimates by eMarketer.com.4

AR’s growth potential is vast and has been accelerated by the pandemic, notably in retail where major brands have turned to AR as a means to help replicate the in-store experience. But perhaps the most important feature of AR, that will support its growth, is its versatile utility. Already real-world applications range well beyond e-commerce and marketing to healthcare, education, architecture, entertainment and manufacturing. For example, Business Wire recently projected that the market for AR in healthcare will grow at an annual compound rate of over 30% in the next five years, led by North America, with applications ranging from assessment of surgical preparation to minimally invasive surgery and rehabilitation.5

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4 https://www.emarketer.com/content/us-virtual-and-augmented-reality-users-2020
...and Gen Z are in pole position to profit

In the US, Gen Zers enjoy a major competitive advantage in their innate familiarity and understanding of AR compared to older workforce cohorts. A significantly higher proportion of Gen Z know how to use filters, lenses or other digital effects to support everyday tasks such as trying on products or looking up information.

Gen Z, therefore, appear primed to exploit the potential proliferation of AR across the consumer and industrial economy. This point was validated by interviews with AR entrepreneurs and pioneers and experts (see detailed overleaf) which highlighted that Gen Z’s natural creativity and agility are highly prized in this sector.

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**Gen Z are more familiar with AR**

Share of respondents who knew “how to use filters, lenses or other digital effects to...”

<table>
<thead>
<tr>
<th>Task</th>
<th>16–24</th>
<th>25–39</th>
<th>40–55</th>
</tr>
</thead>
<tbody>
<tr>
<td>...share photos or videos with friends and colleagues/classmates</td>
<td>62%</td>
<td>58%</td>
<td>53%</td>
</tr>
<tr>
<td>...look up information about an object or a place using my camera</td>
<td>37%</td>
<td>33%</td>
<td>30%</td>
</tr>
<tr>
<td>...learn a new skill using my camera</td>
<td>39%</td>
<td>30%</td>
<td>27%</td>
</tr>
<tr>
<td>...look up directions by using my camera as I am navigating to my destination</td>
<td>26%</td>
<td>24%</td>
<td>22%</td>
</tr>
<tr>
<td>...try on new products before making a purchase</td>
<td>37%</td>
<td>30%</td>
<td>24%</td>
</tr>
</tbody>
</table>

Source: YouGov data, Oxford Economics
Case study insights

“The music industry, like other creative industries, is happy to try a new technology like AR to connect emotionally with listeners. But now, in times in COVID-19 when people can’t go to concerts, AR lenses brought the artist to the people.”

Michael Nicoll, Founder, Blnk

Blnk is a US-based social AR company focusing on creating interactive experiences for music labels: from lenses to celebrate John Lennon’s 80th birthday to building AR experiences for singer Billie Eilish and hip-hop duo Rae Sremmurd.

Founder, Michael Nicoll says the music industry, like other creative industries, is happy to try a new technology like AR to connect emotionally with listeners. AR lenses weave content from music videos and allow the users to interact with them personally. For Billie Eilish, Blnk created a community snapchat lens for her new song, “You should see me in a crown”. The lens had a realistic 3D animation of a tarantula crawling out of the users’ mouth, generating an emotion of fear that pushed beyond the boundaries of a typical lens. The lens also included a button that users could click on to purchase her merchandise.

Michael highlighted the role of AR development platforms such as Lens Studio in democratising the ability to use and create AR experiences. These platforms enable users to create and share lenses and filters with a large audience quickly with little upfront investment and training. Lens Studio is “light years ahead” of other platforms according to Michael and allows users to create Machine Learning (ML) content and filters.

Michael is excited about the many ways AR will become a part of our lives. He believes that the use of AR in the music industry will continue to grow and AR lenses will become a regular feature of new music releases.
“Using lens studio allowed us to create simple lenses despite not having a lot of lens experience. It was a tried and tested platform to not just build lenses but distribute them widely and get feedback from users quickly.”

Frank Shi, co-founder, Lens Studio

**Paper Triangles**, based in Los Angeles, is a social AR company that helps brands create AR experiences and is currently a Snapchat Lens Creative Partner. Paper Triangles have worked with a wide variety of clients from McDonald’s and Fanta to Wayfair and Pandora.

According to co-founder, Frank Shi, AR lenses are a fun and interactive way for brands to tell their story by encouraging audiences to play and create their own snaps and even share it with their friends. Playful and fun experiences are more effective in helping brands communicate with their target audiences.

In the coming years, Frank expects location-based AR to change the way we interact with the physical world, allowing users to create personalised experiences with posters and billboards. For example, Paper Triangles created a lens centred around American rapper, Bhad Bhabie. The lens turns static billboards in the physical world to a videos of Bhabie encouraging the user to check out her show.

Paper Triangles also uses platforms such as Lens Studio extensively. The platform’s features ensure compatibility across devices and other hardware and quality issues and allows Paper Triangles to focus on the creative aspects of lens building and get their lenses out to users quicker. Before Lens Studio was launched, Paper Triangles used a variety of other tools to build their AR lenses but found it difficult to distribute widely. Paper Triangles had worked on an AR art installation highlighting the impact of climate change for a Future of Story Telling event but had to limit the AR experience to iPads. Using Lens Studio for the same project could have allowed for a wider distribution.

Paper Triangles uses AR to reach out to the younger demographic in e-commerce. Frank is also excited about what Gen Z will bring to the workforce. He believes that Gen Z are brave and willing to experiment with new technology and do not rely on formal training to learn. He believes that their agility and skills will fuel the creativity needed for a new wave of innovation.
GEN Z’S ROLE IN SHAPING THE US DIGITAL ECONOMY

Summing up and a call to action

The forces unleashed by the latest wave of digital technology, and accelerated by COVID-19, will be highly disruptive, forcing individuals to adapt and learn new skills more frequently than in the past. This trend will create challenges for policymakers, businesses and workers of all generations. Our research program has identified the following five key themes:

• **Plug the educational attainment gap**: widespread school closures across the US in 2020 call for immediate action. During 2020, it has been estimated that the typical US student lost around two months of live instruction, an event that has already been shown to have had an impact on children’s attainment particularly those from lower income households. Additional tuition is urgently required to correct for this.

• **Supporting the economic recovery whilst not impeding structural reform**: in contrast to most economies in Western Europe, the US opted to ‘let the market rip’ in 2020. This choice should aid the structural adjustment that will be needed post-COVID—as exemplified by the current economic dynamism of the US start-up scene. However, it has come at a short-term cost with joblessness rising more sharply than in countries which employed widespread employment incentive programs. A major focus for policymakers, therefore, needs to be on preventing the permanent scarring effects on labor force participation that persisted for several years after the previous recession.

• **Maximising the potential of digital technology to meet the re-skilling challenge**: despite being at the root of disruption, digital technology can also be fundamental to the solution. Our survey suggests that US adults are well ahead of the curve with 81% of those surveyed engaging in some form of digital learning activity in the past week compared to 58% overall. AR offers immense potential for education and training particularly in fields related to the physical sciences given its capacity to recreate virtual laboratory settings (see below).

• **Achieving a mindset shift around lifelong learning**: digital technology can certainly help break down barriers to participation but what is also required is a broad mindset shift so that a culture of learning becomes endemic. In an OECD survey, nearly two-thirds of US adults (over 25) indicated that they did not want to participate in either formal or non-formal education, despite nearly half of this group indicating that they had actually undertaken some form of it in the past year.

• **Refitting education to the new Industrial age**: more fundamentally, it is becoming clear that an education system that is focused on the acquisition of specialized knowledge will not be fit for purpose in the new Industrial age. A shift towards problem-based learning will better equip students for future challenges in the workplace. The Digital Rail Project, run by the Tallahassee Community College, offers a fine example of what could be achieved. It exploits advanced technologies, including AR, to create mobile technology labs in under-served neighborhoods engaging students in projects centred on the application of technology to solve real-world problems.

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7. For example, the unemployment rate (ILO definition) more than doubled in the US during 2020 compared to much more modest rises in France, Germany and the United Kingdom where preserving existing employer-employee relationships were a bigger cornerstone of government policy.

8. Based on data from the OECD’s Survey of Adult Skills which can be accessed at https://stats.oecd.org/Index.aspx?DataSetCode=EAG_AL.

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