JUDY FAULKNER'S ONE-WOMAN SHOW

WORLD'S BILLIONAIRES LIST

WEALTH-CREATION IN A PANDEMIC

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Forbes INDIA

AU Small Finance Bank MD & CEO
SANJAY AGARWAL

BANKING'S NEWEST BILLIONAIRE

HOW SANJAY AGARWAL BUILT AU SMALL FINANCE BANK INTO A COLOSSUS WORTH ROUGHLY $4.4 BILLION BY TAKING BANKING SERVICES TO THE HINTERLAND

PLUS

WHY IT'S RAINING UNICORNS IN INDIA

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Entrepreneurship & innovation will increase India's economic pie

The Geometry of Wealth

Writing about billionaires at a time when India's daily Covid-19 caseload has breached the 200,000 mark—in mid-April—may seem surreal, even perverse. It's that time of the year, all over again, when those rendered jobless virtually overnight, thanks to cities shutting down, begin the long journey to their homes in the hinterland. It's also that time when the scramble for beds, ventilators, oxygen and medication is getting graver by the day.

But that's the reality of the Covid-19 era. The world's billionaires' list just got longer. And they've got richer, too. Thanks in the main to skyrocketing stock prices, the number of billionaires on the *Forbes* annual list of the world's wealthiest hit 2,755—660 more than in the 2020 list. The collective net worth of this elite bunch was up to $13.1 trillion, higher by $5.1 trillion from a year ago. India reinforced the trend, with the rise of 140 billionaires, up from 102 last year, making it the country with the third-highest number of super-Richie Riches; their collective wealth almost doubled to just under $600 billion.

In theory, this is capitalism working just fine. Remember, after all, that even if it is the individual's wealth that tends to be tom-tommed, it's a less significant manifestation of the organisation he or she has built with the help of hundreds of thousands in the workforce. The founders are in most cases entrepreneurs who took a risk to build a venture that today can employ so many. These founders—of traditional and new age companies—are pulling out all stops to create assets, jobs and industries, which in turn does its bit for the economy; and that economic growth will trickle down to the lower layers of the pyramid.

Or at least that's how it's supposed to work. But, in Covid-19 times, the paradox being pointed to by sections of economists and analysts is that billionaire fortunes may be back to pre-pandemic highs—and even higher—in less than a year, but it's going to take the world's poorest much longer to turn around their lives. In the US, working families are looking to President Joe Biden to usher in a system that ensures the rich and corporations pay higher taxes, which will go into improving public services and building an economy that works for all Americans.

In India, the government's call—if you go by the finance ministry's Economic Survey for 2020-21—is that in developing countries like India, economic growth and inequality will converge at some point; and that economic growth will have a far greater impact on poverty alleviation than inequality. (Inequality refers to the degree of dispersion in the distribution of assets, income or consumption; poverty refers to the assets, income or consumption of those at the bottom of such distribution.) "In sum, for a developing country such as India, where the growth potential is high and the scope for poverty reduction is also significant, a policy that lifts the poor out of poverty by expanding the overall pie is preferable," notes the Survey. Redistribution for greater social equality is only feasible if the size of the economic pie grows rapidly, reckon the economists of North Block.

Against such a backdrop, it's entrepreneurship, innovation and leadership—rather than billionaire wealth in isolation—that will help in increasing the overall economic pie. The *Forbes India* cover story this fortnight is on one such founder-turned-billionaire who has built a sustainable operation on the platform of financial inclusion that takes banking services to the hinterlands of India. Don't miss Samar Srivastava's profile of Sanjay Agarwal and AU Small Finance Bank on page 30.

STORIES TO LOOK OUT FOR

▲ Sanjay Agarwal (left), MD & CEO of AU Small Finance Bank; Whitney Wolfe Herd, founder & CEO of Bumble, is the world's youngest self-made woman billionaire

Brian Carvalho
Editor, *Forbes India*

brian.carvalho@nw18.com

Best,

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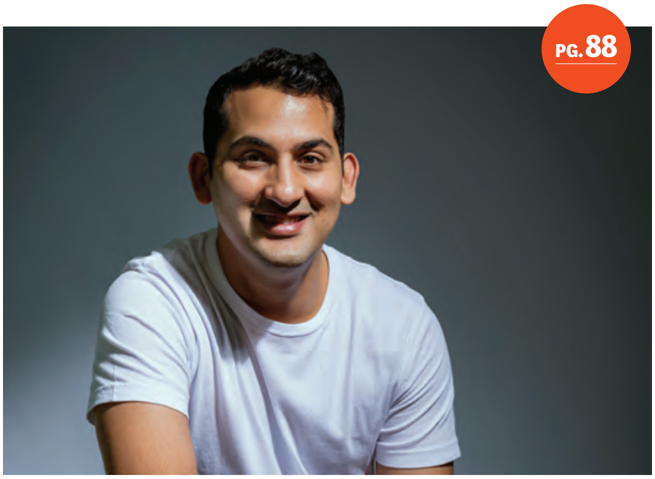
Banking Billionaire
With a net worth of $1.3 billion, Sanjay Agarwal debuts on the list of world's billionaires. His AU Small Finance Bank aims to be counted among its larger peers over the next decade

AMIT VERMA

New billionaires: (From left) Ashish Bharat Ram, MD SRF Ltd, Arun Bharat Ram, chairman SRF Ltd, and Kartik Bharat Ram, deputy MD, SRF Ltd, at their New Delhi residence

LIFE

Brazilian upstart: David Velez, co-founder & CEO, Nubank



Just for fun: Comedian and host Danish Sait

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Editor: Brian Carvalho

Network18

TO OUR READERS
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HARNESSING THE COUNTRY'S GROWTH STRATEGY

Abhijit Pati, CEO & Director, Bharat Aluminium Company Ltd. (BALCO) is committed to strengthening the economy using metal of strategic importance to the country.

Abhijit Pati, CEO & Director,
Bharat Aluminium Company Ltd

> *Working for the welfare of our communities has always been at the core of our operations at BALCO. With the outbreak of COVID-19, BALCO quickly pivoted its community development programmes to focus efforts on the health and safety of the resident communities across the globe.*

"When I joined Vedanta's aluminium plant over a decade back, it was with the dream to work in one of the greatest aluminium smelters in the world. In my career spanning over three decades, my experience in the Indian manufacturing industry has allowed me to witness the transformation and evolution of the aluminium industry making it India's fastest growing and most useful metal industry with its multiple applications across sectors being well poised to drive India towards becoming a self-reliant nation.

"The clarion call of an Aatmanirbhar Bharat from our Hon'ble Prime Minister is seeing Indians work on a war footing to fulfill this vision. The fortuitous offshoot of this has seen the creation of millions of mini entrepreneurs looking to shape their own destiny and contribute to India's future," said Abhijit.

With agility and resilience becoming imperative to every industry, the challenges have increased by manifold. For instance, the past year presented unique challenges and opportunities for companies who were agile. Seizing the threats and challenges and turning them into opportunities are the keys to unprecedented growth. For this, organisations as well as societies, need to constantly strive to be future-ready. Change is no more a single cataclysmic event, but a regular and all-pervasive feature.

Aluminium is not only a metal of strategic importance to the country but also a vital raw material for key industries like electrical distribution, transportation, aerospace, defense, and building & construction, etc. It is a continuous operation function, meaning, the smelters must run 365x24x7. "Since we are one of the country's largest producers of aluminium we challenged ourselves to ensure that the wheels of manufacturing kept running during the pandemic with minimum resources and all precautions so that the country does not have to suffer. We dynamically changed our product mix to cater to the changing customer needs and to the export market through our global customer base. The supply chain saw severe manpower and demand crunch across ports and shipping lines so we pivoted our sourcing strategy to procure from new suppliers, who had rapidly worked out a plan to ensure the delivery of raw materials to us. To monitor supply chain disruptions and pilferages, we deployed a Digital Logistics Control Tower to remotely monitor the raw material logistics from port or mine to plant and plan operations accordingly."

"There are two big learnings in my professional career, that have defined me. First, I have always been curious to try out new uncharted paths. I have always endeavored to be open to innovating and reimagining existing ways of working, I am forever curious and try to learn from what did not work out, improve upon it and try something new yet again. Technology is such a great equalizer and force-multiplier, that it is vital to constantly be willing to adopt next practices, and not just best practices, as a leader, my constant endeavor is to percolate this thought process throughout our diverse teams, so that it becomes an intrinsic part of the organisational culture. Second, the success of any leader depends on how many leaders he creates in turn. A people-first approach is hence vital. This approach has resulted in BALCO having empowered teams with robust people-practices, customer-centricity, and an unrelenting focus on quality while taking our communities along as we progress."

"Working for the welfare of our communities has always been at the core of our operations at BALCO. With the outbreak of COVID-19, BALCO quickly pivoted its community development programmes to focus efforts on the health and safety of the resident communities across the globe. Indian Aluminium Industry has generated over 8 lakh jobs directly and in-directly and developed over 4000 SMEs in downstream sector. Aluminium industry has a strong output and employment multiplier effect (backward and forward linkages) on other key sectors. It has forward linkages with aviation, defense, auto, electricity, construction, packaging etc., and backward linkages with mining, refining, chemical industry, power, machinery, etc," added Abhijit.

Unicorn Ok, Please
It's pouring unicorns in India. Out of 10 so far this year, six sprung to life in April **P/14**

The Sky's No Limit
Jeff Bezos and Elon Musk saw their fortunes reach the stratosphere in 2020 **P/16**

Wealth Wonders
Despite it being a pandemic year, Indian billionaires made a windfall last year **P/24**

VACCINE APPROVALS

Will Foreign Vaccines Help Fight The Second Covid-19 Wave?

As the government allows emergency use clearance for foreign vaccines, *Forbes India* explores what difference they will make to the existing supply capacities

AMID CONCERNS OF AN uncontrollable surge in Covid-19 cases, and a severe shortage of vaccines, India has finally decided to fast-track approvals for vaccines already approved globally.

Until now, vaccines, even if approved globally, had to undergo rigorous trials in India before they were approved by the Indian government. The move made sense until early January when India began its vaccination drive and was well past the peak of the first Covid-19 wave.

Now, with cases spiralling out of control, and expected to worsen in the coming days, the government's move assumes significance as it can help meet a growing shortage of vaccines in India. On April 13, the government-appointed National Expert Group on Vaccine Administration for Covid-19 (NEGVAC) gave its nod to allow vaccine-makers such as Pfizer or Moderna to bring their vaccines to India without conducting mandatory phase 2 and 3 clinical trials. Instead, they will need to do a bridging trial, which means the first 100 volunteers will be assessed and observed for seven days to monitor for severe and immediate side effects. After that, the vaccines will be rolled out for the entire country.

"The NEGVAC, after comprehensive deliberation,

AMIT DAVE / REUTERS

recommended that vaccines for Covid-19, which have been developed and are being manufactured in foreign countries and which have been granted emergency approval for restricted use by USFDA, EMA, UK MHRA, PMDA Japan or which are listed in WHO (Emergency Use Listing) may be granted emergency use approval in India, mandating the requirement of post-approval parallel bridging clinical trial in place of conduct of local clinical trial as per the provisions prescribed under Second Schedule of the New Drugs & Clinical Trials Rules 2019," the government said in a statement.

The decision came just a day after the government allowed the sale of the Russia-made Sputnik V vaccine, which will be distributed by Hyderabad-based Dr Reddy's Laboratories. The move comes at a time when state governments have been complaining of vaccine shortages, amidst stringent localised curfews to contain the spread of the pandemic. On April 13, India recorded over 1.84 lakh cases, the single-highest spike in a day since the pandemic started in March 2020.

"From now till April-end, 20,122,960 doses are in the supply pipeline to states and Union Territories," said Health Secretary Rajesh Bhushan on April 13. "This clearly shows that the problem is a lack of better planning, not of vaccine doses shortage. We have made available vaccine doses to states and UTs from time to time... to bigger states we give four days of supply at once and on the fourth and fifth day, we replenish it. For smaller states, at once we supply seven to eight days of vaccine doses and on the seventh or eighth day, their supply is replenished."

Until now, the New Drugs & Clinical Trials Rules, 2019 required a foreign manufacturer to apply for emergency use authorisation of vaccines, and to mandatorily submit the result of local clinical trials even if they were approved globally. These trials, in which the manufacturers conducted phase 2 and 3 studies to collect safety and immunogenicity data, often included limited participants since the trials have already been conducted in another country. The move, the government also reckons, will help in importing bulk drug material and optimal utilisation of domestic capacity, which will in turn provide a fillip to vaccine manufacturing capacity and total vaccine availability.

THE MOVE CAN HELP IMPORT BULK DRUG MATERIAL, OPTIMISE USE OF DOMESTIC CAPACITY

A brick kiln worker on the outskirts of Ahmedabad is given a dose of Covishield, manufactured by Serum Institute of India

"We have noted the recent announcement with regard to the regulatory pathway for global vaccine," a spokesperson for Pfizer told *Forbes India*. "We remain committed to continuing our engagement with the government towards making the Pfizer and BioNTech vaccine available for use in the government's immunisation programme in the country."

DESPERATE SITUATIONS

Experts point out that bringing more vaccines into the inoculation drive is crucial at this time, particularly Sputnik V, which has manufacturing partnerships in India that can deliver about 800 million doses over time.

Virologist Shahid Jameel, director of the Trivedi School of Biosciences at Ashoka University, points out how the rise in the number of cases during the second wave is faster than the first wave. With over 13 million cases at present, he says, "we have gone from 10 million to 11 million in 66 days, 11 million to 12 million in 34 days and now 12 million to 13 million in under 15 days. Active cases are now growing at an alarming rate of 6.8 percent daily," he told *Forbes India* on April 10.

Apart from measures like testing, isolation, and taking precautions to reduce person-to-person spread, the only feasible option to contain the coronavirus is to vaccinate at scale. Jameel explains that experience from other countries shows that the transmission slows down significantly at 40 percent vaccination coverage. "In India, by April 10, we have vaccinated only 0.8 percent of the population, with 6.3 percent receiving one dose," he says. "We have a long way to go."

According to Dilip Jose, MD and CEO of Manipal Health Enterprises, India's vaccine demands could be met with no supply constraints if more vaccines are approved for use, and production capabilities are scaled up for the two vaccines currently in use—Covishield, made by Pune-based Serum Institute of India (SII), and Covaxin by Hyderabad-based Bharat Biotech.

"The size of the population and the geographical spread is an enormous challenge in our context. While the pace [of vaccination] has picked up, the aim should be to achieve a much larger daily delivery rate so that we cover all adults as quickly as possible," Jose says. "Logistics of vaccination, especially in small towns and villages, and production capabilities are key."

About 90 percent of India's vaccination programme is fulfilled by Covishield, and the rest by Covaxin. The SII is producing 50 to 60 million vaccine doses a month, while the number for Bharat Biotech is reportedly close to 5 million doses. As per media reports, Bharat Biotech is likely to increase the Covaxin monthly production capacity to 12 million, with bulk production at its Bengaluru manufacturing facility. Bharat Biotech and SII have not responded to *Forbes India*'s queries.

Jameel believes production of vaccines itself is not an issue. "Based on publicly available information, the production capacity of Covishield is 50-60 million doses per month, adding up to a production of 270 million doses. About 50 million doses of Covaxin have also been supplied. Publicly available data shows about 316 million doses were manufactured in India by March-end," he explains.

Jameel adds that as of April 8, only about 111.35 million doses have been delivered to states, of which 91.60 million have been consumed, leaving a balance of 19.75 million. "Another 24.5 million doses are reported to be in the pipeline."

He explains how states have vaccinated at variable rates, with Maharashtra utilising over 390,000 doses daily since April 1 and Tamil Nadu using only 37,200 doses per day. Consequently, some states are running short while others have a stockpile. Maharashtra had doses left for less than four days, but Tamil Nadu had enough to last 45 days. "If we do some simple arithmetic, of the 316 million doses, 135.5 million have been delivered to states or are in the pipeline. About 64.5 million doses were exported. This totals to only about 200 million does. Where are the remaining 116 million doses?"

FRANCIS MASCARENHAS / REUTERS

Experts also say that along with making these vaccines available, it is also equally crucial for authorities, particularly at the local level, to be informed about specific risks associated with vaccinations. There needs to be systematic and timely assessments of adverse events following immunisation (AEFIs), says public health activist Malini Aisola of the All India Drug Action Network.

As of March 29, according to a presentation made before the National AEFI Committee, at least 617 AEFIs have been reported across India, of which at least 180 people died post-vaccination. Experts say AEFIs resulting in hospitalisation or deaths must be investigated to determine whether they are related to the vaccination. According to Aisola, the AEFI assessments have not been able to keep pace with vaccination.

"The purpose of reporting AEFIs informs the vaccination drive in important ways, be it ensuring there are adequate screenings, if there is a necessity to put out warnings, to ensure people have access to medical treatments and also to guide medical providers on how to treat certain events that may have been found to be related to the vaccinations," she says, adding that there is a tendency among local or district-level authorities to immediately rule out any link between the adverse event

6%

The percentage of India's 1.36 billion population that has received at least one vaccine dose by mid-April, according to data tracking portal OurWorldinData

AFP

A notice about a shortage of Covid-19 vaccines is seen at a vaccination centre in Mumbai

and the vaccination.

"The National AEFI Committee must meet more frequently. There also has to be training and capacity-building of vaccine administrators at the local level, where the message should be that it is okay if they report AEFIs so that we can find and tackle all safety issues related to vaccination."

HOW MUCH OF A DIFFERENCE WILL IT MAKE?

According to data tracking portal OurWorldinData, while India has inoculated about 6 percent of its 1.36 billion population with at least one dose, Israel and the UK have given one shot to 61 percent and 47 percent of their population respectively, while the US has vaccinated 36 percent of the population.

India began what was touted as the world's largest vaccination programme on January 16, when the government decided to vaccinate health care and frontline workers. On March 1, those above 60 and those above 45 years old with co-morbidities were allowed to be vaccinated. Since April 1, the vaccination has been extended to everyone above 45. Amidst all this, the government also embarked on Vaccine Maitri, a diplomatic initiative to send vaccines to other countries, and has so far sent some 65 million doses to 90 countries.

"It's not that the recent approvals will help thwart the second wave," says Nandakumar Jairam, chairman and CEO, Columbia Asia Hospitals. "But having fast-tracked the process, it will help with controlling any future waves. Because immunity develops two weeks after the second shot. It would have helped if the approvals had come earlier, but it is also a question of safety."

The government has ordered 141 million doses from SII since the vaccinations began. With Bharat Biotech, the government had initially placed an order of about 5.5 million doses. As per a PTI report earlier in March, the company got an order for an additional 4.5 million doses.

The move, however, will help fast-track vaccines that are in the pipeline. Currently, Covavax, a vaccine made by SII in partnership with the UK-based Novavax, is undergoing trials in India, even though it has been found to provide 89 percent efficacy in its phase 3 trials. The company expects the vaccine to be rolled out from September. Then, there are trials planned for Johnson & Johnson's vaccine, which has been approved by the USFDA, being manufactured by Hyderabad-based Biological E.

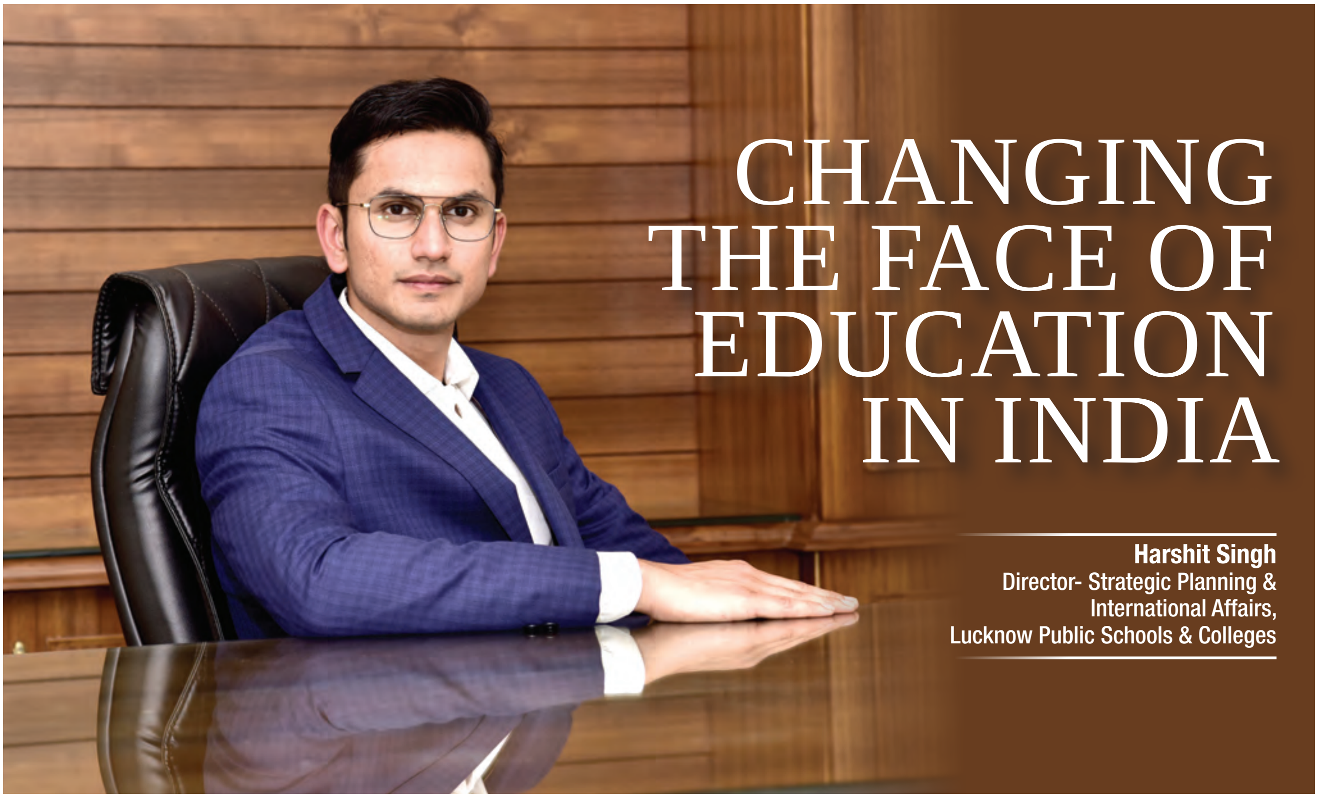
Another vaccine, manufactured by Ahmedabad-based Zydus Cadila, will be considered for approval once the company submits the data of its phase 3 trials. The company had earlier expected to complete the process by March-end and laid out plans to manufacture some 200 million doses. For now, it is still waiting for all its dosings to be completed. Zydus's candidate, ZyCov-D, will be the second indigenous vaccine after Covaxin.

"They [the approvals] are unlikely to help in the short term, since the approvals, except for Sputnik V, are dependent on following a hundred vaccinees for over a week before full emergency approvals for usage are given," says Satyajit Rath, a scientist at the National Institute of Immunology. "That means, in practical terms, it is likely to take a month or so at best before any approvals actually come through and vaccinations begin."

Even then, there could be some problems with supplies, logistics and vaccine hesitancy. "As the variety of vaccines available and approved grows, the logistical difficulties of keeping track of who has had which vaccine are going to multiply, especially since most of these [apart from the Janssen-J&J one] are two-dose vaccines," adds Rath. "As an aside, it would have been far better for the government to plan with more foresight (and less hubris) for this, by urging and facilitating in-country bridging trials for as many vaccines as possible; if that had been done in good time, starting from late last year, yet another shortcut like the present one would not have been needed. Shortcuts tend to contribute to vaccine hesitancy."

Rath adds that the possible deployment of foreign vaccines is unlikely to make any large difference, "since this so-called 'second wave' is likely to begin to ebb before these new vaccines come into deployment in large enough numbers to make a difference... It will, however, make a difference to the next series of outbreaks, and is therefore a welcome, though a poorly managed and contrived step."

• MANU BALACHANDRAN & DIVYA J SHEKHAR



CHANGING THE FACE OF EDUCATION IN INDIA

Harshit Singh, Director (Strategic Planning & International Affairs), Lucknow Public Schools & Colleges has created an integrated multidisciplinary institution structure that provides a wide and varied arena across Uttar Pradesh and Delhi for the staff and student communities to showcase their academic and extra-curricular skills.

The Group has been felicitated with several prestigious awards such as:

- Top 100 "The World's Greatest Brands 2017-18" Asia & Gulf Co-operation Council (GCC)
- The Extraordinaire Brand Award 2018-19
- Award for Excellence in Campus Placement & Infrastructure, etc.

In conversation with Harshit Singh seeking his views on internationalising education and LPS embracing technology…

Q How has LPS embraced technological interventions in rapidly changing times?

A I believe that technology empowers its users. Technology surrounds us all the time and thus, denying access to it will be an extremely backward thing to do. The fruits of knowledge have been easily accessible with technology and thus, it is important to inculcate and adapt to the use of technology in education.

At LPS, we have not only embraced technology but have also been continuously working on creating endless possibilities to extend its reach in all directions. Our degree college, Lucknow Public College of Professional Studies, Vinamra Khand, Gomti Nagar, Lucknow has come up with an Artificial Intelligence Club that indulges in implementation and research for making learning much more meaningful and effective.

Q What is your outlook on the internationalisation of education?

A We believe that expansion is at the core of existence. Considering education as a gateway for humankind to expand, internationalisation is the key to that gateway which makes every person a global citizen. I along with the LPS community look forward to establishing connections across the planet and being as well as producing global citizens. With a keen focus on creating a global impact through education, I thrive to create independent thinkers.

Q What is the driving force behind the progressive steps that Lucknow Public Schools and Colleges has taken in the field of education?

A It is our commitment and efforts towards generating intellectual and intelligent lots, which would be recognised at

> *“My father envisions his actions as something which would only be undertaken or performed to benefit society. I learn from him every day to turn his vision in terms of quality control and progressive steps into reality.”*

the world level across various fields. Our students are unleashing their credential potentials in the service of humanity. We are aware of the fact that society is driven by the diligence of sincere people and thus, LPS is constructing personalities for society. My beloved father Dr S P Singh is the inspiration and driving force behind the vision and initiative. He laid an amazing foundation and created a unique world, which not only became home to many people but also built a horizon of opportunities for upcoming generations.

Q Shouldering a huge responsibility, how do you plan to take your father Dr S P Singh, a well-known educationist's vision forward?

A I am proud to be the son of such a celebrated educationist of India, Dr S P Singh, who has dedicated his life to making quality education accessible to seekers far and wide. My father envisions his actions as something which would only be undertaken or performed to benefit society. I learn from him every day to turn his vision in terms of quality control and progressive steps into reality. I want to take his noble vision across the globe by blending the required knowledge and information, and steering Lucknow Public Schools and Colleges ahead.

Q What initiatives do you plan to undertake to make students iconic and aware of a successful life?

A I believe students need to be made aware of the latest trends and taught to be more cautious about their foundation and future. We at LPS understand that foundation building is an endless process and we continue to do our efforts in making it stronger every day. Recently, I started a Career Talk Series which included webinars, workshops, seminars, and an international conference on a variety of topics. Several versatile and scholarly people and researchers became a part of the series to guide our students and mentors to tell them how careers are made by learning. Functioning as real-time facilitators, envisioning the future and growth of every student, I personally take initiatives to enhance the quality of teaching and learning with a team of innovators, academicians, and sincere researchers. Such trends are here to stay at LPS with the best of the team's efforts.

Q With the government's New Education Policy (NEP), how LPS plans to incorporate the changes?

A I strongly appreciate this bold initiative as it was clearly the need of the hour. The strategies for building cognitive capabilities and let a child explore him/herself will definitely bring about a revolution in Indian education. We are closely working on the NEP and strategising the processes, which will enhance teachers' capacities as per global needs.

Receiving 'The Extraordinaire Brand Award' from the famous motivational speaker Gaur Gopal Das.

Q As an educational institution, what contributions has LPS made in the development of the society?

A Pivotal to nation-building, LPS as an educational institution understands that progress is dependent on the quality of education. We have been working for social upliftment and providing quality education. Our alumni have been setting examples by performing amazingly well in bureaucracy, medical, engineering, judiciary, research, etc, across India and abroad. We are proud to have created leaders.

Q What are your views on social service? Do you render services to common people?

A Social service is a vital part of our work that we do for the betterment of the society through providing quality education. Since my parents, Dr S P Singh and Mrs Kanti Singh, both have been Legislative Council members of Uttar Pradesh, I have been brought up in an environment where social service is inevitable. We donated INR 21 lakhs during Uttarakhand Flood Tragedy in 2013, 45 lakhs during Kerala Flood Tragedy in 2018, and 21 lakhs in UP Chief Minister's Distress Relief Fund in 2020 to fight Corona. During pandemic times, we distributed bath and detergent soaps to labourers returning to their homes, homoeopathic immunity-booster Arsenicum Album-30 to approximately 90,000 families, water bottles and umbrellas to Corona warriors (policemen), and served food items amongst the needy.

Q How have you supported your staff and other people during the pandemic?

A Suffering a financial setback did not stop us from being supportive towards our extended family—the staff members. To begin with, we continued to pay our employees their salaries. Moreover, relaxation in fees amount was offered to affected guardians.

UNICORNS

Unicorn Ok, Please

It's pouring unicorns in India... out of 10 so far this year, six sprung to life in April. The funding bus is set to get more crowded

SHUTTERSTOCK

A FORECAST IN JANUARY MADE it clear that 2021 would be an exceptional year. "India will have at least 12 unicorns (privately held firms with a valuation of $1 billion and more) this year," a joint report by Nasscom and global management and strategy consultancy Zinnov predicted in the first week of January. The makers of the report were realistically optimistic. Reason: Last year, 14 startups joined the unicorn club in India as against 10 in 2019. So another 12 over a span of a year was a no-brainer.

By mid-January, a week after the prediction, Digit Insurance became the first unicorn of the year. By end of March, the country added three more. The funding storm was set to pick up furious pace. On the first Monday of April, social commerce startup Meesho stormed into the coveted club. Next day, fintech startup Cred followed suit. Then, it was the turn of online pharmacy firm PharmEasy. Immediately after, social media app ShareChat, online investment platform Groww, and messaging startup Gupshup gatecrashed the party.

In the first nine days of April, India saw six unicorns. To put things in perspective, the number is equivalent to what India logged cumulatively in four years from 2014 till 2017. There is another way to slice the data. Ten unicorns in 2021 is more than the number in 2017, and equal to the count in 2019 (see box). With eight months still to go for the year to end, the unicorn club is set to get crowded. "It's great for the ecosystem. Indian startups are coming of age," reckons Deep Kalra, founder of online travel aggregator MakeMyTrip, which took a decade to turn into a unicorn.

Reasons for a sharp uptick in the birth of unicorns are not hard to find. Prem Pavoor, partner and India head at venture capital (VC) firm Eight Roads Ventures, explains. "This is a consequence of a confluence of supply and demand," he says. The VC fund is one of the backers of API Holdings, the parent company for PharmEasy—one of the freshly minted unicorns. Icertis, a contract lifecycle management SaaS firm and another portfolio investment of Eight Roads Ventures, has nearly tripled its valuation to $2.8 billion since 2019 when it turned into a unicorn. On the supply side, Pavoor underlines, there have been significant tailwinds driven by the pandemic around penetration and consumption of digital content and enabled services. The lockdown also catalysed an accelerated uptake of enterprise software, where Indian companies are swiftly emerging as global contenders.

The venture capitalist now breaks down the demand side of the unicorn story. "The demand for high-quality companies is at its peak," he says. Beyond the traditional investors, there is a new crop of entrants—global private equity, VC and hedge funds—who are keen to take part in the Indian growth story. "They have been quick to offer attractive valuations, which have positioned them as top suitors for the best companies."

What has also added rocket fuel to the unicorn growth is excess flow of the American dollar. "Capital is cheap and interest rates are low, especially in the US," explains Vaibhav Agrawal, partner at Lightspeed Venture Partners. Capital, therefore, is chasing growth. "This has made internet companies attractive," he adds. Add to this the fact that India is perhaps the last internet market—with over 1 billion users—that is open to internet and technology entrepreneurs globally. "This creates a perfect storm for capital inflow," he says.

The factor, though, that has triggered a surge in unicorns is the pandemic. Covid-19 has expanded the total addressable market for the internet across many categories

$11.8 bln

The total value of deals in 2020; it was $143 billion in the US, according to researcher Preqin

SHUTTERSTOCK

How India Minted Unicorns

Slow gait between 2010 and 2018...

2011	1	InMobi
2012	1	Flipkart
2013	1	Mu Sigma
2014	1	Snapdeal
2015	3	Ola, Paytm, Quikr
2016	2	Hike, Indus Towers
2017	0	
2018	7	Byju's, Freshworks, JioSaavn, PolicyBazaar, Swiggy, Udaan, Zomato

...and trotting over the last three years

2019	10	BillDesk, BlackBuck, Delhivery, Dream11, Lenskart, Ola Electric, Oyo, Rivigo, Zoho, BigBasket
2020	14	Cars24, DailyHunt, FirstCry, Glance, HighRadius, Nxtra Data, Nykaa, Pine Labs, Postman, Razorpay, Shop101, Unacademy, Zenoti, Zerodha
2021	10	Digit Insurance, Infra Market, Innovaccer, Meesho, PharmEasy, Gupshup, ShareChat, Groww, Cred, Five Star Business Finance

SOURCE Tracxn; analysts

such as ecommerce, SaaS, education and health care. The technology investor community has gone from looking for $1 billion outcomes to $10 billion or maybe $30-$50 billion outcomes within a matter of months. This explains high-priced rounds, and companies getting valued over a billion. The positive side of the boom, Agrawal underlines, is that the best startups haven't wasted the opportunity in the crisis. "They've improved businesses models, cut discounts, worked on order frequencies and take rates, and emerged leaner," he reckons.

Some analysts point towards the maturity of the startup ecosystem to explain the mushrooming of unicorns. Every growing market has an inflection point when it gets into high gear and accelerated growth. "India is going through such a phase," says Anup Jain, managing partner at Orios Venture Partners, a VC fund. The tech startups, he underlines, have been buoyed by two things. First is the infusion of capital investments into the country. With Tiger Global and SoftBank having raised fresh funds with allocation to India, startups are grabbing investments. Secondly, accelerated digital adoption means that companies with even $300 million in valuation are ready to jump to the next level. "The US has 135 unicorns, China 115 and India has some 48," he says.

What the easy flow of money into the startup ecosystem also means is an impending phase of consolidation. "The fact that capital can create market leaders is well established," says Radha Kizhanattam, partner at Unitus Ventures. What the pandemic has done, she explains, is accelerate this phenomenon in sectors which are 'new normal' ready. While investors are now looking to partner with some of the best entrepreneurs who have a head start in being new-normal-relevant, several good companies who don't manage to attract sufficient capital are left with the option of sub-optimal or stagnating growth. The newly minted unicorns, she stresses, are likely to take the inorganic route to rapid expansion leading to some much-needed participation in the merger and acquisition markets beyond the very few in the ecosystem today. "This will lead to some liquidity for early investors as well," she adds.

Easy liquidity also means that startups are getting into the 'bumping up valuation' game. Does it create a bubble in the long run? K Ganesh points out one of the threats. "Currently, the valuations are at a stratospheric level, which are untenable. Some amount of realism needs to come in," says the serial entrepreneur and promoter of startups such as BigBasket, Portea Medical and HomeLane. Like in any bull cycle, Ganesh explains, many not-so-fundamentally-strong models are born, and even get funded in the hype. But when the realism sets in, they all fold up. "This is part of the cycle. I fear the same may happen to some of the startups and entrepreneurs," he adds. "We need to be prepared for this. It is not bad, but just that we must be aware."

Another potential pitfall could be that unit economics might go for a toss. There will be a few founders who will miss the point in the financing frenzy and get busy 'buying growth'. "Such businesses will hit a wall eventually," avers Agrawal of Lightspeed Venture Partners. This is a real opportunity for investors to engage founders in rich conversations around goals, trade-offs and priorities. "With more capital comes more responsibility," he says.

The focus must be on enduring companies, and not unicorns. "Just because you become a billion dollar company, doesn't mean you will automatically become an enduring company," says Rajan Anandan, managing director at Sequoia Capital India. Though turning unicorn is a good marker, it in no way implies that the startup will become an enduring company. "We want enduring companies," he stresses.

For now, though, the Indian startup ecosystem is cheering the enduring, and galloping, unicorn story. There is no stopping the funding bus, which has replaced 'Horn Ok' with 'Unicorn Ok' please.

• RAJIV SINGH

Spring Monsoon

Six unicorns in April

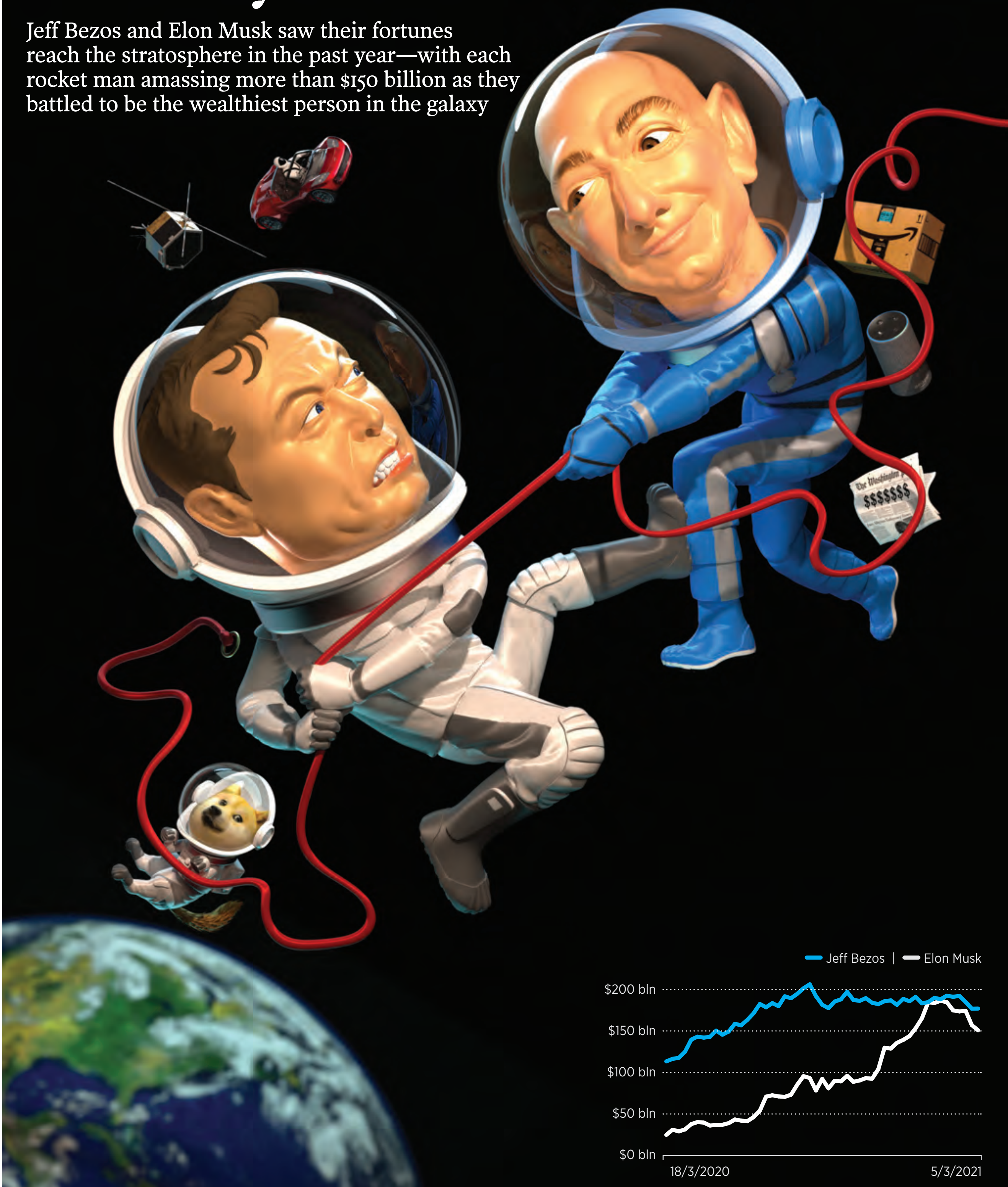
Gupshup | Meesho | PharmEasy
ShareChat | Groww | Cred

INFOGRAPHICS: SAMEER PAWAR

BILLIONAIRES

The Sky's No Limit

Jeff Bezos and Elon Musk saw their fortunes reach the stratosphere in the past year—with each rocket man amassing more than $150 billion as they battled to be the wealthiest person in the galaxy



WESLEY BEDROSIAN FOR FORBES

$1 bln

Kim Kardashian West's net worth, up from $780 million in October 2020, thanks to two lucrative businesses

GETTY IMAGES

IT'S BEEN A YEAR LIKE NO OTHER, AND WE AREN'T TALKING ABOUT THE pandemic. There were rapid-fire public offerings, surging cryptocurrencies and skyrocketing stock prices. The number of billionaires simply exploded. *Forbes* found an unprecedented 2,755 around the world—660 more than a year ago. A staggering 86 percent are richer than they were then. Altogether they're worth $13.1 trillion, up from $8 trillion in 2020; their average net worth is $4.7 billion, $900 million more than last year. The US still has the most billionaires, with 724, followed by Greater China with 698. We used stock prices and exchange rates from March 5, 2021, to calculate net worths. For the full list of the world's billionaires and our methodology, please visit *www.forbes.com/billionaires*

1. JEFF BEZOS
$177 BLN ↑ • SOURCE: AMAZON AGE: 57 • CITIZENSHIP: US
Bezos's $64 billion jump keeps the Amazon founder, who is stepping down as CEO later in 2021, at the top spot for a fourth consecutive year

2. ELON MUSK
$151 BLN ↑ • TESLA, SPACEX
AGE: 49 • US
Musk's fortune rocketed $126 billion since March 2020 as Tesla shares soared; he briefly overtook Bezos as the world's wealthiest in January

3. BERNARD ARNAULT & FAMILY
$150 BLN ↑ • LVMH
AGE: 72 • FRANCE
The richest person in Europe closed several major deals, most notably LVMH's long-delayed acquisition of iconic jeweler Tiffany, for a reduced price of $16 billion in January

4. BILL GATES
$124 BLN ↑ • MICROSOFT
AGE: 65 • US
The Microsoft co-founder, who left its board last year, is wealthier than he's ever been, buoyed in part by the software firm's surging stock

5. MARK ZUCKERBERG
$97 BLN ↑ • FACEBOOK
AGE: 36 • US
Continued congressional scrutiny has yet to dent Zuckerberg's fortune. Facebook shares are near record highs

6. WARREN BUFFETT
$96 BLN ↑ • BERKSHIRE HATHAWAY
AGE: 90 • US
Berkshire Hathaway bought Dominion Energy's natural-gas pipelines for $8 billion in July, but the Oracle of Omaha has otherwise been relatively quiet during the pandemic

7. LARRY ELLISON
$93 BLN ↑ • SOFTWARE
AGE: 76 • US
The Silicon Valley titan reportedly moved to Hawaii during the pandemic. Oracle, meanwhile, which he co-founded in 1977, has relocated its headquarters from the Bay Area to Texas

8. LARRY PAGE
$91.5 BLN ↑ • GOOGLE
AGE: 48 • US

9. SERGEY BRIN
$89 BLN ↑ • GOOGLE
AGE: 47 • US
The Google co-founders still serve on the board of Alphabet but otherwise maintain low profiles. Google has been under fire in Australia recently for what critics say is the search engine's role in weakening the media there

10. MUKESH AMBANI
$84.5 BLN ↑ • DIVERSIFIED
AGE: 63 • INDIA
Ambani reclaims his spot as Asia's richest person, adding nearly $48 billion to his fortune over the past year as shares of his conglomerate, Reliance Industries, have increased significantly

11. AMANCIO ORTEGA
$77 BLN ↑ • ZARA
AGE: 85 • SPAIN
The founder of clothing giant Inditex—best known for its Zara retail chain—weathered the storm: Sales fell by nearly 30 percent in 2020 but its stock is up by 34 percent over the year

12. FRANÇOISE BETTENCOURT MEYERS & FAMILY
$73.6 BLN ↑ • L'ORÉAL
AGE: 67 • FRANCE
The granddaughter of cosmetics giant L'Oréal's founder benefited from a 38 percent jump in the company's stock despite the fact that profits fell by 6 percent in 2020

STR / CNS / AFP

13. ZHONG SHAN SHAN ▲
$68.9 BLN ↑ • BEVERAGES
AGE: 66 • CHINA
The September 2020 IPO of his bottled-water firm Nongfu Spring drove up his fortune by 3,345 percent, making him the year's biggest percentage gainer and China's new richest person

14. STEVE BALLMER
$68.7 BLN ↑ • MICROSOFT
AGE: 65 • US
The former Microsoft CEO, who is worth $16 billion more since last year amid a 67 percent surge in the software firm's stock price, donated $54 million in 2020 to Covid-related causes such as vaccine testing and child care for essential workers

15. MA HUATENG
$65.8 BLN ↑ • INTERNET MEDIA
AGE: 49 • CHINA
His web-media giant Tencent, which owns stakes in Tesla and Snap, notched another win with the February public offering of video-sharing app Kuaishou. Tencent owns 18 percent of the firm

16. CARLOS SLIM HELÚ & FAMILY
$62.8 BLN ↑ • TELECOM
AGE: 81 • MEXICO
The telecom mogul was briefly hospitalised with Covid-19 in January. His pan-Latin American wireless firm América Móvil ended 2020 with 287 million subscribers, up by 3 percent in a year

17. ALICE WALTON
$61.8 BLN ↑ • WALMART
AGE: 71 • US

18. JIM WALTON
$60.2 BLN ↑ • WALMART
AGE: 72 • US

19. ROB WALTON
$59.5 BLN ↑ • WALMART
AGE: 76 • US
The children of Walmart founder Sam Walton own, with other family members, about half of the world's largest retailer. Walmart introduced free delivery as part of an Amazon Prime-like membership programme, helping boost online sales by 69 percent in the year through January

20. MICHAEL BLOOMBERG
$59 BLN ↑ • BLOOMBERG LP
AGE: 79 • U.S.
He smashed political spending records last year, pouring more than $1 billion into his own presidential campaign and $150 million to support other Democrats

21. COLIN ZHENG HUANG
$55.3 BLN ↑ • ECOMMERCE
AGE: 41 • CHINA
The founder of online discounter Pinduoduo stepped down as its chairman in March to pursue research in food and life sciences; he gave up his CEO role in July

22. MACKENZIE SCOTT ▲
$53 BLN ↑ • AMAZON
AGE: 50 • US
Jeff Bezos's ex-wife rocked the philanthropy world in 2020 with nearly $6 billion in grants to 500 non-profits across the US, including Puerto Rico. She recently remarried

23. DANIEL GILBERT
$51.9 BLN ↑ • QUICKEN LOANS
AGE: 59 • US
His Rocket Companies—America's largest mortgage lender—went public in August, boosting Gilbert's net worth by $38 billion in one day

24. GAUTAM ADANI & FAMILY
$50.5 BLN ↑ • INFRASTRUCTURE, COMMODITIES • AGE: 58 • INDIA
The infrastructure tycoon is nearly $42 billion richer than a year ago as shares of five publicly traded companies in his Adani Group hit their all-time highs


MacKenzie Scott

PRESLEY ANN / PATRICK MCMULLAN VIA GETTY IMAGES

25. PHIL KNIGHT & FAMILY
$49.9 BLN • NIKE
AGE: 83 • US
The latest philanthropic effort from Nike's retired founder is a luxe, newly renovated track stadium at his alma mater, the University of Oregon

26. JACK MA
$48.4 BLN • ECOMMERCE
AGE: 56 • CHINA
The Alibaba co-founder has been lying low since the dual listing of his fintech giant Ant Group was halted by Chinese regulators in November

27. CHARLES KOCH
$46.4 BLN • KOCH INDUSTRIES
AGE: 85 • US

27. JULIA KOCH & FAMILY
$46.4 BLN • KOCH INDUSTRIES
AGE: 58 • US
Koch Industries, which Charles chairs, topped Cargill to become America's largest private company (as measured by revenue); the conglomerate hauled in $115 billion in sales in 2019. He and the family of Julia, the widow of his younger brother David (died 2019), each have a 42 percent stake in the business

29. MASAYOSHI SON
$45.4 BLN • INTERNET, TELECOM
AGE: 63 • JAPAN
After his SoftBank Vision Fund suffered a very public blow from its fraught WeWork investment, Son came roaring back with wins, including IPOs for food-delivery app DoorDash and Korean ecommerce company Coupang

30. MICHAEL DELL
$45.1 BLN • COMPUTERS
AGE: 56 • US
His fortune nearly doubled as shares of Dell Technologies hit an all-time high, thanks in part to record sales of $94.2 billion

31. TADASHI YANAI & FAMILY
$44.1 BLN • FASHION RETAIL
AGE: 72 • JAPAN
The net worth of the Japanese apparel billionaire more than doubled as demand for Uniqlo's comfortable everyday clothes and its triple-layer masks surged during the pandemic

32. FRANÇOIS PINAULT & FAMILY
$42.3 BLN • LUXURY GOODS
AGE: 84 • FRANCE
The founder of luxury conglomerate Kering is finally opening his long-awaited art museum in the 19th-century Bourse de Commerce building in Paris this year

33. DAVID THOMSON & FAMILY
$41.8 BLN • MEDIA
AGE: 63 • CANADA
Canada's richest person is the chairman of publicly traded media giant Thomson Reuters, whose shares are up 16 percent in the past year

ZHANG: GILLES SABRIE / BLOOMBERG VIA GETTY IMAGES; LEN: MATT WINKELMEYER / GETTY IMAGES FOR WARNER MUSIC / AFP

$96 bln
Warren Buffett's net worth. This is the first time since 1993 that he is not among the top five billionaires


AFP

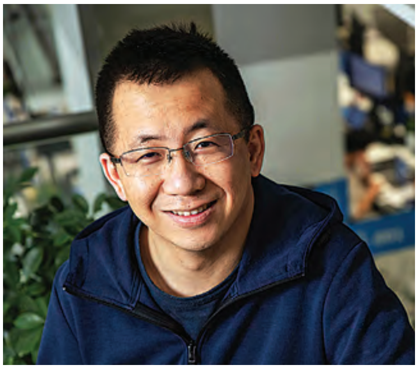
34. BEATE HEISTER & KARL ALBRECHT JR
$39.2 BLN • SUPERMARKETS GERMANY
The siblings inherited the discount retailer Aldi Sued. During the pandemic, its stores began using 3D sensors to measure customer traffic and regulate access

35. WANG WEI
$39 BLN • PACKAGE DELIVERY
AGE: 50 • CHINA
Revenue of his SF Express—the 'FedEx of China'—rose by 37 percent in 2020 as ecommerce boomed during China's Covid-19 lockdowns

36. MIRIAM ADELSON
$38.2 BLN • CASINOS
AGE: 75 • US
The widow of Sheldon Adelson (died January 2021) now controls 56 percent of casino operator Las Vegas Sands, which is cashing out of Vegas to focus on Asia

37. HE XIANGJIAN
$37.7 BLN • HOME APPLIANCES
AGE: 78 • CHINA
The co-founder of electric-appliance maker Midea Group reportedly escaped a kidnapping attempt last June, when several men tried to break into his home using explosives

38. DIETER SCHWARZ
$36.9 BLN • RETAIL
AGE: 81 • GERMANY
Sales of the Schwarz Group, owner of Kaufland and Lidl discount supermarkets, are expected to have risen by 23 percent, to $170 billion, in the year through February 2021



39. ZHANG YIMING
$35.6 BLN • TIKTOK
AGE: 37 • CHINA
Zhang founded ByteDance, creator of popular short-video app TikTok, in a four-bedroom apartment in 2012. Its December funding round valued the unicorn at $180 billion

40. GIOVANNI FERRERO
$35.1 BLN • NUTELLA, CHOCOLATES
• AGE: 56 • ITALY
The chairman of the Ferrero Group, known for its Nutella, Tic Tac and Kinder brands, added a stake in Britain's Fox's Biscuits to his chocolate and confectionery empire

41. ALAIN WERTHEIMER
$34.5 BLN • CHANEL
AGE: 72 • FRANCE

41. GERARD WERTHEIMER
$34.5 BLN • CHANEL
AGE: 70 • FRANCE
The brothers—grandsons of Chanel co-founder Pierre Wertheimer—are each $17 billion richer than last year amid a rebound in the luxury sector

43. LI KA-SHING
$33.7 BLN • DIVERSIFIED
AGE: 92 • HONG KONG
Hong Kong's richest person gained $12 billion, thanks to his holdings overseas, including stakes in videoconference firm Zoom and energy-drink maker Celsius

44. QIN YINGLIN & FAMILY
$33.5 BLN • PIG BREEDING
AGE: 55 • CHINA
Qin founded China's top hog producer in 1992 with wife Qian Ying and just 22 pigs. He's still the chairman; she sits on the board

45. WILLIAM LEI DING
$33 BLN • ONLINE GAMES
AGE: 49 • CHINA
Revenue at his Nasdaq-listed NetEase rose by 24 percent in 2020 as pandemic lockdowns drove demand for its online-gaming and remote-learning products

46. LEN BLAVATNIK
$32 BLN • MUSIC, CHEMICALS
AGE: 63 • US
Blavatnik's Warner Music is worth nearly $18 billion after going public in June 2020, more than five times what the mogul paid for it in 2011

47. LEE SHAU KEE
$31.7 BLN • REAL ESTATE
AGE: 93 • HONG KONG
Shares of his Henderson Land seesawed during the pandemic but ended up for the year, though still well off their all-time high

48. JACQUELINE MARS
$31.3 BLN • CANDY, PET FOOD
AGE: 81 • US

48. JOHN MARS
$31.3 BLN • CANDY, PET FOOD
AGE: 85 • US
Each of the Mars siblings owns an estimated one-third of the $40 billion (sales) candy, pet care and food company. Best known for M&M's and Skittles, Mars Inc acquired snack bar maker Kind in November 2020, three years after it took a minority stake

50. YANG HUIYAN & FAMILY
$29.6 BLN • REAL ESTATE
AGE: 39 • CHINA
The heiress is the largest shareholder of real estate developer Country Garden Holdings; she also chairs US-listed education firm Bright Scholar Education Holdings

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The number of last year's billionaires who fell out of the ranks due to fortunes that dropped below $1 billion

GETTY IMAGES

DECEASED

Left Their Mark

Twenty-three billionaires from 15 countries died in the past year, including two centenarians, Chang Yun Chung and Marcel Adams

SHELDON ADELSON

AGE: 87

The casino magnate and GOP mega-donor built Las Vegas Sands into an empire, amassing a $35 billion fortune, and made bold gambles to rescue the company from near-failure during the Great Recession.

LEE KUN-HEE

AGE: 78

Lee inherited Samsung Group in 1987 from his father, founder Lee Byung-chull, and built it into South Korea's biggest conglomerate. Twice pardoned for bribery and tax charges, he had been in a coma since 2014.

JOSEPH SAFRA

AGE: 82

The world's richest banker, worth $23 billion, he owned three banks on three continents, London's Gherkin skyscraper and 50 percent of banana producer Chiquita.

BENJAMIN DE ROTHSCHILD

AGE: 57

The heir to Edmond de Rothschild, the European bank founded in 1953 by his father, he died of a heart attack in January. His widow, Ariane de Rothschild, has been chair of the bank since 2015.

IN MEMORIAM

Marcel Adams
AGE: 100 • Real estate

Edmund Ansin
84 • Television

Jeronimo Arango
94 • Retail

David Barclay
86 • Media, retail

Stephen Bechtel Jr
95 • Construction

Dmitry Bosov
52 • Coal mining

Chang Yun Chung
102 • Shipping

Eduardo Cojuangco
85 • Food, drinks

Olivier Dassault
69 • Diversified

Aloysio de Andrade Faria
99 • Banking

Manuel Jove
78 • Real estate

Suna Kirac
79 • Diversified

Manuel Moroun
93 • Transportation

Park Yeon-cha
74 • Sneakers

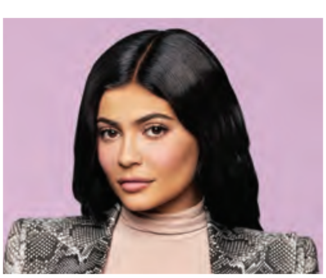
Sumner Redstone
97 • Media

Randall Rollins
88 • Pest control

Sheldon Solow
92 • Real estate

Heinz Hermann Thiele
79 • Brakes

Arne Wilhelmsen
90 • Cruise ships

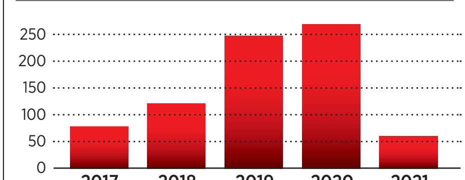


DROP-OFFS

Kylie's Fantastical Fortune

Just 61 of last year's billionaires fell out of the ranks due to fortunes that dropped below $1 billion. That's one-fourth as many as in 2020 and the lowest number in a decade. One noteworthy departure: Kylie Jenner, gone after Coty's filings revealed that revenues for Kylie Cosmetics were less than half of what her team trumpeted to inflate her net worth.

Number of billionaire drop-offs (excluding deceased)



• DECEASED / DROP-OFFS BY HANK TUCKER

SHELDON ADELSON: SAUL LOEB / AFP; LEE KUN-HEE: JUNG YEON-JE / AFP; JOSEPH SAFRA: GETTY IMAGES
BENJAMIN DE ROTHSCHILD: GETTY IMAGES; KYLIE JENNER: JAMEL TOPPIN FOR FORBES

CHAMPION OF ACCESSIBLE RURAL HEALTHCARE

Dr. M. J. Mohan, Chairman, MVJ Medical College & Research Hospital, Bangalore

Instead of just enjoying his legacy, Dr M.J. Mohan chose to do something worthwhile. Like his visionary father, the late Dr MV Jayaraman, Dr Mohan wanted to contribute to humanity by serving a cause. Education, being close to his heart, he chose to put his efforts into igniting minds, lighting the lamp of knowledge, moulding characters and shaping destinies. With this goal in mind, in 2001, Dr Mohan founded the MVJ Medical College & Research Hospital in Hoskote, 30 kms from Bangalore. Since then, the institution has flourished and witnessed infrastructural growth and expansion, boasting excellent medical facilities from sophisticated operation theatres to cutting-edge laboratories. It has successfully fulfilled Dr Mohan's father's vision of establishing MVJ Hospital with the best infrastructure and free healthcare services for the rural people. The institute's team of highly qualified and dedicated faculty make it a world class facility for nurturing young minds.

Over the last two decades, Dr Mohan, a General Surgeon by qualification and an educationist by profession, has worked hard to ensure that his legacy enriches the lives of others. Like from a seed to a nourishing tree, the institution is now part of the Venkatesha Education Society, which not only provides shelter to poor people, by ensuring job opportunities in the institutions run by the society, but also provides fruits for many aspiring doctors through medical education and exposure to recent and modern patient management protocols. Currently, Dr Mohan is the Chairman of MVJ Group of Institutions and the Secretary of Venkatesha Education Society, an umbrella organisation of prestigious institutions under the MVJ Group of Institutions. Apart from the MVJ Medical College & Research Hospital, the group includes the MVJ College of Education, the MVJ Engineering College, the MVJ Polytechnic College, the MVJ College of Nursing and the MVJ International School. Under the Venkatesha Education Society, the institutions have given the world more than 30,000 teachers, 20,000 engineers, 2,050 doctors, around 750 Specialist doctors and about 5,250 nurses.

An institute par excellence

The MVJ Medical College & Research Hospital has obtained NABH accreditation and is ISO certified. The hospital is equipped with 1,000 beds; 12 operation theatres; CU, ICCU, NICU and PICU; high-tech microbiology, biochemistry and pathology investigative departments and MRI and CT facilities with a blood bank and pharmacy. The college is recognised by the Medical Council of India and is affiliated to the Rajiv Gandhi University of Health Sciences (RGUHS). It has 150 undergraduate and 63 post graduate seats, with a vision to produce young competent doctors, while also creating specialists in other disciplines. The college has 850 teaching and non-teaching faculty in both administrative and academic departments. It was ranked one of the top Medical Colleges by Deccan Chronicle and among the Top 12 Best Medical Colleges by the English Daily The Pioneer, both in 2012.

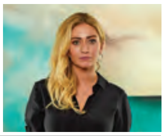
Free-of-cost, excellent healthcare

The Hospital performed around 25,000 deliveries, 1,36,000 major surgeries and 3,78,000 minor surgeries since inception. Due to its rural location, the hospital is a beacon of hope for the villagers in Hoskote and surrounding areas. To date, it has treated 6 lakh patients covering 400 villages. Moreover, all hospital facilities are extended to patients absolutely free of cost, completing Dr Mohan and his father's vision of serving the poorest of the poor and covering the maximum rural area which has no access to healthcare. Dr Mohan is proud to maintain the institution's heritage as a pioneer, innovator and leader in education and to ensure the Venkatesha Education Society's goal to tirelessly champion quality education in India.

chairman@mvjmc.edu.in *www.mvjmc.edu.in*

1,975

Number of self-made billionaires in the Forbes Billionaires List this year, which is a record, up from 1,457 last year



RICHEST INDIAN-AMERICANS

Desi Billionaires

Some self-made Indo-Americans who have built business empires ranging from technology to consumer retail

RANK: 228

JAY CHAUDHRY,

CEO, Zscaler

He founded the cybersecurity firm in 2008, and took it public in March 2018. His family and he own 45 percent of the Nasdaq-listed company. Before Zscaler, Chaudhry founded four tech companies that were all acquired: SecureIT, CoreHarbor, CipherTrust and AirDefense. In 1996, Chaudhry and his wife, Jyoti, quit their jobs and put their life savings to start cybersecurity firm SecureIT. His hometown, a village in the Himalayas, did not have electricity or running water until he was in class 10. Chaudhry moved to the US in 1980 and now lives in the Bay Area

RANK: 752

RAKESH GANGWAL,

co-founder, IndiGo

The airline veteran made his fortune from InterGlobe Aviation, the parent outfit of budget airline IndiGo, India's largest by market share. Gangwal started his career with United Airlines in 1984 and went on to run US Airways Group as its chief executive and chairman. He co-founded IndiGo with pal Rahul Bhatia in 2006 with one aircraft. He owns close to 37 percent of the company and serves as a board member. Gangwal and Bhatia had a fallout in 2019 over corporate governance issues. Their dispute reached courts in London, Florida and Maryland

RANK: 831

NIRAJ SHAH,

co-founder and CEO, Wayfair

He started online home goods retailer firm Wayfair in 2002 with Steve Conine, who is also a billionaire. The two met as high school students at a programme at Cornell University. They ended up living in the same dorm in their freshman year at Cornell and became good friends. Wayfair, which now offers more than 18 million products, generated $14 billion in net revenue in 2020, up by 55 percent from the previous year. Shah joined the board of the Federal Reserve Bank of Boston in 2017

RANK: 1,111

ANEEL BHUSRI,

CEO, Workday

He co-founded the business software firm with Dave Duffield. Bhusri started his career in the early 1990s at business software firm PeopleSoft, where he rose to become vice chairman. He is also an advisory partner at VC firm Greylock Partners. He studied electrical engineering at Brown University and has an MBA from Stanford. Bhusri is a signatory of the Giving Pledge, a commitment by the world's wealthiest people to dedicate the majority of their wealth to philanthropy

RANK: 1,174

VINOD KHOSLA,

founder, Khosla Ventures

The Silicon Valley venture capital firm invests in experimental technologies such as biomedicine and robotics. It scored recent exits with IPOs of Affirm and DoorDash, and SPAC listings of QuantumScape and Opendoor. Khosla co-founded computer hardware firm Sun Microsystems in 1982 with Andy Bechtolsheim, Bill Joy and Scott McNealy. He spent 18 years at VC firm Kleiner Perkins Caufield & Byers (now called Kleiner Perkins) before launching his own fund

RANK: 1,249

KAVITARK RAM SHRIRAM,

Managing Partner, Sherpalo Ventures

An early Google backer, he has sold of most of his stock, but remains on the board of its parent company, Alphabet. After moving to the US, he joined Netscape in 1994 as an executive. Later he became president of Junglee, an online comparison shopping firm acquired by Amazon in 1998. He took on a vice president position at Amazon. Since 2000, he has been investing in technology startups through his firm, Sherpalo Ventures

• RAJIV SINGH

JAY, RAKESH, NIRAJ, ANEEL, VINOD : GETTY IMAGES; KAVITARK RAM: SHERPAL

A YEAR AFTER LOCKDOWN: MUTHOOT MICROFIN LTD CONTINUES TO DRIVE INCLUSION THROUGH TECHNOLOGY & TRUST

When the going gets tough, the tough gets going, is a proverb we are all aware of. The adage found an exemplar in Muthoot Microfin Ltd.

In March 2020, when Indian conglomerates were grappling with business continuity planning to face the pandemic - Sadaf Sayeed, CEO, Muthoot Microfin leveraged this as an opportunity to lead a silent, digital transformation. The organisation, featuring amongst the top 5 MFIs in the country, worked towards embedding technology in all aspects of operations. This also meant helping their customers adapt to a technology-driven tomorrow.

On the operational front, the pandemic turned out to be the biggest litmus test for Sayeed. The organisation announced zero lay-offs, several emergency loans and Covid covers to help their workforce feel at ease. "A considerable effort went into assuring our employees that their jobs were safe. I think once people were at peace, they were motivated to do wonders," adds Sayeed, while speaking to Great Manager Institute as part of its interviews with great people leaders.

On the business front, the organization believes in the transformative power of doing good. Be it financing gold loans through Swarnavarsham, for a customer group that only understands 'gold' as a form of investment or being responsible lenders, the organization has always proven to be a trustworthy partner to its customers.

When probed on how they built the common thread of 'social responsibility' amongst their employees - spread across 17 states and 750+ branches, Sayeed mentions hiring people based on "need for a job". Rather than adopting the conventional approach of emphasizing only on qualifications and degrees, the NBFC focuses on recruiting people in genuine need of a job, preferably from the bottom of the pyramid. These employees therefore empathize with customers, put customers' needs first and strive to provide them the best possible service, with a smile.

On being recognized amongst the top 30 'Best places to work in BFSI Industry' in India by the Great Place to Work® Institute, Mr. Thomas Muthoot, Managing Director, believes:

Thomas Muthoot, MD, Muthoot Microfin

Sadaf Sayeed, CEO, Muthoot Microfin

"The achievement acknowledges our commitment to foster a culture of pride, trust, reliability, teamwork, and credibility amongst our employees. This certification is recognition for our employees, and I would like to thank every employee for reposing their faith in the organization. It strengthens our brand in the microfinance industry and beyond, and we now consider it as an instrument to help us improve and measure our progress."

Taking pride in their strong foundation of goodwill, Sayeed recounts an incident when a group of seven women from a village close to Trivandrum, running a creche facility approached the field officers. They were looking to launch their own tiffin service. Apart from financing loans worth 20,000 INR to each one of them, the organization went a step ahead to provide entrepreneurship education to the women. This helped them to gain skills required to successfully run a business. Their tiffin service has been flourishing with time, making them one of the favourite success stories at Muthoot Microfin.

Beyond business, the organization has made a meaningful difference to the lives of less privileged through no-cost cleft-lip surgeries, Kerala flood relief initiatives, cancer detection camps & low cost dental treatments.

Speaking about their roadmap for the future, the organization aspires to be the 'Number 1' microfinance company by 2025. This, Sayeed believes, shall happen through a collective display of a high-trust, high-performance culture, apart from creating value for customers.

$13.1 tln

The combined net worth of the 2,755 billionaires globally, a jump of $5.1 trillion from 2020

AFP

INDIAN BILLIONAIRES have more than doubled their cumulative income from 2019—they've collectively added $596 billion to their wealth in 2020—and improved their rankings on *Forbes*'s annual World's Billionaires List. Covid-19 seems to have had no impact their prosperous run as the number of Indian billionaires has risen from 102 to 140.

Globally, there are 2,755 billionaires with a combined net worth of $13.1 trillion, a jump of $5.1 trillion from 2020. Eighty-six percent of the people on the list are richer than a year ago. The US (724) and China (698) are the only two countries with more billionaires than India, while Beijing (100) surpassed New York City (99) to become the city with the most billionaires. Mumbai ranks eighth on the list with 48 billionaires.

Mukesh Ambani, chairman of Reliance Industries Ltd [owner of Network 18, the publisher of *Forbes India*] reclaimed his spot as Asia's richest person with a net worth of $84.5 billion. He surpassed Alibaba's Jack Ma—who has been at the centre of controversies regarding his comments against Chinese regulators—dropped to No 27. Gautam Adani, chairman of Adani Group, added a staggering $42 billion to his net worth, making him one of the year's biggest gainers. HCL founder Shiv Nadar is ranked third on the list of Indian billionaires with a net worth of $23.5 billion.

BILLIONAIRES LIST

Wealth Wonders

Despite it being a pandemic year, Indian billionaires made a windfall in 2020 and saw their net worth soar

Biocon's Kiran Mazumdar-Shaw is the second-richest Indian woman

Here are some other interesting observations from the list:

THE YOUNG AND THE EXPERIENCED

Binny Bansal, 38, co-founder of Flipkart, is the youngest Indian billionaire on the list. The windfall from the Walmart deal in 2018 helped boost Bansal's net worth. Returnee Devendra Jain, 92, of Inox Group is the oldest Indian on the list with a net worth of $1.7 billion.

WOMEN ON A ROLL

Savitri Jindal, chairperson of the Jindal Group, is the richest Indian woman billionaire with a net worth of $9.7 billion, followed by Biocon's Kiran Mazumdar-Shaw ($4 billion) and Leena Tiwari of USV India ($3.5 billion). Kavita Singhania, wife of the late Yadupati Singhania, is a new entrant with a net worth of $1.2 billion. Radha Vembu (48), who has a stake in the privately-owned Zoho Group, is the youngest female Indian billionaire on the list.

PHARMA BOOM

The pharma sector is experiencing a pandemic boost. Cyrus Poonawalla's Serum Institute of India made early strides in the race against Covid-19 by securing multiple partnerships and developing Covishield—Oxford University and AstraZeneca's made-in-India vaccine. This gave a $4 billion boost to his net worth, but it wasn't enough to boost his standing on the global list where he fell four spots to No. 169.

Dilip Shanghvi, meanwhile, returned to the top 10. A 68 percent jump in Sun Pharmaceuticals propelled Shanghvi's net worth to $10.9 billion last year. Murali Divi of Divi's Laboratories ($6.8 billion), Hasmukh Chudgar of Intas Pharmaceuticals ($5.5 billion) and Pankaj Patel of Cadila Healthcare ($5 billion) are some of the other pharma giants. Prathap Reddy (89) of Apollo Hospitals Enterprise ($1.5 billion) is the oldest Indian newcomer on the list.

NEW FACES

Nineteen newcomers from India have crossed the $1 billion threshold of net worth last year. Arun Bharat Ram, chair of SRF Ltd, tops this sub-list with $1.8 billion. Other notable names include George Alexander Muthoot, George Jacob Muthoot and George Thomas Muthoot of Muthoot Finance (all at $1.3 billion). Sekar Vembu ($1.1 billion) of Zoho Group, Delhi-based Ramesh Kumar Dua and his brother Mukand Lal Dua ($1 billion each) of Relaxo Footwears are some of the other new faces on the list.

• RUCHA SHARMA

BALAXI

THE STORY OF A YOUNG CHANGEMAKER IN PHARMA

This woman entrepreneur believes in sustainable development through equal leadership opportunities. Here's her story so far in the pharma business and her philanthropic journey.

"I hate to say there are female and male ways of dealing with power because I think each of us has a male and a female part. But based on my own experience, women will tend to be inclusive, to reach out more, to care a little more." — Christine Lagarde, Former Chair and Managing Director of the IMF.

This saying by one of the prominent women changemakers of the world has inspired Paridhi Maheshwari, the Vice President of Strategic Initiatives at Balaxi Pharmaceuticals Limited. Paridhi holds a bachelor's degree in business administration from the University of Southern California, Los Angeles. After graduating in 2018, she joined her family owned Balaxi Pharmaceuticals to understand the nitty-gritty of pharma business.

Balaxi Pharmaceuticals is the brainchild of her father, Ashish Maheshwari but when Paridhi joined, she brought with her new vision and passion. Although, her vision was that of diversifying and expanding the family business but she says that. "My father has always been my role model and one advice that I have always received from him, was that in the initial stages of your career, there is no need to reinvent the wheel. It is important to use your platform and opportunities to scale up your business to the next level." She took this advice at the beginning of her career and it helped her decide how her vision for Balaxi can be materialized.

Paridhi had set three main goals for the company in her mind, diversify into a new industry, enter a new geography, and give back to the community. Taking her father's advice, she took a year to find her feet in the business and then in 2019, she started her entrepreneurial journey with Balaxi.

After a good amount of primary and secondary research, Paridhi forayed Balaxi into the FMCG market in 2019. This expansion was undertaken in Dominican Republic, Guatemala and Angola. Right from its inception it has done well for the company so far as it currently makes up for 20% of the sales sector and 5% of the revenue. This is a high potential industry and Balaxi is set to benefit from it in due time.

Along with the industry expansion, Paridhi also worked on the entry of Balaxi into a new geography. About the geographical expansion Paridhi says, "Balaxi's forte is to capitalize on the potential of frontier markets by setting up elaborate on ground infrastructure and sales teams and to break the barrier of entry of product registrations through our in-house team of pharmacists dedicated to preparing dossiers and communicating with MOH of various countries to get our products registered and approved. The entire process of preparing dossiers, sourcing samples, submission to MOH and getting the approval lasts around 12-15 months and I have just kick-started the process for Central African Republic in January this year. We hope to launch our 150 pharmaceutical formulations in CAR by Q4 of FY 21-22."

While doing all this, Paridhi did not give up on her inner want for giving something back to the community. This led to the birth of Balaxi Foundation, the CSR initiative of Balaxi Pharmaceuticals. "I have always felt strongly about bringing more women leadership in the business world. One year into in the business, I decided it was time for me to bring a focus within the company in terms of CSR," she says. Balaxi Foundation works in the area of women empowerment by providing the required social and financial support to girls from less privileged backgrounds. Under the career guidance and mentorship program of the foundation, these girls are equipped to take on entrepreneurial and leadership roles in the future.

Paridhi Maheshwari, Vice President, Strategic Initiatives, Balaxi Pharmaceuticals

"People often say charity begins at home but I believe that if we are to truly give someone something, it must be social security and not charity. Charity is a short-lived act and while it might make the giver feel better, it does nothing to better the life and circumstances of the person receiving it. Social security on the other hand, changes lives.

The 23-year-old entrepreneur is soon going to join the prestigious London Business School to pursue her MBA. "I see this as a perfect opportunity to gain a global perspective, both personally and professionally. This diverse experience will certainly push me to do bigger things and grow further in my career," she says.

"Be it entrepreneurship, academics or philanthropy, the effective participation of females and equal growth opportunities are key drivers to achieve sustainable development in the world," she concluded.

Mr. Nand kishore gupta
Chairman
Manglam Group

"You need to dream to achieve." Nand Kishore Gupta, Chairman, Manglam Group, Jaipur dreamed of success from a very early stage. He realized the importance of honesty in his childhood when he accepted that 'truth always comes out', hard work after he just cleared 8th standard and moved to Jaipur for further studies and dedication towards any kind of work he took up.

You cannot reach directly to the summit, you've to go through the whole process step by step. He started working in Rajasthan Finance Corporation for some time and took up a course for Chartered accountancy while working. By balancing between work and his studies he became an able CA and opened his firm, NKG & Associates in 1979 after resigning from the previous job at Rajasthan Finance Corporation. Life indeed gives you opportunities at every step and you should know how to grab it, this man knew exactly how to do it and he did. He partnered with a client at his firm and got into the building business in 1998 and never looked back since then. He now has completed 70 projects in 3 states and 7 cities with a customer base of 23,000 and has ongoing projects in 20 cities and has given employment to over 10000 people who can sustain their families. He believes in providing an individual with necessities which include housing at affordable prices.

During the COVID pandemic, he started a 10 day event, where he understood the client's issues and offered to pay the EMI's for them for the first year. He opts to work a little more for society and help everyone avail themselves the basic facilities they deserve. He stood on his feet without any external force being consistent in whatever he did and that is appreciable.

70 project in ***3*** state and ***7*** cities and ***23000*** customer base

Mr. Praveen Jain
Managing Director
Rishabh group of Companies, Jaipur

Mr. Praveen Jain from Jaipur truly lived up to famous saying that some of brightest minds found on last benches of classroom. As a kid he never limited himself to academics and chose to perceive and learn from real-life experiences.

Contrary to expectations from typical Indian middle-class family. Entrepreneurial instinct within always kept him determined to something big.

Being meticulously passionate and committed but like most others, he was clueless about his goal, his energy and enthusiasm were getting wasted without direction. And fate decided to be little less harsh on him by giving clue in form of newspaper advertisement inviting partners for optical fiber laying.

He decided to pursue it dedicatedly without knowing versed about the job but confident about his potential and was extremely interested to learn and perform. Eventually things went his way, he managed to get the contract but toughest route which no one dared to do. He proved himself to be even tougher, performed exceptionally against all odds and never looked back again.

He lastly got the goal of his life and became professional in field of optical fiber. One thing led to other and rest is history, today he is Managing Director of Rishabh Group of Companies, Jaipur - leader in Telecom, Automobile, Financing, Manufacturing and many more to go with the vision of making his group worth from 200 crores to 500+ crores and IPO launch by 2023.

Clearly evident from his remarkable voyage that dreams do come true if you have guts to chase them hard…

Mr. Rajendra kumar kedia
Chairman
Kedia builders and colonizers pvt. ltd

When faced with difficulties as human beings, our natural reaction is to avoid the situation rather than power through it. Rajendra Kedia, founder of Kedia Builders and Colonizers Pvt. Ltd, in the very initial stage of his business, was faced with certain obstacles and was losing hope when he was raided by the income tax department but he did not. He took it as a challenge and worked out of it towards accomplishing his dreams.

This innovative mind brought out the concept of installments when nobody thought of owning land that way. He made it easier for a lot of people to dream about having their own home in the city, Jaipur. Being a college dropout, he had no vision of building a future based on academics but with his will, he found a way to do what he wanted to do.

This doesn't mean education is not important, it is in making you a better version of yourself but it is not always solely responsible for your success, it requires certain other things like honesty, hard work, and above all a will to achieve your goal. This man earlier in his days knew that he couldn't live his life running a shop owned by his family, following the same routine every day, so he thought of doing something no one around him did. He started building homes and happiness for a huge population and is currently working on 5 new projects after giving birth to more than a hundred colonies in Jaipur itself. He says, "The satisfaction in the hearts of the customers is our utmost priority and this builds our business to a level that we don't even need to publicize our work." He has also been the president of the Agarwal Samaj Samiti, Jaipur. Kedia foundation worked a lot for the welfare of the society and their employees during the COVID pandemic. It is the dedication, consistent hard work, willpower, and belief in self, that makes Rajendra Kedia who he is today!

Mr. Nitin Vijay
Managing Director
Motion Education Pvt Ltd.

Mr. Nitin Vijay Managing Director, Motion Education Pvt. Ltd. & Byju's Vice President (JEE & NEET) is also a Champion of Physics. He is one of the best career counseling experts who has a greater understanding of students' psychology. He graduated with a B.Tech. Degree from IIT-BHU in 2007. During his journey of 17+ years as a teacher and mentor, he has been instrumental in transforming over 10,000+ aspirants into IITians & Doctors.

Mr. Nitin is a TEDx speaker and has also spoken internationally in prominent educational summits. His eminent motivational speaking, his entrepreneurial capabilities were recognized and he was felicitated with the Young Achiever Award by his Alma Mater (IIT BHU) in 2019.

In the very first year of engineering, he decided to become a teacher, and started working on it. In the second year, students loved the way he taught, so he started his own institute for physics with other partners known as Kota Point, and started teaching there.

Mr. Nitin Vijay started this journey with the foundation of Motion IIT JEE in Dec 2007 with a vision of fulfilling the dream of those students who urge to prepare for the exam of IIT, Applying his foresight and vast teaching experience; he has transformed the lives of several struggling aspirants into IITians & Doctors in the last seventeen years. And, his passion for teaching knows no bounds!

Now Motion providing coaching for JEE, NEET & various Olympiads.

Motion has ***41*** study centers in ***13*** states across India

KAHANI JAZBE KI

CA R.C. Sharma
Chairman
Vidya Sagar Career Institute Limited

A resolute and diligent kid from a small village near Jaipur clears the Chartered Accountancy exams within given time of three years without the availability of any kind of facilities is a considerable achievement.

Belonging to a farmers family, and nearly 30 years ago to become a CA was not a choice they weren't even aware of such a job, it depended on the marks you scored in class 8th. CA R.C. Sharma also appeared for indian civil services examinations but could not clear that. He then realized that he can go ahead opening an institute Vidya Sagar Career Institute Limited in 2005 and commenced teaching with the sole purpose of earning money, all because he has never experienced the power of money.

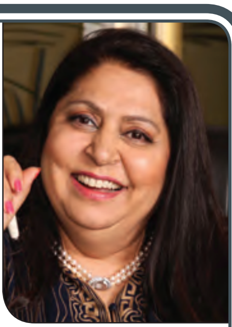
Then one incident of seeing the world of a father shattering in front of his eyes on CA result day because his child could not clear the CA exam, changed his whole perspective towards the institute and the earnings and decided to give Result to every student rather than to earn Money.

He wanted to build a new world for every child that comes to his class. He gave all his time , energy and effort into bringing every dream true that walks to his doorsteps. Each child has a different pattern of learning and capacity of grasping based on their interest. He guides each child separately to get what they need to clear the exam. This approach and consistency lead to reaping results evidently by the students bagging 7 times All india 1 st Ranks in the CA examination out of 10 years. He believes that teaching a ranker to get a rank is not a big task rather teaching an average student who perceives it to be difficult and leads him to get a rank is something worth mentioning. The thought of building a world for every student in his institute shows how selfless and dedicated he is!

Mr. Vivek Chaturvedi
Managing Director
Virat build home pvt Ltd, jaipur

Vivek Chaturvedi, as a young boy with 2500 rupees in his hand started to build his own business and setting up a factory. He never wished to get employed but instead wanted to come up with something that will employ others. He started with a small room and three helpers and will to work towards his desire. When the boys his age were roaming around on motorcycles for fun, he was roaming around on the motorcycle to sell his product. He faced a setback in 1996 after building his business for five years but did not give up. He invested in another startup in realty insurance and begun with building one home and gradually increasing his success.

This startup was named Virat Build Home Pvt Ltd. This group Is known for its delivery and honesty. His key line to success is that looking back is not an option if you want to reach your goal because looking back slows you down. He wants the youth who get into entrepreneurship and lay down small industries and nurture it to grow and come to a level of excellence. He believes that if the youth can go and get a job in other countries and work with full dedication, then why not work in and for your nation to help your development as well. What others do is not that important, all that matters is what you do!



Mrs. Manju Sharma
Co-Chairperson & MD
Eternal Hospital Jaipur

Confidence is the most beautiful thing that you can possess. Manju Sharma, Co-Chairperson and Managing Director of Eternal Hospital, Jaipur believed in herself and laid down the foundation of a Multi-specialty hospital, that was envisioned by her & her husband Dr. Samin K. Sharma, who is a renowned Cardiologist in Mount Sinai Hospital, New York, USA. They wanted to provide eminent facilities to the people in their hometown, just like the one they saw in the USA. She wanted people to recognize her through her work and not just the infrastructure of the hospital.

In the initial stages of her marriage, she was encouraged by her mother to go out of the house, to work and support her husband financially in his days of struggle when they moved to the US. This broke the stereotype of Indian society in that decade. She faced obstacles but instead of quitting, she decided to fight them.

This empowered woman, continuously supported by her mother, is currently working on expanding this hospital and dreaming of something bigger. She is actively functioning on spreading awareness and making people understand that prevention is better than cure, by conducting workshops with adolescents about Diabetes, Heart, and Blood Pressure to create a healthier future for the youth. She believes in involving on a personal level with the patients and learning about their pain, so as to be able to help them in a better way. She is also encouraging organ donation to give another life to so many people and this thought makes her an inspiration for all of us!

Mr. Ramesh khandelwal
Chairman
Ramesh khandelwal and associates Khandelwal Group

Behind every adversity, there is an opportunity. If you lament over the adversity, you will miss the opportunity." This is the core life mantra of Ramesh Khandelwal, a leading financial consultant, and a turnaround specialist. He has been building and reviving businesses for the last 25 years. As a 6-year-old kid, Ramesh Khandelwal saw the downfall of his father's business that left his family in great financial distress. This incident seeded a revival instinct in him and since then has been making the most out of every adversity in personal and professional life.

Ramesh Khandelwal is a master specialist with exceptional business acumen in building a road map of success for debt-laden companies which are on the verge of liquidation. He works with every client in restructuring their business and puts them back on the growth trajectory. He believes prudent financial management is a key for any business progress. His firm strives to achieve greater profitability and operational efficiency for its clients by consultation on better finance management.

Ramesh Khandelwal has helped 350 companies to date. While the reason behind his success is the objectivity he brings to the table to tackle every business challenge. But his work has created an unmeasurable social impact. Several thousand families have regained livelihood as he pushed businesses back to life. The joy and happiness of the families is his real return on investment. He strongly feels every business must uplift society with their product and services and that must be the real motto of every company.

KAHANI JAZBE KI

Mr. Ramesh Tehlani
Director
Sukh Sampatti

Mr. Ramesh Tehlani is an individual from Ajmer, who had seen various phases of life at an early age. He started working a job which paid him Re 1 per day in the '90s which was very less. Then he switched jobs and gradually ended up earning more. One fine day he overheard people talking and decided to go for MBA and got hired in a bank soon after completion of the course. He worked so hard with all his dedication and became the branch manager in no time. But he faced his downfall in 2008 when the world faced recession. He tried starting a business but lost all his investments in the business and ended up admitted to a hospital due to depression.

But this courageous man pulled himself out of it and was ready to work again. He reached Dubai in search of a job and started working there but that didn't satisfy him, so he came back.

This was the life-changing time when he thought of getting into the realty sector and opened a brokerage firm called Sukh Sampatti in Ajmer. He believes in delivering authentic products with integrity. He also is the author of 3 books on motivation. He always desires to do more for society. After facing so much, getting back on one's feet is not an easy task, it takes a lot to do so. This will, consistency, and the urge to something for himself and the society takes guts and an even bigger heart, which he has!

Mr. Krishna Gupta
Founder & CEO
One Realty Group

Mr. Krishna Gupta who completed his Civil Engineering from Vellore Institute of Technology very randomly landed in the domain of realty. His first client arrived when he was just trying out a service portal with an advertisement of a made-up property. But he somehow managed to find a similar property to sell it for a reasonable commission. He realised that realty is the field where he can succeed in with his skills. He gradually started broking for more builders and formed the best consultancy firm of the region within a year. But he always had the creative side of his in realty and construction. To pursue the same, he started his next leap into real estate in late 2017 which is now called One Realty Group. And from there he never looked back.

He said, his parents inspires him a lot and they are the one who taught them to never take a step back even in the worst of situations like themselves. This lesson leads to where Mr. Krishna is right now. In the first three years of One Realty Group, he was able to deliver 2 projects and a total of around 200 units, and is currently working on 4-5 new offerings. One realty group is also piloting and expanding into Maharashtra & Gujarat very soon. His short term goal is not only to launch but to deliver at-least 2000 units in the next 5 years. This shows no matter what you study or what course you opt for, if you want to do something genuinely, you will lead yourself there as he did!

Mr. Subhash Gurjar
Founder & CEO
Kaushlam App

Meet Subhash Gurjar, the new face among entrepreneurs who is destined to innovate Ed-tech in India.

Shakespeare writes in Julius Caesar, "There is a tide in the affairs of men. Which, taken at the flood, leads on to fortune." Subhash Gurjar a talented, passionate & former Fin-tech manager who hails from Karuali , a small town in Rajasthan, very well fits in this definition as he is on the course to bring changes in the Ed-tech scenario in India with his start-up named Kaushlam.

Speaking about the idea of Kaushlam, Subhash remarks, "under the Industrial revolution 4.0, the employability has taken an altogether a different dimension. Today's job/business scenario is all about staying relevant and therefore classrooms have to synchronize with board rooms."

Formed in October 2020 in the pandemic era, Kaushlam began its journey by offering online accountancy courses to students. He strongly thinks that with the GST regime taking the firm course in India, accountancy jobs in India have become all the more critical to the success of any business. Likewise is the scenario in other professional courses. Through Kaushlam he plans to offer multiple online courses to the students so that their classroom teachings are aided with the real-time corporate world.

When asked what motivated him to leave the comfortable corporate life, "Army runs in my blood as my father was an army officer & I passed out of Army School. It encourages me to take the challenges head-on" says Subhash.

He doesn't forget to mention Manit Somani, a friend who believed in him and his idea. Lofty vision, passionate soul and great speaking ability along with subject matter expertise are the tenets of a leader.

Mr. Gaurav Jain
Managing Director
GPS Automobile

Gaurav Jain, Motor Maverick

Gaurav Jain is the Managing Director of GPS Automobiles. Within his notable automobile portfolio are several car showrooms and service centers for brands including MG Motor and Honda Cars across North India. As an MSME entrepreneur and an industry leader, Jain has been steering the cause of digitization in the automotive space. He believes change is a long-term commitment that requires urgent actions and his endeavor to digitize operations for both MG and Honda are early initiatives in the direction. For him, a plan is nothing but planning is everything. To ensure he can bring real-time innovation in the way automobiles are sold in India and clients experience world-class services, he is attempting on-ground changes in processes and customer experience by his laser focus on skill development of the workforce. He completed his schooling in Dehradun and moved to the USA to study at the University of Michigan, Ann Arbor, and graduated with a dual master's degree in Industrial Engineering and Information Sciences. He got an amazing job at Deloitte but for the next phase of his life, he decided to return home, and just after landing the next day only he collaborated with Honda which led to achieving more and more milestones in the automobile industry. He also has a forte in the domain of business analytics and supply chain management. He counts consulting with some of the top Forbes 500 companies including Motorola, Sun Microsystems, Walmart as the preparation ground for his robust flight back home to India.

Mr. Rakesh Prajapat
Founder & Director
Zebrs.com

Coming from small rural market Churu, Rajasthan Rakesh Prajapat, 25 always saw rural market consumer struggling to get a good life style product because of lack of finance facility. The era of Ecommerce was booming in India, & then Zebrs.com was born. With no clue on how to run the ecommerce platform, how to even deliver the product but with vision of giving best easy finance buying options to Indian consumers, he never looked back then.

With just 2 orders in the initial two years, Rakesh believed in persistence. He remained focus and on his vision. Time changed & so is the fortune of zebrs.com; EMI options companies started looking for better service providers to Indian buyers. With EMI focused e-commerce platform; zebrs.com was the go to solution for financial institution.

This is when; FlexMoney, ZestMoney, HDFC FlexiPay, Bajaj finserv and over 11 NBFC today has come into foray to work out one of the best EMI options to buy products from zebrs.com for an Indian consumer. Today, zebrs.com is among the top 2000 website of India ecommerce and have visitors over 20K on a daily basis. From EMI options on consumer electronics, Smart phone to now furniture; zebrs.com is moving fast between categories and soon they will launch EMI buying in lifestyle category.

Zebrs.com recently tied-up with prominent business house SM Appliances Pvt Ltd, to enter into O2O market and uplift the Indian retail eco system with the powerful tool of e-commerce. Mr Punit Kalani Director, & Rakesh strong believes; Ecommerce and retail should compliment each other. Hence, zebrs.com & SM soon launching their O2O platform.

Mr. Tapesh Mathur
Director
Artans Art Academy

Walking through stereotypes and doing something no one around then has done includes risk and takes a lot of courage. But Mr. Tapesh Mathur was willing to take that risk and he walked through blooming with success. His father like every other Indian father wanted him to go into the field of science but he broke the mainstream belief and chose the field of arts. He got into a good college with a scholarship, got job offers, and rejected them to be his own master.

Further breaking the stereotypes, he opened the first-ever tattoo studio in Kota and till now has worked on more than 8000 tattoos. Kota known as the hub for IIT and Medical entrance coaching centers was also introduced with another field of entrance exams that is for architecture, design & fine arts. Mr. Tapesh wanted to spread awareness about the availability and scope in this field and support the children who want to opt to go in this domain, therefore established a coaching institute called Artans Art Academy. He started with a batch of 4 students and was able to reap 100% results and then he knew that he had to change the lives of all the 400 students that join his institute. Now he taught more than 7000 students. And he won the national best design faculty award by honorable president late shree. Pranab mukharji. This out of the box thinking and a positive attitude towards his approach makes him an extraordinary person.

Mr. Iqbal Hussain Sameja
Director
Sameja Housing Pvt Ltd, Bikaner

Possibilities only occur when no boundaries are set. Mr. Iqbaal Hussain Sameja started with a government job paying 800-900 rupees which were less to support his family after marriage. He wanted to do something along with the job, so he started working in a friend's property firm in 1990, where he learned about contracts and how it works in the field of real estate. The first commission that he earned from his first deal was 600 rupees which was a big deal for him and it encouraged him to work harder in the same field along with the job he was doing.

In 2008, he decided to step into this business all by himself, established Sameja Housing Pvt. Ltd., and gave up the government job he had. This decision brought a change, a positive change in his life. He gradually moved towards his summit but he was not satisfied and did not limit himself. He stepped into the building for commercial purposes as well and also has a foot in the media sector. His wife, who is also a director in the Sameja group, supported him to the fullest helping him spread his wings wherever he desired. Mr. Iqbaal states that without hard work and honesty, a person can reach nowhere close to what he desires. He believes in the welfare of all those who work with him or under him and is always ready to help them in whichever way he can. He is a kind, considerate, and pleasant human being altogether.

Mr. Mahesh Jain
Owner
M/s D D JAIN & CO.

The values of an idea lie in how we use it. Mr. Mahesh Jain was the first one to bring in smaller packaging for edible oil in Rajasthan where the only packaging available was a 15-liter can. He started working at the age of 19 with his father and enhanced the business of consultancy and brokering. He successively reached a level where he regulated the whole market as he was the master of all the know-how of this market. He was the one to initiate small packaging like plastic bottle packaging which was not available in Rajasthan at that time, he learned about this from his visit to Maharashtra and Gujarat and that gave birth to his idea of setting up this industry. It is known as M/s D D Jain & Co. The family conditions in his childhood were not very favorable and Mr. Mahesh being the eldest had to take care of his family.

He has been awarded for his work several times. He also encourages the use of renewable energy and has established 10-megawatt solar plants in various areas within 6-8 months and is urging others as well because these industries use an excessive amount of energy. He is actively working for the benefit of society. He is an example of innovation and creativity to build a career in real life and not just reel life!

Mr. Surendra Dharnia, 31, a young visionary whips up his curiosity by adding a question mark at the end of everything. WHY something is done? WHY is it going that way? This made his understanding of things a lot better than the general population. He has proved that success does not come with age by making his presence felt in the domain of academics as well as entrepreneurship.

He is inclined towards lifting the focus from the original form of textbook education to a more child-oriented approach. He believes, "If a child cannot learn in the way we teach, we must teach in a way the child can learn." Prioritizing the nourishment of the minds of the youth and promoting the growth of future leaders, he started with the introduction of Winsome International School in 2015. "Personality over percentage" was the main focus of education in his institutions where he took charge of building 100's of minds. This passionate academician is now heading two well-known campuses at present.

Mr. Surendra Dharnia
Founder Director
Winsome international school

Entrepreneurship excites him, he has engaged in various start-ups. Rajasthan is the most suitable place for working with a renewable source of energy such as solar energy. He has proven himself to be an ambitious entrepreneur by giving rise to Growth, a well-known solar energy firm in Bikaner, Rajasthan. Even during the COVID pandemic, instead of blaming the situation, he worked upon grabbing the opportunity to come up with something new. When the whole market was going for a toss, he thought of directing his energy in commencing a solar firm. Within a year, Growth is one of the most successful solar firms in Rajasthan, portraying his huge success.

Along with prioritizing business, he also understands societal values and has never neglected them while the course of action. He's highly oriented, exceptionally hardworking- and a delightful person!

Banking Billionaire

With a net worth of $1.3 billion, Sanjay Agarwal debuts on *Forbes*'s list of world's billionaires. His AU Small Finance Bank aims to be counted among its larger peers over the next decade

By SAMAR SRIVASTAVA

MAYUR TEKCHANDANI

By 2017, Sanjay Agarwal had spent two decades handing out automobile loans. While he admits the first decade had been slow, the venture grew rapidly in the next and was on its way to carving out an enviable niche as a non-banking finance company (NBFC). But the 50-year-old first generation entrepreneur who founded the company in 1996 as AU Financiers had seen first-hand the problems firms like his face when raising money. A lack of financing (and poor quality loan book) had proved to be a death knell for several peers.

At the same time, the mandarins at Mint Street wanted to further their pet cause—financial inclusion. Banking needed to be taken much deeper to small-town India, and while scheduled banks had pitched in over the last four decades, large swathes of Indians were still dependent on moneylenders and their usurious rates of interest. Enter small finance banks that were regulated by the Reserve Bank of India (RBI).

"We knew that NBFCs could never be a main platform as raising money is a challenge, professionals prefer to work for banks and borrowers will always go to banks first," says Agarwal. At the same time, AU Financiers had a two-decade track record of making loans and collecting on them. Agarwal raised his hand for consideration in 2017. In all, ten banks were licenced with AU Small Finance Bank being the largest (AU is the periodic symbol for gold). It was the only NBFC out of 72 applicants chosen by the RBI. "Suddenly a much larger field opened up for us," he adds.

Since it received its licence, AU has continued to prove its mettle and provided a case study in how smaller banks with the right systems and processes can grow rapidly. At a time when there is fierce debate on whether corporates should be allowed to run banks, it is entities like AU Finance and peers like Equitas, Suryoday and Jana, among others that have shown how it is possible to get more people under the banking net without increasing systemic risk. Importantly, these banks are modelled on raising liabilities from urban India and deploying them in an asset base in smaller towns and cities.

Since it was given a small finance bank licence in 2017, AU's loan assets have more than trebled from ₹10,734 crore to ₹33,222 crore, and revenue has moved up from ₹1,280 crore to ₹4,286 crore, an annual growth rate of 35 percent. For now, bad loans are under check with net non-performing assets (NPA) of 0.2 percent. While this could rise once the moratorium ends [the RBI moratorium has ended, but NPAs will be disclosed only during the quarterly results that haven't been announced yet], the bank insists the numbers are under control. In fact, the resilience of its book has given it the confidence to grow equally rapidly once the pandemic is behind us.

The potential for growth has catapulted AU Small Finance Bank to a market capitalisation of ₹33,700 crore ($4.4 billion), with Agarwal's 28.8 percent stake worth $1.3 billion, making him a new Indian entrant on the *Forbes* Billionaires List. With 6 percent of the bank owned by employees, he's also shared his wealth and recently set up a foundation donating 25,00,000 shares worth ₹260 crore. But Agarwal, who colleagues describe as a constant thinker and innovator, is not done. He has a vision to grow the bank to at least a ₹100,000 crore loan book in three to five years. Without taking names, he says he's keen to be counted among his much larger peers.

STARTING SMALL

In 1995, after he became a chartered accountant, Agarwal decided he did not want to work for anyone else. The finance business was the closest to his qualification and after raising money from a few high net worth individuals, he started AU Finance in Jaipur. The initial years were tough and, after the CR Bhansali scam (in which lakhs of depositors and creditors were taken for a ride), funding dried up and several NBFCs ended up shutting shop.

Agarwal chose to stick it out and spent the next decade understanding the nitty gritties of the vehicle business. Credit behaviour fascinated him and he would look for patterns as to why people in certain regions or income segments paid their loans. Borrowers who used their cars, trucks and two-wheelers for their business were more likely to pay their loans.

As the loan book grew, systems and processes were set up and the organisation formalised. In 2012, Narendra Ostawal, now a managing director at Warburg Pincus, spent a day in Jaipur evaluating the company's investment potential. The penny dropped when he saw the systems and processes that AU as a small firm had put in place. "Even back then, its execution and processes were geared to drive scale," he says.

For starters, it didn't have senior management approving loans. Files were sourced from auto dealers and approved at the branch level itself. It would disburse the loan and make sure it collected the registration certificate from the vehicle owner in 30 days to reflect its name as a financier. The senior management kept a watchful eye, but didn't get into individual loan decisions.

On the other hand, it was more interested in market intelligence. Ostawal recalls a conversation with Uttam Tibrewal, executive director of AU Finance, who explained that he would never fund a General Motors model for the taxi aggregator segment. Those cars would be in the garage every few months on account of heavy usage, making the loans potentially turn bad. Warburg put in \$50 million (about ₹300 crore) for a 27 percent stake in the company.

As the loan book grew to ₹4,000 crore in 2013, Agarwal noticed his existing customers asking for loans to fund their small businesses. These were small business owners with an annual turnover of ₹1 crore who earned between ₹10 lakh and ₹20 lakh a year. The problem for AU Finance was that they lacked information on the cash flow. Plus the collateral with AU, in the form of a depreciated vehicle, was not enough to finance another loan. But Agarwal knew the potential was immense and if owners were willing to offer security, AU was willing to lend. While its rates were higher than banks, they were lower than those charged by moneylenders and other informal networks these businessmen would otherwise borrow from. A third line of business in the form of home loans was also set up.

AU Small Finance Bank In Numbers

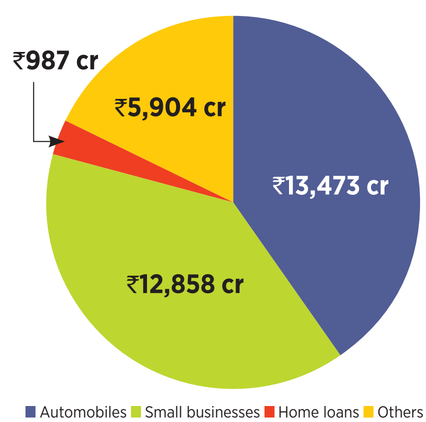
Assets Under Management (AUM)	₹33,222 crore
Cost of funds	6.7%
Income	₹4,181 crore
PAT	₹554 crore
Return on equity	15.1%

Data for AUM, income and PAT is for 9M FY21

SOURCE Company presentation

AUM FOR DIFFERENT BUSINESSES

As of December 31, 2020



- 3Q FY21 presentation
- Others include overdraft against FD, agri SME, NBFC etc
- Over the next five years, AU expects automobiles, small businesses and home loans to account for about a third of business each

SOURCE Company presentation

BECOMING A BANK

As AU Finance grew, the assets on its books performed well. Loans were being doled out at north of 15 percent and collections were strong. Net interest margins were in the 5-6 percent range. There were times when the vehicle finance market went through a cyclical downturn, but bad loans never surged.

But Agarwal was aware of his constraints on the liability side. He knew that it was only NBFCs, with strong corporate parentage like Bajaj Finance or Mahindra Finance, that had managed to scale their book beyond ₹50,000 crore. Others had tried and fallen flat on their faces on account of expensive cost of capital that dried up during a crisis.

In 2017 when RBI invited applications for small finance banks, AU knew a new growth window had opened up. There were three conditions to meet. First, 25 percent of branches had to be in villages with no branches. Second, half of all loans should be lesser than ₹25,00,000. And priority sector lending requirements were hiked to 75 percent instead of the 40 percent that universal banks have to meet.

Most importantly, these banks could raise deposits with no conditions attached. Not only is the cost of deposits lower, but it is also easier to convince people to deposit money in a bank as compared to an NBFC. "Earlier we would start business from the asset side, now we start from the liability side," says Tibrewal. "We get customers to open accounts, understand their behaviour and then lend to them." AU's low-cost current account savings account deposit base is 22 percent of the total deposits, taking its cost of funds down from 9.6 percent in 2017 to 7.2 percent in 2020 and opening up a potentially wider set of customers and businesses that it can lend to.

As things stand, AU plans to move pan-India from the 15 states it is present in to grow the three lines of businesses. Financing vehicles can be scaled up nationally as can lending to small businesses, which will be a major thrust. The ministry of micro, small and medium enterprises (MSME) has counted 634,000 MSMEs in India. Most of them lack access to formal credit. But as they start paying taxes, claiming GST input tax credit, they come into the formal economy and it becomes possible for bankers to make an assessment on their creditworthiness.

Recently, AU started installing QR code meters at the premises of businessman it lends to and said it could provide collateral free loans if their cash flows matched their declarations. Agarwal sees this as a huge growth area and has 100 chartered accountants analysing small business creditworthiness. Home loans, the third line, also has the potential to become big. In total, each of these businesses could account for a third each of the ₹90,000-100,000 crore loan book the bank expects to have three to four years.

As it prepares to apply for a universal banking licence in 2022, AU Small Finance Bank has moved quickly to offer products that are de rigueur at larger banks—credit cards, personal loans, UPI, tax filing and insurance, among others. Once customers open accounts, it plans to get them hooked on to a suite of lending products. A key thrust area will be digital banking. This would allow it to expand faster than the traditional branch-led model. Everything from opening accounts to speaking with relationship managers would be done over a secure banking channel. Customers are more accepting of transacting virtually due to the pandemic.

The challenge the bank has is in the rates it offers, which are higher than say, a State Bank of India or ICICI Bank, but as the cost of funds moves to 6 percent over the next year, Tibrewal believes it would be able to compete with the rates offered by larger banks while maintaining a net interest margin of over 5 percent. The bread and butter business would still come from vehicle financing, small businesses and housing finance, but here too it is clear that it won't get into unsecured lending or microfinance in order to grow. "If we find the quality of growth lacking, we will slow down," says Agarwal. who is unwilling to sacrifice profitability for scale.

"Earlier we would start business from the asset side, now we start from the liability side. We get customers to open accounts... and then lend to them."

UTTAM TIBREWAL
EXECUTIVE DIRECTOR, AU FINANCE

[redacted]

THE PANDEMIC TEST

In the last year, the bank and Agarwal faced their sternest test. In March 2020, AU was on track to clock ₹900 crore in profit for that year. But the loss in business in March reduced profitability by ₹200 crore. This coupled with a strict lockdown in April and May meant that collections suffered and there were questions on how many loans would turn bad.

In April and May 2020, the bank lost two-thirds of its market capitalisation and Agarwal admits that he was shaken. While he knew the bank would survive (it had survived the 2008 crisis), he realised that he needed to derisk his personal balance sheet. He had taken ₹200 crore as loan to fund his stock options and found that he had access to lower profits as well as no dividend payout for 2020 on account of an RBI stipulation to conserve capital. He decided to get rid of his loans in one fell swoop. He sold ₹200 crore worth of stock at close to the bottom of the market and is relieved that he is debt-free. "I don't even have a home loan or car loan anymore," he says.

This period has also got Agarwal to think about how the bank needs to endure beyond his generation. He gets wistful as he talks about Italian banks from the Renaissance era or the 208-year-old Citibank. Similarly, Agarwal wants AU to endure and put in systems and processes to make it a board-governed bank that lasts for the next several centuries.

It is these systems and processes that could take AU Small Finance Bank to the next level. At its present multiple of seven times book value, the market believes it can continue to keep growing rapidly and has probably priced in too much. Ostalwal of Warburg Pincus who exited the stock in late 2020 hit a home run with a 40 percent annualised return in dollar terms. While there is reason to believe there will be no let-up in growth, returns for new investors may be lower from here on. Agarwal, who counts Deepak Parekh among his mentors, has no plans to take his foot off the pedal. "If we can't do in 10 years what others did in 20, then this speed and agility that we have demonstrated over the last two decades will be of no use," he points out. F

FORBES, INDEED AND INDUSTRY LEADERS COME TOGETHER TO EXPLORE JOBS OF THE NEXT DECADE

Panel 1: Technology: Catalyzing The Digital Economy

Sundararajan Narayanan, Chief People Officer, Virtusa

Dr. Vipul Singh, Divisional Vice President & Head - HR, ADP

Nachiket Deshpande, Chief Operating Officer, L&T Infotech

Dharmendra Jain, HR Head & CFO, YASH Technologies

Sashi Kumar, Managing Director, Indeed India

Panel 2: Career Opportunities in the IT & ITes Sector

Vikas Vijaywargiya, CIO, Zensar Technologies

Bhanu Patnaik, VP Head of Talent Acquisition, Happiest Minds

Arun Rao, Chief People Officer, Birlasoft Ltd.

Rohan Sylvester, Recruitment Evangelist, Indeed India

2020 was a tumultuous year on many fronts, leading to significant job losses across the world, across sectors and geographies. Yet some industry segments, like the Indian IT sector, managed to gain significance, largely due to the nature of the pandemic, which accelerated the move towards digitalization. Nevertheless, as a result of the disruption and the new order that has emerged, job requirements in the IT space are expected to undergo a tectonic shift with technologies like artificial intelligence, blockchain, machine learning and data analytics gaining importance.

This has uncovered a host of concerns, including what kind of new jobs are going to come up? What should job seeker of today be looking at while planning a career for the future? What reskilling or upskilling is required and how are HR leaders preparing for these and other changes that are coming their way?

Seeking clarity on these concerns and others, Forbes India Jobs of the Next Decade powered by Indeed brought together thought leaders to offer insights on this unchartered terrain. The webinar featured two panel discussions moderated by Mridu Bhandari, Editor - Special Projects, Network18.

Technology: Catalyzing The Digital Economy

The first discussion, themed 'Technology: Catalyzing The Digital Economy' featured Sundararajan Narayanan, Chief People Officer, Virtusa; Dr. Vipul Singh, Divisional Vice President & Head - HR, ADP; Nachiket Deshpande, Chief Operating Officer, L&T Infotech; Dharmendra Jain, HR Head & CFO, YASH Technologies and Sashi Kumar, Managing Director, Indeed India.

In response to the current pandemic and the need for social distancing, remote working has gained prominence. Sashi Kumar shared significant facts and figures that suggested both job seekers and employers endorsed this trend. "As we move forward, even after the effects of this pandemic recede, we would possibly see many companies offering flexibility and hybrid options that entail a combination of working from offices and homes," he observed. He pointed out that to facilitate this trend, investments in digital assets, infrastructure and even cyber security have seen a spike. However, from an HR standpoint there is a need for organizations to measure productivity more by outcome than by the number of hours.

Sundararajan Narayanan was very optimistic about work from anywhere or, as he referred to it, WFX, observing, “It's the future and it's here to stay. We are now able to reach a much larger geography and diversity pool than ever before.” He also noted that flexibility would be a beneficial feature in the new normal, enabling women to return to the work force after a career break, accommodating differently abled who may have found commuting to work a challenge and tapping into the gig force, amongst various other advantages rendered.

Against the backdrop of these changing trends in the workspace, the discussion shifted to how job seekers should prepare themselves. “Jobs related to data science, AI, cloud, 5G, etc. were already gaining relevance in the past few years; they are not new but the demand for such technologies has accelerated and so has the demand for relevant talent,” observed Nachiket Deshpande. Another fallout of the sudden and near-universal drive to digital has been the expectation of ‘full stack’. He advised that in the future, job seekers should work towards a full stack mindset and continue to have breadth of various skills that are needed.

Dharmendra Jain suggested that with industries getting automated and digitized across the board, everything from manufacturing to healthcare, education and entertainment will need people with a combination of domain and technology skills. Taking that theme further, Sashi Kumar added that beyond tech and domain skills, curiosity, creativity, flexibility and adaptability and other soft skills would play an important role as people would be dealing with a distributed workforce.

To elaborate further on the jobs of the future that do not exist yet, Vipul Singh recounted various job designations, such as Chief Diversity and Inclusion Officer, Future of Work Leader, Work from Home Facilitator, Head of Employee Wellbeing and various others, where the specific role attached to the designation could not really be articulated. He also expressed how existing professions, like teachers, hardware engineers, content developers and designers were undergoing a massive transformation.

The discussion moved on to what skills will become extinct; the need for mapping skills to jobs; ways for educational institutions, industry and the country at large to bridge the need gap; how technology can be leveraged to make skilling more futuristic; behavioural changes that job seekers will have to inculcate, etc. There was a broad consensus that the future model of work would be hybrid and the panel deliberated the challenges HR leaders face while implementing it.

Career Opportunities in the IT & ITeS Sector

The next panel discussion featured Vikas Vijaywargiya, Chief Information Officer, Zensar Technologies; Bhanu Patnaik, VP - Talent Management, Happiest Minds Technologies; Arun Dinakar Rao, Chief People Officer, Birlasoft and Rohan Sylvester, Recruitment Evangelist, Indeed India, sharing their perceptions on the theme ‘Career Opportunities in the IT & ITeS Sector’ and related issues. They explored which careers or jobs would be in high demand in the IT sector over the next decade; how the gap between the demand and supply of new IT jobs could be reduced; offered insights on the talent acquisition function and its transition, in line with the evolving Indian IT landscape and various other emerging trends.

While the next decade of jobs will be shaped by new technologies that are yet to be developed and, therefore, are relatively unpredictable, Rohan Sylvester offered a peek at the kind of jobs that Indeed currently foresees. “Post-Covid, companies are looking for roles like IT security specialists, network security engineers, security analysts and security consultant, among others. Blockchain technologies are also catching up, led by the BFSI, retail and pharma domains. And lastly, to upskill and retrain employees in the new world, companies are looking towards the learning and development sector.”

While there is a deficit of skill in most areas catering to new technologies, upskilling and cross skilling are clearly solutions to bridging the gap in an era where skill demands are changing so rapidly. However, Arun Dinkar Rao suggested, “Academia and industry together need to help prepare people to adapt to changing dynamics in the workplace because what sells today will be obsolete tomorrow. We need to collectively uplift the skill base, whereafter upskilling and cross skilling will help people stay ahead of the curve.”

Bhanu Patnaik agreed that it's not the responsibility of any specific organization but rather the entire ecosystem that must be structured to deliver a base, which is skill-ready and then organisations can just put the icing on the cake, as per their skilling requirements.

As the CIO of a business, Vikas Vijaywargiya observed that merely equipping people with relevant skills, be it AI, Analytics, security, cloud, would not be a complete solution. Bringing in the real-world perspective is important at the base line because technology is eventually used to solve real issues. “We need to have a mix and match of both business understanding and technology skills,” he said.

The panellists continued to express their views on work trends in the near future. They covered issues of adjacency in reskilling; technology, content and change management; agility and competence; relevant training; the role of technology in talent management; transformation of the IT sector due to work from home and various other matters related to the progress of the sector.

Queries, concerns and takeaways

Being an interactive webinar, both panel discussions concluded with the participants taking question from the audience, which elicited their views and advice on various issues related to jobs in the near and medium-term future.

The panellists also offered succinct and valuable advice to the class of 2021, who were perhaps the hardest hit segment. They counselled young minds to understand technology from a larger perspective and align themselves accordingly, suggesting that they should keep challenging themselves and always own their learning agenda. They advocated creativity, flexibility, differentiation and learning agility to stay ahead. Most pertinently, they persuaded jobseekers to stay positive since the worst is over and the job market is going to explode; that said, jobseekers should use the current hiatus to prepare for an amazing future.

SRF's Coming of Age

How Arun Bharat Ram's sons have transformed the maker of nylon tyre cord into a specialty chemical player with global scale

By SAMAR SRIVASTAVA

AMIT VERMA

Amongst the first points that Kartik Bharat Ram makes, as we settle in for our interview, is their steadfast intention to avoid a repeat of what they have seen in several business families: Sibling rivalry resulting in a split. Indian business history is littered with founding families destroying promising businesses. The Bharat Ram family saw its own business split in 1999. Arun Bharat Ram's sons are clear they don't intend to go down that path.

It's plain to see why. They'd clearly have a lot to lose. Since taking over SRF, or Shri Ram Fibres as it was then known, as part of a family spilt, this branch of the Bharat Ram family has built a business that is valued at ₹35,000 crore. One of their lines—specialty chemicals—has immense growth potential. Another business, refrigerant gases, too has a promising future as India's cooling needs grow. The increase in market capitalisation that has taken place mainly over the last six years has catapulted chairman Arun Bharat Ram, 80, worth $1.8 billion, to the Forbes Billionaires List. Sons Ashish, 52, managing director and Kartik, 49, deputy managing director, are now the stewards of this business.

Equally theirs is a story of efficient capital allocation, long-term thinking and the benefits of a diversified revenue and profit stream. These businesses have taken decades to put together and their durability is sticky. That is one reason why the market is valuing it at a 35 price to earnings multiple even though a part of their profitability comes from legacy businesses with poor growth potential. In the year ended March 2020 SRF had revenues of ₹7,209 crore and profits of ₹1,019 crore. Its return on equity capital was at a decadal high at 21 percent.

The brothers, after having taken the business this far, are about to embark on a new and potentially more exciting phase. SRF is now on track to produce a significant amount of free cash flow. What Ashish and Kartik do with this is likely to shape their legacy. A part of it will be returned to shareholders based on feedback they've received from the investor community. Over the past 18 months the company has returned nearly ₹200 crore.

While there are enough organic opportunities, they plan to allocate some money to startups in the chemistry space. "We'd like to put a certain corpus in new world businesses adjacent to what we are doing today in the world of chemistry," says Ashish. Successful entrepreneurs from Sanjeev Bikhchandani to Alphabet founders Larry Page and Sergey Brin have used

Sons Ashish (left) and Kartik Bharat Ram are now the stewards at SRF Limited, where the increase in market capitalisation over the last six years has catapulted Arun Bharat Ram (seated) to the billionaires list

this playbook and been handsomely rewarded by the market. If the Bharat Rams pull it off they'd enter a hallowed club of 'spawners'.

DISPARATE BUSINESSES

The company that Arun Bharat Ram took over was also the one he started his career at. In was in the 1970s that he'd been sent to Madras (now Chennai) to run a technical textile plant that produces nylon tyre cord fabric. These are used as reinforcements in tyres to give them strength and stability. In the 1980s the business got into belting fabrics—the long belts seen in iron ore mines to transport ore over long distances.

In those licence raj days business decisions were made based on the licences granted and in the 1980s the group got permission to produce flourochemicals that go into refrigerant gases. While India was still a small consumer, the view was that this consumption would grow. In 1987 the Montreal Protocol mandated the phasing out of chloroflourocarbons (CFCs) and the company found itself staring at a loss in business.

It was during this time that Arun Bharat Ram took a decision that eventually led to the setting up of the speciality chemicals business. He set up a chemical research and development wing within the company. Without that SRF wouldn't be able to compete in the refrigerant space. By 2006 they had a new plant producing HFC134, a gas that is widely used as a replacement for HCFCs.

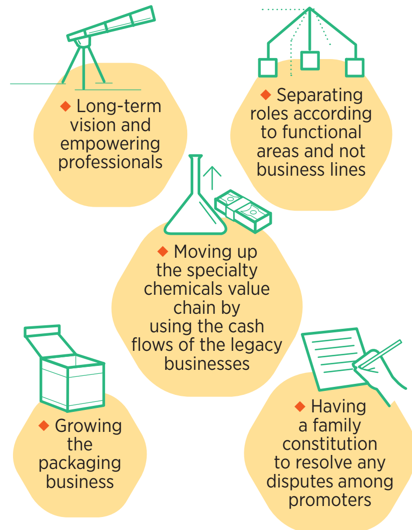
At that time the senior Bharat Ram wanted to explore the world of fluorine. The team of researchers that is now 400 strong went about looking for newer molecules SRF could develop. But it was another decision that proved to be a capital allocation masterstroke. As per the Kyoto Protocol, the company was awarded a project for GHG emission reduction for an annual sanction of 3.8 million carbon credits. This money was used in the development of new fluorination chemistry. Today SRF is present mainly in agri intermediates and counts global companies like Bayer and BASF as its clients with long-term contracts.

SRF's expansion in the specialty chemicals space comes at a time when the sector is in favour with several Indian companies carving a niche. Ashish does allow that a majority of the company's valuation probably comes from the strides it has made in this business. The space is highly specialised with most molecules having between two and four global manufacturers. Proving that a company has the chemistry skills to formulate these molecules is as important as manufacturing them to scale. At the same time China has become more stringent in its environmental norms leaving customers scouting for other manufacturers. Industry watchers talk about a ₹100,000 crore market capitalisation company emerging from this sector in the next five years.

Lastly, there's the packaging business that landed in SRF's lap during the family split. This was a business that initially made film for VHS tapes and has been repositioned over the years to make flexible packaging. Think of the packaging in a pack of Frito Lay chips and it has likely come from SRF. This

SAMEER PAWAR

The Bharat Ram Family Secret Sauce



business finds itself in a sweet spot on account of growing consumption.

BUSINESS STEWARDS

As SRF has grown Ashish and Kartik have divided their responsibilities according to function. Ashish is in charge of strategy, finance and operations while Kartik looks after capability building (IT, human resources, corporate communications, and quality management). Under them each business has its own CEO who reports to them according to the functions they control. "This way there is less scope for misunderstanding," says Kartik, "as no one person can play favourites." There are also regular family meetings to iron out any disputes that may arise.

On the execution front investors have liked what they have seen so far. Once such investor is Singapore-based Amansa Capital that has a 5.6 percent stake in the company. Narender Nagpal, a partner at the firm, recalls being impressed with the long-term vision of the promoters at a meeting in 2014. He'd tracked the company since 2011 and was comforted with the fact that they were using cash flows from carbon credits and the nylon tyre cord business to develop the specialty chemicals operation, which had a more durable moat. They'd built a great team that was there for the long term. "They are focused on going up the technology ladder in their core business of chemical intermediates and that is why they have moved up the margin curve," he says.

Both Ashish and Kartik are clear about not wanting to demerge the company across its business lines. While that may make sense from a market positioning standpoint, a unified structure allows them keep the cash flows fungible. The nylon tyre cord business is a sunset industry with growth of no more than a percent or two every year. Still, in the nine months of FY21 it made an EBIDTA profit of ₹104 crore at a 12.4 percent margin. If this was demerged not only would it get a poor valuation in the market, its profits could only be invested post payment of tax.

The three businesses also help them ride out cycles. While demand in the packaging industry is secular, capacity addition is lumpy and so it tends to have a downward pressure on pricing. Four years ago the agri industry went through a down cycle and SRF didn't enforce its pricing contracts.

Both Ashish and Kartik insist their newfound wealth hasn't made any difference to their day-to-day lives. Both continue to be avid golfers. Ashish does let on that, "You're a little relaxed when you go out and spend," but beyond that their only access to SRFs strong run on the bourses has been an enhanced dividend payout. They're focused on growing both the chemicals and packaging businesses and have put aside a committed capital to enter the fluoro polymers business. The next generation will only enter the business if they are competent, they insist. Else it will go the way of a professionally-managed board-run company. Father Arun Bharat Ram who visits office a day or two every week still continues with his hobby of playing the sitar every day, which he learned under maestro Pandit Ravi Shankar. F

Is the Indian economy resilient enough? Find out with India's 100+CXOs

The resilience and bounce back of India's economy has been unexpected. Battered by the COVID-19 situation with seemingly insurmountable challenges ahead, the Indian economy staged a comeback which is nothing short of a miracle. In fact, India's Chief Economic Adviser expressed a deep sense of satisfaction saying that India has exhibited a V-shaped recovery which truly demonstrates India's resilience.

In order to really understand and make a sense of this revival, CNBC-TV18, YES BANK and PwC Strategy& conducted a survey with more than 100 key Indian CXOs and industry leaders across various sectors. The survey encompasses a macro perspective on the Indian economy and covers some of the most pertinent issues that would play a vital role in strengthening the Indian economy as industry leaders restart their operations in a new normal.

The research shows that despite being hit hard by the COVID-19 situation, CXOs and industry leaders are clearly bullish and confident about India's economic recovery. The Organisation for Economic Co-operation and Development (OECD) forecasted India to grow at 12.6% in FY22, making it the fastest growing economy in the world. The CXOs too share OECD's outlook, as is evidenced by the survey.

86% CXOs expect the Indian economy to grow over the next 12 months. COVID-19 enabled business leaders to rethink their strategies which led them to emerge stronger from the crisis. Companies across sectors had to reconfigure their business models and prepare for the new normal.

With structural reforms kicking in, India Inc braces itself with grit to perform to pre-COVID-19 levels and even do better in a changed operational scenario. Most importantly, it is ready to leverage new opportunities to realign and re-strategize business models to set new benchmarks of development. With Budget 2021 getting a big thumbs up from the industry, a resurgence of the Indian economy is well on the cards as it aims to achieve the $5 trillion mark by 2024.

Economic Growth
86%
are bullish on India growth

COVID-19 Impact on Revenues
64%
reported organizations were resilient in crises

Structural Strengths of the Economy
33%
believe that revival will be facilitated by structural strengths of the economy

Long Term Resilience
52%
believe that infrastructure investment is necessary

Satisfaction with the Budget
59%
are satisfied

A Billionaire A Day

This year, *Forbes* tracked down a record 493 new billionaires—roughly one every 17 hours. Just over 40 percent hail from China; 20 percent from the US. Prominent routes to new riches: IPOs, SPACs, cryptocurrencies and Covid-related health care

Pan Dong
$8.3 billion • Consumer goods • Canada

The richest woman new to this year's list, she chairs laundry detergent maker Blue Moon Group Holdings, which listed in Hong Kong in December. Her husband, Luo Qiuping, is the company's CEO

Vyacheslav Kim
$3.3 billion • Fintech • Kazakhstan

Mikhail Lomtadze
$3.2 billion • Fintech • Georgia

CEO Lomtadze and chairman Kim have steered Kaspi—a payments, ecommerce and mobile-banking app used in Kazakhstan—from a small-time retail bank to a London public listing. Half of Kazakhstan's 18 million people use the service

Pablo Legorreta
$2.9 billion • Investments • US

The former investment banker founded private equity firm Royalty Pharma in 1996 to buy future revenue streams of pharmaceuticals. He took it public on the Nasdaq in June

Matt Moulding
$2.9 billion • Ecommerce • UK

His ecommerce empire, The Hut Group, went public in London in September. Two months later he got a $1 billion share bonus that the board had approved

Tony Xu
$2.8 billion • Food delivery service • US

Xu is co-founder and CEO of food delivery company DoorDash, which listed on the NYSE in December. It delivers meals from 390,000 restaurants in the United States, Canada and Australia

Jared Isaacman
$2.3 billion • Payment processing • US

Isaacman, 38, founded payment processing firm Shift4 Payments in his parents' basement at age 19 and took it public on the NYSE in June. He flies fighter jets for fun, including a Soviet-era MiG-29

Bang Shi-hyuk
$2.3 billion • Entertainment • South Korea

Founder of music label and agency Big Hit Entertainment, which represents the wildly popular K-pop band BTS, he took the company public on the Korea Exchange in October

Gong Yingying
$2.1 billion • Health IT • China

She is CEO, chair and founder of health care analytics firm Yidu Tech, which listed its shares in Hong Kong in January

David Helgason
$1 billion • Software • Iceland

Helgason co-founded video game software developer Unity Software in Denmark in 2004 and served as CEO until 2014; the company listed on the NYSE in September

IPOs

Since mid-March 2020, 1,489 IPOs (including SPACs) raised $314 billion globally. More than half went public in the US, where they raised $277 billion. These 10 billionaires land on the list as a result of such public offerings

Whitney Wolfe Herd

$1.3 billion • Dating app • US

Wolfe Herd, 31, took her woman-centric dating app, Bumble, public in February—becoming the world's youngest self-made female billionaire. The $582 million (revenue) company has 42 million customers in 150 countries. She co-founded dating app Tinder in 2012. That relationship turned sour, and she settled a sexual-harassment lawsuit with Tinder in 2014. Andrey Andreev, the Russian founder of dating site Badoo, offered Wolfe Herd a $10 million investment and Badoo's infrastructure, and the duo launched Bumble in 2014. In late 2019, Andreev sold his majority stake to investment firm Blackstone, four months after a *Forbes* investigation revealed a toxic work culture at its London offices. Badoo denied the allegations

JAMEL TOPPIN FOR FORBES

SPACs

Special purpose acquisition companies, or SPACs, have become all the rage. More than 500 of these "blank-cheque" companies have gone public in the US in the past year, nearly seven times the number in the previous year. But only a handful minted new billionaires

Austin Russell

$2.4 billion • Sensors • US

Russell, 26, spent his teens doing research at the University of California at Irvine's Beckman Laser Institute. The lanky 6-foot-4 entrepreneur dropped out of Stanford in 2012 to found laser lidar (an acronym for light, detection and ranging) startup Luminar Technologies after getting a $100,000 fellowship from billionaire tech investor Peter Thiel. Its sensors now help self-driving cars of customers such as Volvo, Toyota and Intel's Mobileye see in 3D by bouncing laser beams off nearby objects and vehicles' surroundings. The company listed on the Nasdaq via a SPAC merger with Gores Metropoulos in December 2020. Russell, who owns about one-third of it, became the world's youngest self-made billionaire overnight

MICHAEL PRINCE FOR FORBES

Mat Ishbia
$9.7 billion • Mortgage lending • US

Justin Ishbia
$3 billion • Mortgage lending • US

The Ishbias' father, Jeff, launched a mortgage firm in 1986. Mat joined the mom-and-pop outfit in 2003. He and his brother Justin, a private equity investor, eventually bought most of their dad's stake in United Wholesale Mortgage. Now the nation's second-largest mortgage lender, UWM merged with the Gores Holdings IV SPAC in January; Mat is CEO and Justin is a board member.

Andrew Paradise
$2.3 billion • Mobile games • US

Skillz, the esports company Paradise co-founded in 2012, provides a mobile platform for developers to host daily tournaments of games like solitaire and bingo. Its $230 million in revenue comes from its cut of users' entry fees

William Foley
$1.9 billion • Financial services • US

The former insurance tycoon was quick to capitalise on the SPAC boom, sponsoring six blank-cheque companies to date. Two have recently announced mergers—with cloud-based software provider Alight Solutions and digital payments platform Paysafe—in deals valued at just over $7 billion and $9 billion, respectively

Shalom Meckenzie
$1.7 billion • Sports betting • Israel

His gambling technology provider, SBTech, merged with sports betting site DraftKings and went public via a SPAC in April 2020. He serves on the board and is one of DraftKings' largest shareholders, with a nearly 6 percent stake

Geeta Gupta-Fisker
$1.6 billion • Electric vehicles • UK

Henrik Fisker
$1.6 billion • Electric vehicles • US

Famed car designer Henrik Fisker and his wife, Geeta, who has a PhD in biotech, took their eponymous EV maker public in October; production of its first vehicle, a mid-size SUV, is planned to start in late 2022

Trevor Milton
$1.4 billion • Electric vehicles • US

His hydrogen-electric truck startup, Nikola, went public via a SPAC in June 2020. He resigned as chairman in September after allegations by a short seller that he lied about Nikola's technology to investors, spurring a review by the SEC

Chamath Palihapitiya
$1.2 billion • Facebook, venture capital • US

After helping open the SPAC floodgates by taking Richard Branson's space tourism company, Virgin Galactic, public in 2019, SPAC sponsor and venture capitalist Palihapitiya acquired two more firms via SPACs in the past year: Homebuying marketplace Opendoor and insurance company Clover Health

CHINA

The world's most populous nation boasts a record 626 billionaires (excluding Hong Kong and Macau); its red-hot stock market helped mint 205 new ten-figure fortunes, with half coming from manufacturing or tech. All but two were self-made. Here are 11 standouts

Chen Zhiping
$15.9 billion • E-cigarettes

The founder of the world's largest manufacturer of vaping devices, Smoore International, Chen took the firm public on the Hong Kong Stock Exchange last July

Li Hua
$7.1 billion • Financial services

An early employee at Tencent, Li founded Nasdaq-listed online brokerage Futu Holdings in 2007. The Robinhood-style fintech boasts nearly 12 million users

Wang Junlin
$6.3 billion • Liquor

The turnaround artist revived two state-owned companies before arriving at struggling liquor producer Sichuan Langjiu in 2001. It now churns out more than 40,000 tons of alcohol a year

Wang Ning
$6.3 billion • Toys

In December, Wang took public his toymaker, Pop Mart, which is known for concealing the identity of its figurines in "blind boxes."

Jian Jun
$5.6 billion • Biomedical products

Her Shenzhen-listed Imeik Technology Development makes medical cosmetic products like skin fillers and facial implant threads, as well as face and neck masks

Cao Renxian
$5.3 billion • Solar power

A university professor, Cao founded Sungrow Power Supply in 1997. Its products, used in 150 countries, convert direct-current electricity from solar panels into alternating current for the power grid

Steven Meng Yang
$4.2 billion • Electronics

A former Google engineer, he founded popular Amazon seller Anker Innovations Technology, known for its battery packs, phone chargers and other electronic accessories

Liu Fangyi
$4.2 billion • Medical equipment

Stock of his Intco Medical Technology, which makes disposable medical products like masks and gloves, shot up 650 percent in the past year amid the pandemic

Li Xiang
$4 billion • Electric vehicles

The 39-year-old founded NYSE-listed online car dealer Autohome before creating electric vehicle startup Li Auto, which debuted on the Nasdaq last July

Jin Baofang
$3.9 billion • Solar panels

Jin is founder and chair of JA Solar, a Beijing-based solar panel producer that boasts 33,000 clients in 135 countries and regions

STEFEN CHOW FOR FORBES

Kate Wang

$5 billion • E-cigarettes

One of the world's youngest self-made female billionaires, Wang, 39, is CEO of Chinese vaping company RLX Technology. The Columbia Business School grad got the idea for the company in 2017, when she was trying to persuade her father to quit smoking. "I tried out all the [vaping] products. Most of them were terrible," she tells *Forbes*. RLX posted $324 million in sales in the first nine months of 2020 and listed on the New York Stock Exchange in January. Wang has a 20 percent stake. Shares fell 54 percent over three days in late March (after Forbes measured net worths for the Billionaires list) in response to Chinese authorities publishing draft rules that would regulate e-cigarettes as tobacco products

VIRGILE SIMON BERTRAND FOR FORBES

Sam Bankman-Fried

$8.7 billion • US

An MIT grad and former Wall Street trader, Bankman-Fried, 29, is the founder and CEO of quantitative crypto trading firm Alameda, which manages $32 billion in Bitcoin and other major cryptocurrencies as well as their derivatives. He also founded Hong Kong–based crypto exchange FTX, which achieved unicorn status in January 2020, less than a year after its May 2019 launch. The exchange will soon replace American Airlines as the naming-rights sponsor of the home arena of the NBA's Miami Heat. The vast majority of Bankman-Fried's wealth is in FTX's equity and FTT tokens, the native cryptocurrency of FTX. In 2020, he gave $5 million to a pro-Biden super PAC, making him one of the president's biggest donors

CRYPTO

Boom times (again) in cryptocurrency—Bitcoin has skyrocketed 800 percent since the middle of March 2020 and Ripple's XRP is up 200 percent—have landed these nine fresh faces on the list

Cameron Winklevoss

$3 billion • US

Tyler Winklevoss

$3 billion • US

The twin brothers own an estimated 70,000 Bitcoin, plus the crypto exchange Gemini, which processes about $200 million a day in trades

Michael Saylor

$2.3 billion • US

The CEO of software firm MicroStrategy made, and lost, a fortune during the first dot-com bust. He debuts now after snapping up Bitcoin ahead of the boom—for both himself and his company—pushing its stock up

Jed McCaleb

$2 billion • US

He created Mt. Gox, the first major Bitcoin exchange, before co-founding Ripple in 2012. He soon left due to reported disagreements with fellow founders but still holds an estimated 3.4 billion XRP, Ripple's token

Fred Ehrsam

$1.9 billion • US

The former Goldman Sachs trader owns 6 percent of crypto exchange Coinbase, which he co-founded in 2012 and which is poised to go public on the Nasdaq; he remains a board member

Barry Silbert

$1.6 billion • US

His Digital Currency Group, a conglomerate of five blockchain-focussed companies, includes crypto asset manager Grayscale, which oversees some $44 billion worth of Bitcoin, ether and other assets

Tim Draper

$1.5 billion • US

The Silicon Valley VC bought $18.7 million worth of Bitcoin confiscated by US Marshals from the shuttered Silk Road black market in 2014. They are now worth $1.5 billion

Matthew Roszak

$1.5 billion • US

A longtime crypto evangelist, Roszak worked in venture capital and as an entrepreneur before amassing a portfolio of Bitcoin, ether and other cryptocurrencies starting in 2012

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COVID-19

At least 40 new billionaires join the list this year thanks to their involvement in the global effort to fight the Covid-19 pandemic. Some made their fortunes developing new vaccines and promising antibody treatments, while others sell much-needed diagnostic tests and personal protective equipment

Stéphane Bancel
$4.3 billion • Biotech • France
Shares of Moderna, where he has been CEO since 2011 and whose Covid-19 vaccine was approved in the US in December, rose 319 percent in the past year

Ugur Sahin
$4 billion • Biotech • Germany
The Turkish-born physician co-founded BioNTech, which developed a Covid-19 vaccine in partnership with Pfizer; his wife, Özlem Türeci, is chief medical officer. The stock doubled since mid March 2020

Yuan Liping
$3.6 billion • Pharmaceuticals • Canada
Yuan got a 24 percent stake in Chinese vaccine producer Shenzhen Kangtai Biological Products after her divorce from the company's chairman (and fellow billionaire), Du Weimin, last year

Hu Kun
$2.5 billion • Medical devices • China
Chairman of newly public Contec Medical Systems, which makes pulse oximeters and devices used to check lung conditions.

Noubar Afeyan
$1.9 billion • Biotech • US
The founder of life sciences VC firm Flagship Pioneering, through which he owns shares in a dozen publicly traded biotech companies, is also chairman of Moderna

Carl Hansen
$1.8 billion • Biotech • Canada
Former college professor co-founded AbCellera Biologics to identify antibody treatments; it partnered with Eli Lilly, which led to an FDA-authorized Covid-19 therapy

Robert Langer
$1.6 billion • Biotech • US
One of four new Moderna billionaires, the MIT professor dubbed "the Edison of Medicine" owns a 3 percent stake in the company, which he helped start in 2010

Arvind Lal
$1.5 billion • Laboratories • India
Shares of his listed diagnostics chain, Dr Lal PathLabs, soared 57 percent amid the pandemic as it ramped up testing for Covid-19

Prathap Reddy
$1.5 billion • Hospitals • India
A doctor, he runs publicly traded hospital chain Apollo Hospitals Enterprise. Shares doubled in the past year amid the hospitals' focus on treating and diagnosing Covid-19

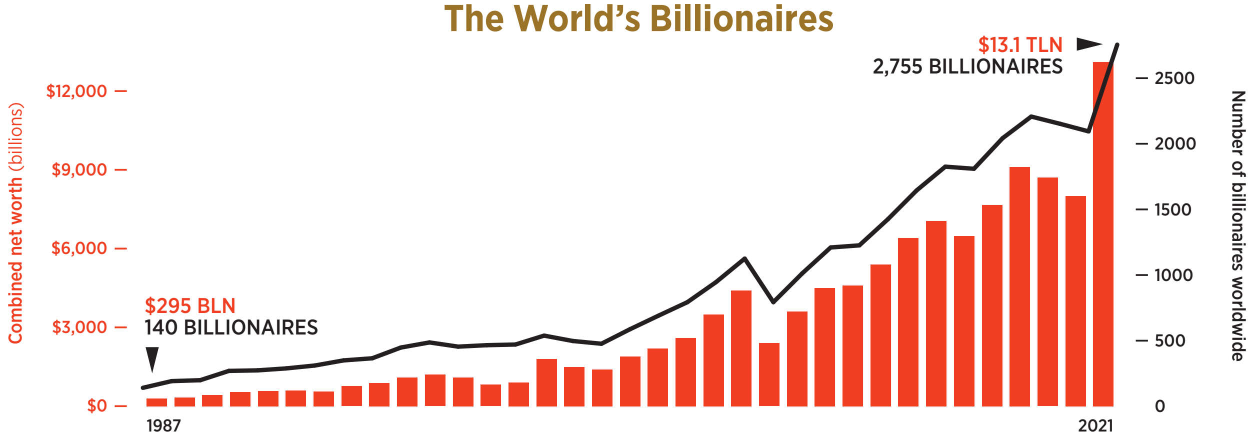
Jack Schuler
$1.1 billion • Diagnostics • US
Former Abbott Labs president, now a biotech investor, he owns 7 percent of diagnostics firm Quidel Corp, which makes Covid-19 tests

Sergio Stevanato

$1.9 billion • Medical packaging • Italy

Covid-19 vaccines are housed in tiny glass vials—many of them made by the family-owned Stevanato Group, where Stevanato, 78, is the chairman of the board emeritus. Stevanato Group is supplying vials for about 15 percent of the Covid-19 vaccines tracked by the World Health Organization. That includes 100 million vials shipped to a Gates Foundation–backed group that's helping to scale 10 different vaccines, including those from Moderna and AstraZeneca. Founded on the outskirts of Venice in 1949 by Sergio's father, Giovanni, the Stevanato Group started out making glass bottles for wine before pivoting to the pharmaceutical industry in the 1960s. Sergio stepped down as CEO in 2010 but still owns a 68 percent stake in the company; his son Franco is executive chairman

STEVANATO GROUP



Operation Wealth Speed

Covid-19 brought terrible suffering, economic pain, geopolitical tension—and the greatest acceleration of wealth in human history. Why this pandemic paradox could become a cause for celebration, not concern

By RANDALL LANE

On March 18, 2020, the United States registered its 150th coronavirus-related death while trying to gauge, along with most of the world, just what was happening. Major market indices fell 5 percent after jumping 6 percent the previous day. Spring breakers partied blithely in Florida while officials decided to close the border with Canada. And a statistical team at *Forbes* locked the numbers for our 34th annual ranking of the world's billionaires, unwittingly creating a snapshot of global wealth at the precise moment the world lurched into its most disruptive 12 months since World War II.

Over the ensuing year, those 150 US deaths swelled to 550,000; some 3 million souls were lost worldwide. Tens of millions of jobs evaporated, along with hundreds of thousands of small businesses. Remote work went from exotic to standard. The suburbs went from dull to desired. The death of George Floyd triggered a reckoning concerning race and social justice. The presidential election tested democratic norms. Simultaneously, though, many individuals, industries and investments thrived.

One year after that fortuitously timed snapshot, we repeated our March billionaires audit, taking the measure, at the point of the pyramid, of the past year's seismic changes. The results defy hyperbole. Over the past 12 months, 493 people worldwide joined the *Forbes* list—a newly minted billionaire every 17 hours. Rising asset prices vaulted another 250 previous drop-offs back over the ten-digit mark. Amid widespread economic insecurity, precious few billionaires fared worse financially: Just 61 dropped off the list for reasons other than death, representing the lowest percentage of drop-offs for any year on record. All told, *Forbes* estimates that there are now 2,755 billionaires globally, up from 2,095 last year, and the notion that the rich get richer has never been more apt: They're worth, in aggregate, $13.1 trillion—a staggering $5.1 trillion more than at the start of the pandemic.

These figures will engender endless amounts of consternation, most of it justified. There's no getting around a collective $5 trillion wealth surge during a pandemic, when most of the world felt scared, sick, besieged. Capitalism, the greatest system ever for generating prosperity, rests upon a social compact of expansion, unequal by design, ultimately lifting all boats. The Covid-19 economy has strained that concept; yawning economic disparity poses arguably the greatest threat to modern social order.

But as miraculous vaccines chart a course back to normalcy, the factors driving these numbers conjure a different emotion: Optimism. The pandemic's most enduring positive legacy will turn out to be as an accelerant, compressing decades of change into one year. And the newly super-rich, proxies for opportunity, or lack thereof, have never felt more different, looked more different or acted more different. It's worth spending some time to deduce why.

We're at that rarest of inflection points—the kind that's apparent even as it happens. Vaccines will wash across the planet at the same time the global economy seems primed to roar back. And while the initial reaction to the billionaire surge of 2021, a newcomer tally 70 percent larger than any we've logged before, will lean toward outrage, the underlying trends offer a road map to greater prosperity for all. Like anything else salvaged from a once-a-century plague, we just need to be brave enough to harness it.

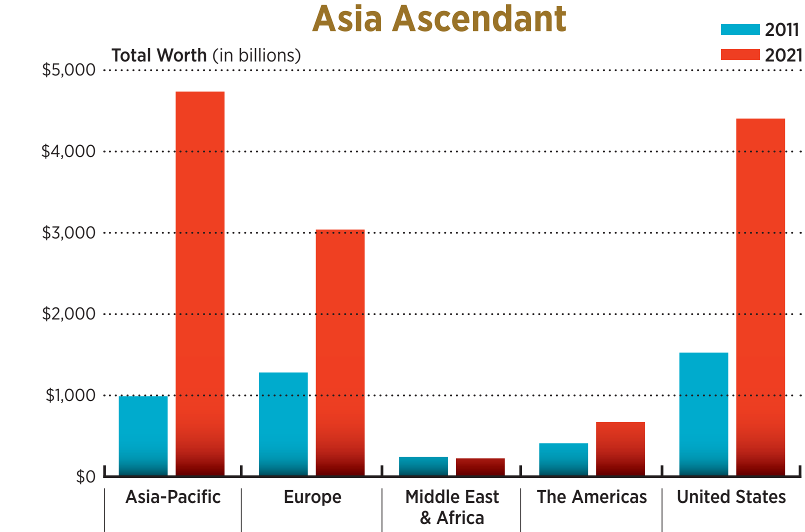
John Arnold was the first billionaire to get behind a new 'Give While You Live' promise—a public commitment to grant at least 5 percent of his personal net worth to good causes each year

For pretty much all of human history, wealth has been dynastic. The John D. Rockefellers and Henry Fords of a century ago launched the first era of entrepreneurship, but even those successes turned into entrenched family wealth. The very first Forbes 400 list of the richest Americans, in 1982, remained chock-full of their progeny, as well as plenty of Mellons, DuPonts and the like—some 63 percent of that inaugural Rich List pretty much inherited it. Many of the rest had a background that involved starting life on first, second or third base, in the mould of Rupert Murdoch or Donald Trump.

The technology revolution changed that dynamic, here and around the world. By 2002, a slim majority, 52 percent, of the *Forbes* global billionaires were self-made, including 59 percent of Americans. Ten years ago, that total had jumped to 69 percent globally.

The 493 new members of the Covid Newcomers of 2021, however, are in a class by themselves: 84 percent of them are self-made (including 90 percent of Americans), swelling the figure among billionaires overall to 72 percent—a record in each case. People like Whitney Wolfe Herd, who flipped the script on dating apps by empowering women; Tyler Perry, who started producing his own movies and television shows in Atlanta because no one would give him a break in Hollywood; and Uğur Şahin, the Turkish immigrant to Germany whose BioNTech helped produce a Covid-19 vaccine in months rather than years—all embody economic

Asia Ascendant



Profile Count	Asia-Pacific	Europe	Middle East & Africa	The Americas	United States
2011	332	299	89	76	413
2021	1,149	628	85	169	724

dynamism, not bloodline dynasties.

Opportunity stems from this dynamism, as these new billionaires illustrate. A decade ago, the median length of time it took a new billionaire in America to create his or her fortune, according to our data, was 18 years. Historically speaking, that's extraordinarily fast. Among this year's 88 new self-made Americans, that number has decreased drastically, to 13 years. The ability to rapidly translate ideas into riches helps level the playing field. Code (intellectual resources) trumps capital (accumulated resources), with the latter desperate for the former. A generation ago, fortunes went to those with the luck or pluck to secure funding; today, a good concept chooses which funding to accept.

That increased opportunity has in turn changed what a billionaire looks like. While women continue to have a far harder time getting good ideas funded than men, they've nonetheless steadily nudged up the tables and now encompass 11 percent of global billionaires, 12 percent of American billionaires and 13 percent of new billionaires, all high-water marks. More importantly, female entrepreneurs now account for 4 percent of all billionaires, more than double the percentage even five years ago.

And while in America extreme success remains disproportionately white, the global business aristocracy increasingly reflects the world itself. China alone, including Hong Kong, added a staggering 210 billionaires this past year. Factor in 19 new faces from India, 14 from Japan and multiple debuts from seven other Asian countries, and people of colour made up a majority of new billionaires worldwide.

How do these more meritocratic, more dynamic, more diverse billionaires run their companies? In ways that are better for all of us. *Forbes* contracted with our partners at JUST Capital, which measures corporate citizenship, to gauge the civic performance of the 88 new self-made US billionaires. We took the companies that drove each billion-dollar fortune and, leaning on industry averages, calculated each score based on how they treat their workers, their customers and the environment, among other factors. The net result: Not only did these new billionaires found or run companies that rank above average in terms of

Twenty-nine-year-old Sam Bankman-Fried has promised to put virtually all of his $8.7 billion fortune into causes he believes in the three factors mentioned above, but they've also improved in each of these categories when measured against the new billionaires of 10 years ago.

Take Chris Britt, who in eight years has built Chime into one of the world's largest digital banks. In a fee-based industry that's often adversarial to those who need it most, Britt grabbed market share during the pandemic with low-risk, customer-centric gestures. "We're on the front line," he says. "We see how Americans are stressed out." Leveraging customer records, Chime comfortably advanced people against their stimulus checks at no cost, and offered overdraft protection via a programme called SpotMe. (By comparison, payday-loan companies lend against things like stimulus checks at usurious interest rates as high as 650 percent.) Such customer-friendly policies, Britt says, help him recruit better employees—his payroll has tripled to 800 in a year—which leads to better returns. "You get those pieces right, with a good business model, the equity shareholders will manage just fine." Apparently so. As of September, Chime was valued by venture capital investors at $14.5 billion, with Britt's stake worth $1.3 billion.

Still more new billionaires are taking steps to support their employees. Mat Ishbia, the 41-year-old CEO of United Wholesale Mortgage, had an incredible past 12 months, as millions changed where they lived or refinanced with record-low interest rates. Equally incredibly, he'd never taken on partners or investors, so he and his family owned 100 percent of the company going into the pandemic. When he took the company public this January through a SPAC, pushing his net worth at the time to $12.6 billion, he carved out $35 million in stock for his 8,000 workers.

"We all won together as a company," says the former Michigan State basketball player. Well, to some degree. Throwing your employees about one-quarter of 1 percent—an average payout of about $4,000—when you're sitting on 99.7 percent and almost 11 digits seems exceedingly paltry. But it's also progress. Go back to that original Forbes 400 list from 1982, and you'll find hundreds of tycoons who didn't think of their employees as much more than a cost or liability.

Others took stands for their hometowns, including Jeff Lawson, the co-founder of surging cloud communications business Twilio, who hit the list this year at a cool $2.2 billion. Silicon Valley saw many companies and leaders decamp from the Bay Area, Elon Musk and Larry Ellison most notably. Lawson felt that he had an obligation to his community, which is another factor measured by JUST Capital. So he publicly declared in January that his company would stay in San Francisco. Another civic booster, Rocket Mortgage founder Dan Gilbert, whose net worth exploded past $50 billion over the last year, recently committed $500 million from his company and his personal foundation to bolster low-income residents of Detroit, where he's headquartered, which included wiping out the property-tax debt of 20,000 homeowners. "Our commitment to Detroit is absolute," Gilbert tells *Forbes*.

All this acceleration comes with a heightened realisation among those at the very top about the obligations that come with extreme success—and the possible repercussions, from confiscatory tax regimes to social unrest, that could follow inaction. It's not hard to read the tea leaves—altruism, in this case, mirrors self-interest. Speaking with a half-dozen members of the newcomers of 2021, along with a handful of younger billionaires, the post-pandemic attitude change is palpable.

John Arnold sensed a shift as the pandemic approached. While the path he took to his estimated $3.3 billion fortune—trading energy contracts for disgraced and defunct Enron—won't earn him any Nobel laurels, he and his wife, Laura, have spent the past decade creating a plan to maximise their impact—"the benefit," he says, "of looking at 100 years of great wealth in America." Alarmed at the state and standing of philanthropy in the US today, he convened a handful of philanthropists, academics and foundation heads in New York in January 2020, posing a question: How can we get those sitting on trillions of dollars to take bigger, faster

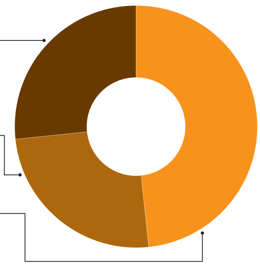
Founding Fortunes

2001
Total worth: **$1.8 trillion**
Total number of billionaires: **565**

INHERITED: **$489.9B**
140 billionaires

INHERITED & GROWING: **$452.5B**
147 billionaires

SELF-MADE: **$881.3B**
278 billionaires

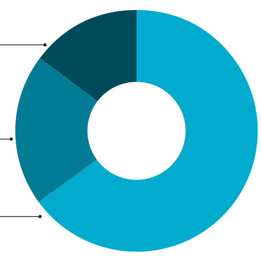


2011
Total worth: **$4.5 trillion**
Total number of billionaires: **1,209**

INHERITED: **$669.7B**
160 billionaires

INHERITED & GROWING: **$904.6B**
220 billionaires

SELF-MADE: **$2.92T**
829 billionaires

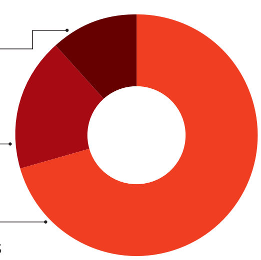


2021
Total worth: **$13.1 trillion**
Total number of billionaires: **2,755**

INHERITED: **$1.56T**
281 billionaires

INHERITED & GROWING: **$2.33T**
499 billionaires

SELF-MADE: **$9.20T**
1,975 billionaires



action, with more accountability?

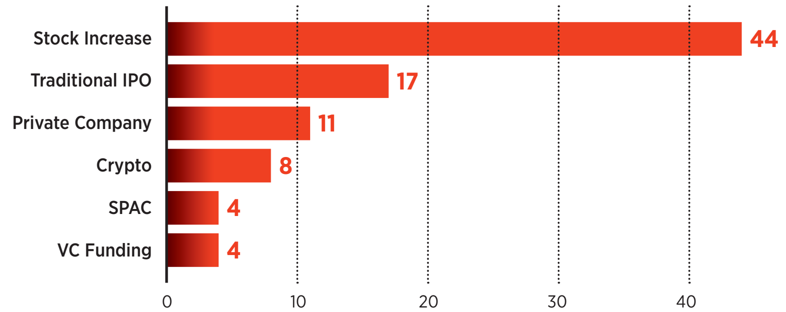
That group evolved into the Initiative to Accelerate Charitable Giving. Its primary targets: The $142 billion in donor-advised funds, or DAFs, which allow donors to take upfront tax deductions for parking money in community foundations or financial-services firms, even if there's no mandate or visibility for when or how the money goes to the public good; and perpetual foundations that try to end-run annual minimal giving requirements by sliding in expenses when they report.

But Arnold also feels the super-rich need to go further individually. So he became the first billionaire to get behind a new "Give While You Live" promise—a public commitment to grant at least 5 percent of his personal net worth to good causes each year—which is being organised by the advocacy group Global Citizen. (Disclosure: I'm a board member at Global Citizen.) Merely holding money in a DAF or a foundation doesn't cut it, nor does the excuse that rich people are better off compounding their money and giving it away later. "Problems compound too," Arnold says in his first interview about this initiative. "Let this generation handle this generation's problems."

The Give While You Live concept is a more time-urgent spin on the Giving Pledge, which has admirably pushed billionaires to publicly commit to give away half of their wealth while they're still alive—or after they die. "It hasn't necessarily spurred giving in the short term," says Arnold, a Giving Pledge signatory. Pretty much every new billionaire *Forbes* spoke to,

Routes to Riches

How the 88 new self-made American billionaires got on the list



while expressing general support for the Giving Pledge and an openness to committing to it, focused instead on what they can do immediately.

Over the past 12 months, the world's third-richest woman, MacKenzie Scott, who joined the Forbes Billionaires list last year after divorcing Amazon's Jeff Bezos, went on a giving spree as notable as anything in recent philanthropic history. Rather than endow a foundation, Scott enlisted advisors to generate data on the ways her money can help the most people now. Then, in July and December, she transparently wrote 500 checks, totaling $5.8 billion, no strings attached, to grantees in all 50 states, many of whom were utterly surprised when the money arrived.

"The pandemic has been a wrecking ball in the lives of Americans already struggling," Scott wrote in a public statement. (She hasn't given an interview since the divorce.) "Meanwhile, it has substantially increased the wealth of billionaires."

It certainly increased the wealth of Jared Isaacman, CEO of Shift4 Payments, a Square competitor that focuses on restaurants and hotels. His roller-coaster year took him from preparing for a public offering to worrying if his customers—and his company—would survive, to becoming an indispensable tool for his clientele, to pulling off an IPO after all.

After ringing the bell at the New York Stock Exchange, which gave him a $1.4 billion net worth, Isaacman, 38, wrote a $100 million check to St. Jude Children's Research Hospital. His motivations mimicked Scott's. He gave immediately after coming into immense wealth. Rather than set up a foundation, he steered money to people already doing good work. He did so transparently. And he did it with scale, after his business' brief near-death experience underscored for him how many people were hurting. "If you had asked me before the pandemic, 'Could you imagine writing a $100 million check?', I never would have expected it."

Then Isaacman, who owns and flies his own MiG fighter jet, applied some leverage. He announced he would lead the first all-civilian mission to space, in partnership with Elon Musk's SpaceX. He would bring a St. Jude frontline worker—as well as a random St. Jude donor, a stunt he hopes will raise another $200 million for the hospital, which he publicised through a Super Bowl commercial. He even got Musk, a charitable skinflint to date, to commit to St. Jude.

Immunologist Tim Springer's

Rather than endow a foundation, MacKenzie Scott got data on the ways her money can help the most people now

coronavirus epiphany has been a matter of scale. Twenty years ago, he netted $100 million founding a biotech company, and in turn he made the kinds of donations you might see from people at that wealth level, endowing chairs at Harvard Medical School and Boston Children’s Hospital. He also put about $5 million into a little startup called Moderna—a stake that brings him onto the Billionaires list this year with a net worth of $2.2 billion.

Springer has already put forth $30 million to establish the Institute for Protein Innovation, a non-profit that creates tools and provides expertise for biotech researchers and entrepreneurs. But the urgency of the moment has him rethinking things philanthropically—later this year, he says, he’ll announce a bigger donation. He’s coy about it, though he does say he’ll likely be “adding another zero”. And that’s just the beginning. “I want to give more money. That’s my motivator to start companies now,” he says. “If I’m successful, as I think I could be, [with] the scale of things, we could add yet another zero.”

And if starting businesses designed specifically to create billion-dollar charitable windfalls sounds far-fetched, meet 29-year-old Sam Bankman-Fried, who’s already doing exactly that. Perhaps the most interesting new billionaire in the world, Bankman-Fried started the FTX cryptocurrency exchange two years ago, making a bigger fortune—$8.7 billion—more quickly than anyone under 30 ever has, Mark Zuckerberg included.

From Carnegie to Rockefeller, Gates to Buffett, philanthropy was always the by-product of entrepreneurship. Bankman-Fried is surely the first billionaire for whom entrepreneurship was the by-product of philanthropy. He embraces a philosophy called Effective Altruism, which has cropped up over the last decade and applies rational logic to maximising good. “It’s for people who like math and people who like giving,” Bankman-Fried says. Effective Altruists try to quantify things like lives saved per dollar. Or whether it’s more urgent to quell malaria or potentially malevolent technologies. Or whether a brilliant MIT student named Sam should follow his dream and become an animal-rights activist. “Honestly, you should go to Wall Street and give it to us,” Bankman-Fried remembers hearing from one of the Ethical Altruism movement’s leaders, 34-year-old Oxford professor William MacAskill. “You’re not the best leafletterer we’ve found.”

Speed to Wealth

The median number of years after starting their company that individuals appeared as a newcomer on the Billionaires list

2011	2021
18	13

Rising Grades

How new billionaires’ companies rank (as a percentile) in JUST Capital’s categories of corporate citizenship

	2011	2021
Overall Score	49th	55th
Workers	53rd	57th
Environment	52nd	61st
Customers	42nd	52nd
Communities	49th	49th
Shareholders	45th	47th

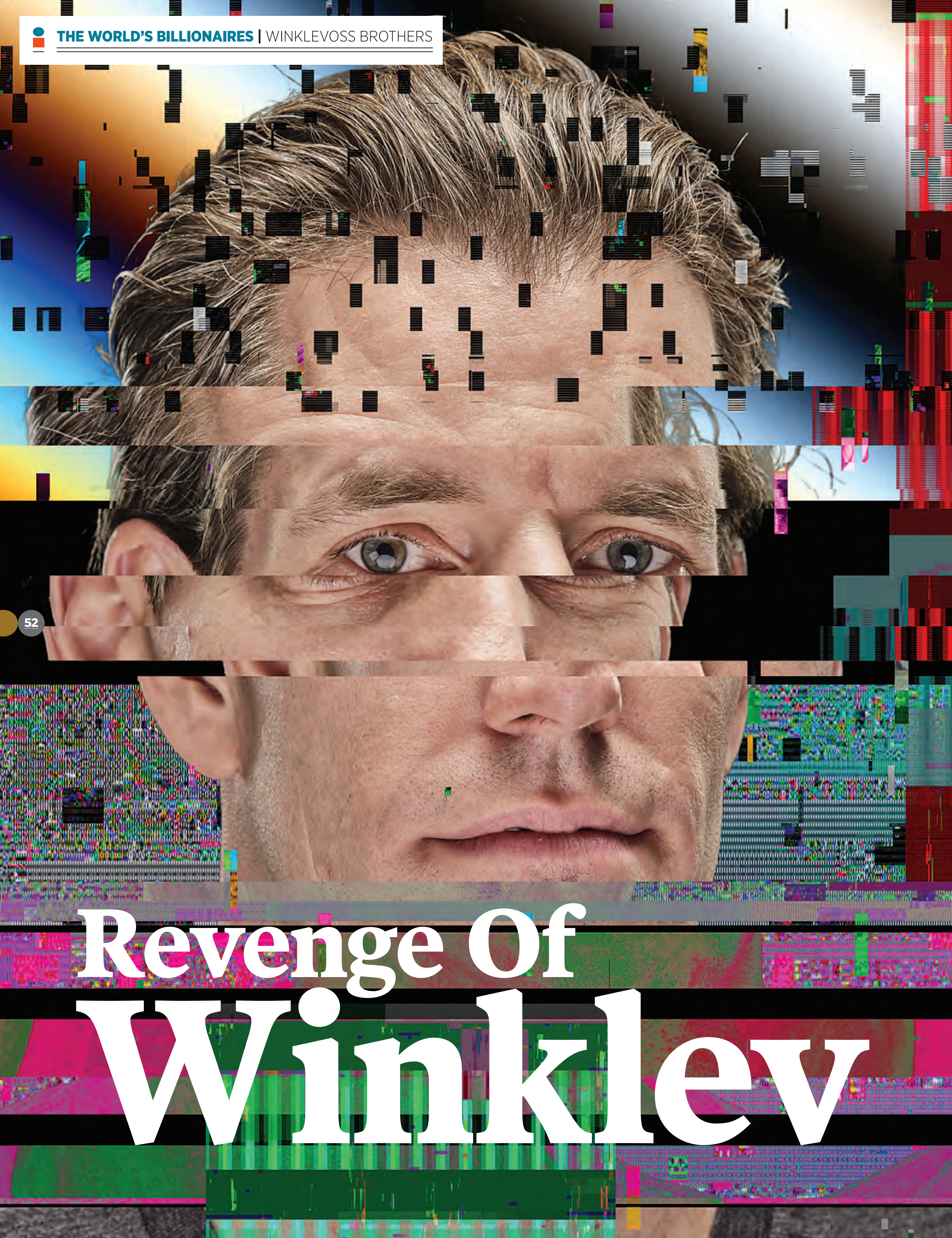
Mission accomplished. Bankman-Fried, in pursuing a vocation less than noble—a zero-sum, notoriously cut-throat exchange in which newcomers face a slew of sharp-elbowed pros—has created a massive source of wealth that he promises to deploy almost entirely for what he sees as the public good. (He says he will keep only a few percentage points for himself, and even that might prove too much. “If it’s used to justify buying a few yachts, that’s pretty bad.”) And while he’s already placing bets, backstopping a few charitable initiatives and giving $5 million to help get Joe Biden elected (Effective Altruists like Bankman-Fried don’t differentiate much between non-profits and politics; they merely look at outcome ROIs), he anticipates accelerated scale starting in five years, when he’s more liquid.

The only reason he won’t give it all away as fast as possible is so that he can keep some powder dry for the moment, sooner rather than later, when he sees an “outlier opportunity.”

Immunologist Tim Springer’s stake in Moderna brings him onto the Billionaires list this year with a net worth of $2.2 bln

“When you find one of those, everyone tends to go too small,” Bankman-Fried says. “F--king go all in.”

We’re at an all-in moment in history, actually, and those at the top have raised their own stakes to a level that’s unfathomable considering the year we’ve all experienced. Changes are upon us faster than we could possibly have conceived last March. Now is not the time for the world’s billionaires, or any of us, to go small. F



Revenge Of Winklev

After losing an epic battle with Mark Zuckerberg over ownership of Facebook and being shunned in Silicon Valley, Cameron and Tyler Winklevoss are back—this time as budding bitcoin billionaires at the centre of the future of money, the creative economy and quite possibly a new operating model for Big Tech itself

By MICHAEL DEL CASTILLO, SUSAN ADAMS & ANTOINE GARA

PHOTOGRAPH: MICHAEL PRINCE AND ILLUSTRATION: YOSHI SODEOKA FOR FORBES

Identical twin billionaires Cameron and Tyler Winklevoss saunter into their empty 17th-floor offices in Manhattan's Flatiron district wearing designer high-tops, black jeans and matching sweatshirts made by the high-end streetwear brand Heron Preston. The sweatshirts—Cameron's is red, Tyler's white—are emblazoned with a Nasa logo, which the twins picked because it echoes the space-exploration theme behind the brand of their seven-year-old cryptocurrency trading operation, Gemini. In addition to being the Zodiac sign symbolised by twins, it was the name of Nasa's second space mission—the one just prior to Apollo 11, which put the first man on the moon.

"We actually call our employees astronauts," Cameron says. "We're all astronauts building on the frontier of money and the frontier of art and the frontier of finance." Accustomed to finishing his brother's thoughts, Tyler chimes in: "We feel like we're on a spaceship, exploring a new frontier."

On this sunny March day, the spaceship is hitting warp speed. The price of Bitcoin is about to reach an all-time high of $58,000 (it sold for $8 in 2012 when the brothers began investing some $10 million in the digital currency), rocketing their combined net worth to $6 billion. Their latest investment, fast-growing Bitcoin lending giant BlockFi, just announced it has raised $350 million, valuing the company at $3 billion.

And the 39-year-old brothers' hottest venture, digital art auction platform Nifty Gateway, is basking in the glow of a sale at Christie's, where the gavel is about to fall on the 255-year-old auction house's first-ever sale of a non-fungible token (NFT) artwork, a one-of-a-kind computer file tracked on a digital ledger known as a blockchain. Nifty Gateway put the artist, Mike Winkelmann, who goes by Beeple, on the map through a series of "drops" starting last year. Before the day ends, Gemini's custodial business, which houses digital assets securely, will receive a $69 million cryptocurrency payment for Beeple on behalf of Christie's, making his "Everydays: The First 5,000 Days" the third-most-expensive work sold by a living artist, after Jeff Koons and David Hockney.

Much of the world still thinks of the 6-foot-5 twins as the crew-rowing chumps played by Armie Hammer in *The Social Network*, the hit 2010 movie about Facebook. At Harvard, classmate Mark Zuckerberg had swiped their idea for a social networking site, building an empire with 2.8 billion worldwide users and a personal fortune now worth $97 billion. A dozen years after they settled with Zuckerberg for $65 million in Facebook stock and cash, the Winklevii, as they are widely known, have emerged as leaders of a technological movement whose core operating principle involves digitising the records of all assets globally, decentralising control and cutting out gatekeepers—including Facebook.

"The idea of a centralised social network is just not going to exist five or ten years in the future," Tyler predicts, when asked about Facebook. "There's a chasm between the old world and this new crypto-native universe."

Blockchain, the technology underlying Bitcoin and other cryptocurrencies, is already disrupting money and banking, as giant financial firms such as PayPal, Square, JPMorgan, Fidelity and Northern Trust embrace Bitcoin and jockey for position in a future awash in digital assets. At the same time, big companies including Boeing, Samsung, Tesla and Novartis are using the new technology to improve their supply chains, share customer data and speed up business processes. In some cases, they're adding Bitcoin to their balance sheets. In 2020, Bitcoin returned more than 300 percent, against 18 percent for the S&P 500.

The Winklevii say they're just getting started. Through their holding company, Gemini Space Station, which owns their crypto exchange and Nifty Gateway, and via investments made by their family office, Winklevoss Capital, the duo have invested in no fewer than 25 digital-asset startups. These fledgling companies are laying the foundation for what the brothers hope will be a new virtual world that they and others call the "metaverse", in which digital assets like art, music, real estate and even entire businesses are created, bought and sold—and, most importantly, governed—by the blockchain. Many of the companies they're backing are positioned to thrive in this three-dimensional version of the internet ruled via peer-to-peer computer networks, where participants rather than powerful companies profit.

"The idea of a centralized social network is just not going to exist five or 10 years in the future," Tyler predicts when asked about Facebook. "There's a membrane or a chasm between the old world and this new crypto-native universe. And we're the conduit helping people transcend the offline into the online."

The fact that two Greenwich, Connecticut–raised men of Harvard, both former Olympians, find themselves at the

Within 24 hours of meeting with the Winklevoss twins in 2019, Griffin (left) and Duncan Cock Foster had received an overture from Gemini to buy Nifty Gateway. The NFT auction house was recently valued at $1 billion

centre of an anti-establishment movement whose most notable use case to date has been a thriving online bazaar selling illegal drugs speaks volumes about how far the Winklevii have come from their days in Cambridge, Massachusetts, grappling with Mark Zuckerberg.

After settling their arbitration with Facebook and competing in the 2008 Olympics in Beijing, the Winklevoss brothers headed to Oxford University to earn their MBAs in 2010 and then formed Winklevoss Capital to make venture investments. Eager to join the cadre of firms on Sand Hill Road funding today's great technology companies, the twins soon realised they were effectively shunned in Silicon Valley. Startup after startup, fearful of reprisals from juggernaut Facebook and its growing network, refused to take their capital.

As recounted in Ben Mezrich's 2019 book *Bitcoin Billionaires*, it was during a vacation in Ibiza in June 2012 that the twins were first introduced to Bitcoin by early adopters who, like the Winklevii, were traditional-tech outsiders. The notion that money was the ultimate social network, and that Bitcoin was free from central-bank control and backed by

MICHAEL PRINCE FOR FORBES

"We very much saw ourselves in Duncan and Griffin [far right]," says Tyler (second from right) of the Cock Foster twins. "These guys had this passion, this conviction, and everyone around them was saying they were crazy. That's how we felt our whole life."

MICHAEL PRINCE FOR FORBES

mathematical certainty, appealed to the highly disciplined athletes.

After the brothers returned to New York, they began using their Facebook money to buy up Bitcoin. "We found the community super-welcoming," says Tyler, who tends to be the more analytical twin. (Cameron is the more creative.)

In May 2013, they invested $1.5 million in a Brooklyn-based exchange called BitInstant, which charged people a fee to exchange dollars for Bitcoin in just minutes. The business grew rapidly—reportedly accounting for 30 percent of all Bitcoin purchases. Unfortunately, some of those purchases were laundering money for drug dealers selling on the dark-web drug bazaar Silk Road, and by the end of the year the site was shuttered. Its computer-genius CEO, Charlie Shrem, whom the Winklevii embraced, was arrested and spent a year in federal prison for running an unlicenced operation.

Facing another brush with ignominy, the brothers decided that if they were going to succeed in this nascent marketplace they needed to be hands-on—and, more importantly, they needed to bring order to a chaotic, unregulated industry. In 2014, they founded their own crypto-currency exchange, Gemini.

In the early days, Gemini was little more than a place to buy and sell Bitcoin, but today it offers trading and custody for 33 cryptocurrencies, including ether, a coin equipped with a native computer language that lets developers build applications without central servers; zcash, a privacy-protecting token based on Bitcoin; and mana, the native cryptocurrency of a virtual-reality world called Decentraland. The twins also have their own ethereum-based token called Gemini Dollar, which is pegged to the value of the US dollar and therefore stable.

Among crypto exchanges (there are now more than 300), Gemini became, in October 2015, one of the first Bitcoin-focussed financial institutions to be designated a trust bank by the New York State Department of Financial Services. This meant it was subject to the same regulatory requirements as banks like State Street and Northern Trust and enabled it to take deposits in all 50 states.

Though Gemini's trading volume ($29 billion in the last 12 months) is much lower than that of giants like Binance and Coinbase, it rivals them in industry "trust" scores. Given the current environment of nosebleed valuations like Coinbase's $68 billion, Gemini could likely fetch $5 billion if it ever needed outside funding.

While Facebook's early corporate mantra was "move fast and break things," the Winklevii, who famously asked then–Harvard president Larry Summers to enforce the college's "Standards of Conduct" against Zuckerberg, have always operated under an "ask permission first, not forgiveness later" ethos. A poster on the wall of their office from Gemini's recent New York subway marketing campaign depicts the Founding Fathers of the US with the words THE REVOLUTION NEEDS RULES.

Heavily promoting its operation as the "regulated" crypto exchange, Gemini is positioning itself to profit when the Securities and Exchange Commission finally approves crypto exchange-traded funds, already approved in Canada and overseas. Starting in 2013, the Winklevii began applying to the SEC to launch a Bitcoin ETF. So far they've been turned down twice, last in 2018, over "the immaturity of the industry".

Today, there are six crypto ETF applications pending at the SEC from the likes of Wisdom Tree, Van Eck, Fidelity, First Trust and Anthony Scaramucci's Skybridge Financial. Gemini, which now offers customers a Bitcoin rewards credit card and a savings account that pays 7 percent interest on crypto deposits, has an application pending with the SEC to open an alternative marketplace for trading stocks and other securities issued on a blockchain.

"Gemini is the bridge where people can migrate away from centralised finance, from their current bank, and into this new world," Cameron says. "Our business model is not based on information or monetising privacy. It's based on marketplaces and trading fees."

Among the twins' growing collection of crypto-focussed startups, none is getting more buzz and showing more potential than its NFT marketplace, auction platform Nifty Gateway.

The company was founded in November 2018 by Duncan and Griffin Cock Foster, 26, also identical twins and rowers, who say they took up the sport after watching *The Social Network* in high school. Both had just graduated from college in 2017—Duncan from Washington University in St Louis with a degree in computer science and Griffin from Emory in mathematics. During his senior year, Duncan began dabbling in CryptoKitties, a digital craze similar to the decades-ago mania for Beanie Babies, only one in which users create, collect and trade unique animated felines, registering each using a non-fungible token on the ethereum blockchain.

"Everyone had the same complaint," Duncan said in a 2019 interview. "Buying NFTs was too complicated. We started Nifty Gateway to solve access issues, and we will not rest until 1 billion people are collecting NFTs."

At first the Cock Fosters designed Nifty Gateway not as an NFT auction platform but simply as a way to buy NFTs with Mastercards and Visas instead of going through the arduous process of purchasing them with ether. In fact, the Winklevii first stumbled upon Nifty Gateway in July 2019 at the Contemporary and Digital Art Fair in New York. A work called "CryptoPunk 4530", featuring a woman with a mohawk smoking a cigarette, rendered in the blocky style of an old-fashioned video game, had caught Tyler's eye. The image was one of 10,000 similar but unique portraits created by Google veterans Matt Hall and John Watkinson and initially given away free. The price was $5,000. Tyler used his phone to create an account on Nifty Gateway, paying with his credit card.

As soon as the Winklevii returned to their office, Gemini's vice president of engineering, Eric Winer, told them he had been keeping an eye on Nifty Gateway, which had just emerged from Adam Draper's BoostVC accelerator boot camp. A month later, Gemini struck a deal to buy the seven-month-old startup. The Cock Fosters moved to an Airbnb in Brooklyn and worked with Gemini's engineers to build what is now the world's most exclusive digital-art platform. While numerous digital platforms operate more like eBay and are open to all creators, Nifty Gateway selectively curates its artists and sells their works

A poster on the wall of their office from Gemini's recent New York subway marketing campaign depicts the Founding Fathers of the US with the words THE REVOLUTION NEEDS RULES

in "drops", taking a page from fashion brands like Nike and Supreme.

The NFT art market has exploded. In February, Nifty Gateway accounted for $75 million of the $91 million in NFT art auctioned on the top seven online platforms, according to data compiled by CryptoArt.io. As of late March, it had sold $132 million of the $188 million worth of such work bought by collectors. When the Cock Fosters launched Nifty Gateway a year ago, monthly sales were less than $100,000.

No NFT artist has gotten richer off the craze than Mike Winkelmann, a.k.a. Beeple_Crap, a 39-year-old father of two in Charleston, South Carolina, who earned a computer science degree at Purdue and studied no art past high school. He uses 3D-graphics software to generate artwork that is often revolting. One piece depicts a naked Donald Trump eating a hamburger while sitting atop a train wreck that's being consumed by giant coronavirus particles.

As a hobby, Beeple created a digital image every day for more than ten years, posting his provocative "Everydays", depicting dystopian visions of pop culture and politics, to social media sites like Facebook and Instagram. The work earned him a cult following on the internet, but he couldn't monetise the digital medium, which was as easy to copy as simply right-clicking a mouse.

Last fall, Nifty Gateway began reaching out to artists, trying to populate its new exclusive platform with interesting and valuable digital art. Given Beeple's 1 million Instagram followers, he was an obvious choice. After educating Winkelmann about NFTs, engineers at Nifty Gateway explained how he could program art to be dynamic, changing at different points in time, or based on a given outcome. He was already touching on political themes in his "Everydays" and saw the 2020 election as his opportunity to make a mark.

If Trump were reelected, Beeple's "Crossroad" NFT would transform into a naked, sweaty, muscular strongman walking menacingly through fire. If he lost, the NFT would turn into a looping video of Trump lying face-down beneath a rainbow, with words like loser painted on his naked body, as a bird styled after Twitter's logo chirped away. On October 31, "Crossroad" became the hottest ticket on Nifty Gateway, selling for $66,666.66 to a 32-year-old Miami-based digital-asset speculator with a Columbia MBA. The buyer put the work back up for sale on Nifty Gateway and sold it in February for

$6.6 million, making a 90-fold profit. Beeple earned about $660,000 due to the platform's fee structure, which invites artists to collect a 10 percent royalty on all aftermarket sales.

Drops Beeple auctioned for $1 each now trade for hundreds of thousands of dollars, earning him at least $10,000 per transaction. His various NFTs sold for a total of $10 million on Nifty Gateway in the weeks before his $69 million sale on March 11. The Winklevii's NFT platform, which charges artists 15 percent, has been a life-changer for Winkelmann. It has also created a booming business for Nifty Gateway.

"We're doing $4 million in five minutes now," says Cameron of drops that a year ago would have brought $50,000 on a good day. Adds Tyler: "Basically, the entire art world, the entire entertainment world, is knocking down the door."

The gold rush in digital art and collectibles being minted and sold on Nifty Gateway and other NFT platforms like NBA Top Shot won't last forever. But just as some dot-com-bubble companies like Amazon survived and eventually thrived, the Winklevii are building Nifty Gateway and Gemini for the long run as a marketplace and custodian for all manner of assets. "You want to pick that niche," Cameron says. "You don't want to boil the ocean."

Ultimately, the twins see their two marketplaces, Gemini and Nifty Gateway, integrated into a single dashboard where NFTs will be used as collateral for loans. Tyler and Cameron also envision a future in which the due diligence they perform to verify a user's identity could be issued as an NFT—think Facebook, but with irrefutable identity confirmation. "It's almost like compliance as a service could be baked into an NFT token that Gemini issued," Tyler says.

Another major area of investment for the Winklevii is blockchain-based applications that support decentralisation—the idea that tech companies like Google, Facebook and Microsoft will no longer be necessary because web services and applications will be created, operated and governed by users.

Back in 2014, Winklevoss Capital joined forces with San Francisco's open-source developer Protocol Labs, investing in a seed round to finance various projects that would create a new internet infrastructure that doesn't rely on centralised servers. One of its efforts, Filecoin, is intended to power a network for computer storage in which users around the world rent out their unused hard-drive space and in return receive ethereum blockchain–based tokens called filecoins as payment. There are already 250,000 such computers, or "nodes", linked into a decentralised cloud computer. Filecoin has recently been on a tear: Its tokens have surged 350 percent so far this year, and it has a market capitalisation in excess of $6 billion.

"We're doing $4 million in five minutes now," says Cameron of drops that a year ago would bring $50,000 on a good day. "Basically the entire art world, the entire entertainment world, is knocking down the door," Tyler adds

In June, Protocol Labs is hosting a workshop to build decentralised versions of Amazon, Google and Facebook that instead of relying on revenue from advertising targeting their users' personal information will reward them with filecoin tokens. One day filecoin-connected computers could rival the cloud services of these tech giants.

Oasis Labs, based in San Francisco, is another promising Winklevii-owned startup. Run by a security and artificial-intelligence professor at the University of California at Berkeley, the company specialises in ultrasensitive data like human genome codes. The idea is that users will control their own data and be compensated for its use by corporations.

The twins' most recent investment, Artie, builds video games that don't need to be downloaded and in-game digital assets that can be exported, traded on open markets and even imported into competing games. Artie's "app-less" games use assets issued on the ethereum blockchain and can stream from anywhere, similar to how YouTube embed codes allow its videos to be played on any website.

Billionaire Zynga founder and CEO Mark Pincus is among the investors in Artie, as is YouTube co-founder Chad Hurley. "We're seeing that consumers want to break down these walled gardens," says Artie co-founder Armando Kirwin. "They want more choices, they don't want monopolies, they want a return to the free and open web. And that's the last sanctuary that we have."

Of course, the irony of any effort to build a decentralised metaverse is that its chief architects will ultimately become unnecessary. Tyler and Cameron Winklevoss seem unconcerned. Goldman Sachs recently predicted that the price of Bitcoin could easily climb to $300,000 in the next five years.

"Decentralisation is a spectrum," says Cameron, looking out of his window towards New York's Chrysler Building. "Our goal was not to be the gatekeepers." F

One-Woman Show

Judy Faulkner, the billionaire founder of Epic Systems, pioneered—then dominated—electronic medical records. She's been the industry's leading actor for decades, but now the pandemic is fuelling a digital health care race that may finally cost her the spotlight

By **KATIE JENNINGS**

A victorious swell of brass instruments reverberates across the 1,100-acre Epic Systems campus in Verona, Wisconsin, a sleepy suburb just outside Madison. It's February 2020, and except for China and a couple of ill-fated cruise ships, there are few signs of the coronavirus pandemic that's about to envelop the world. It's certainly business as usual at Epic: The familiar strains of a baroque wedding march fill the hallways, stopping the health care software company's 10,700 employees in their tracks. On cue, a new customer announcement follows: Florida-based AdventHealth plans to deploy Epic's electronic health record system across 37 of its hospitals. The full installation will take over three years and cost around $650 million, not counting ongoing maintenance, which will cost millions more annually. "It's a very long relationship for many of our customers," says Epic's founder and CEO Judy Faulkner in a rare interview. She got the idea for the wedding theme from a visit to the Mayo Clinic several decades earlier, where she heard lullabies play whenever a new baby was born. A new customer "didn't feel like a new baby", she says. "It felt more like a wedding."

Corporate Climber: Faulkner says she didn't have a grand plan for growth. "It's always been, like, you climb a mountain. And you just see the hill ahead of you. You don't see the whole mountain. And then you get on top of that hill, you see the next hill. And you just keep climbing."

Indeed, hospital executives are often more committed to Epic than most Americans are to their marriages. Epic's average customer has been using its software for 10 years, and Faulkner claims the company has never lost an in-patient hospital client, except in the case of an acquisition. Partly that's because it's so hard to leave. Epic's software helps manage a patient's entire journey, starting with scheduling an appointment, moving into the clinic or operating room as the doctor records allergies or X-rays and then to the back office for billing and follow-ups. It's a proprietary system that infamously doesn't play nicely with others. The company's product is generally referred to as an electronic health record, but its reach is far broader, including revenue cycle management, customer retention tools and data analytics.

Epic's suite of offerings has proven particularly popular among large academic medical centres and children's hospitals, such as the Cleveland Clinic, Johns Hopkins and Boston Children's Hospital. The company's 564 customers represent nearly 2,400 hospitals worldwide and 225 million patients in the US, or about two-thirds of the country's population. This translated into more than $3.3 billion in revenue in 2020, despite what Faulkner estimates to be around $500 million in foregone revenue for Covid-related software it provided free of charge, including infection management tools and extensions for pop-up hospitals. "It never seemed right to me to make money off Covid," she says.

Her success has been decades in the making. Since Epic's founding in 1979, the 77-year-old Faulkner has steadfastly rejected outside investors, Wall Street financing and acquisitions. Epic was still just a $500 million (sales) company in 2007. Ten years ago, it hit $1 billion in revenue, and growth has compounded at an annual

PHOTOGRAPHS: JAMEL TOPPIN FOR FORBES

rate of 15 percent every year since. It's highly profitable: Estimated cash flow as measured by Ebidta is north of 30 percent, and the company has no debt. *Forbes* estimates Faulkner's 47 percent stake in Epic to be worth $6 billion, which makes her the second-richest self-made woman in America. Employees and around a dozen other co-founders and initial investors own the other 53 percent.

In 2019, Epic had a 39 percent share of the more than 880,000 hospital beds in the US, the health care IT firm KLAS Research estimates. The rest of the market is fragmented among publicly traded Cerner, the Massachusetts-based Meditech and a few other firms, including Allscripts and CPSI. Epic's dominance has made it an industry target, with critics and competitors accusing the company of being a closed network that makes it difficult to exchange data with other systems. Faulkner contends Epic does share data but puts patient privacy above all.

Epic's biggest strength, this build-it-alone mentality, could become its biggest liability in the post-Covid world. The pandemic is forcing fast change in the US health care system. Doctors and other providers have rapidly adopted new technology over the last year as patients suddenly took a strong interest in staying as far away from the hospital as possible.

"I have never, in the history of health care in the United States, seen this kind of supernova of innovation with a flurry of investment activity into digital health."

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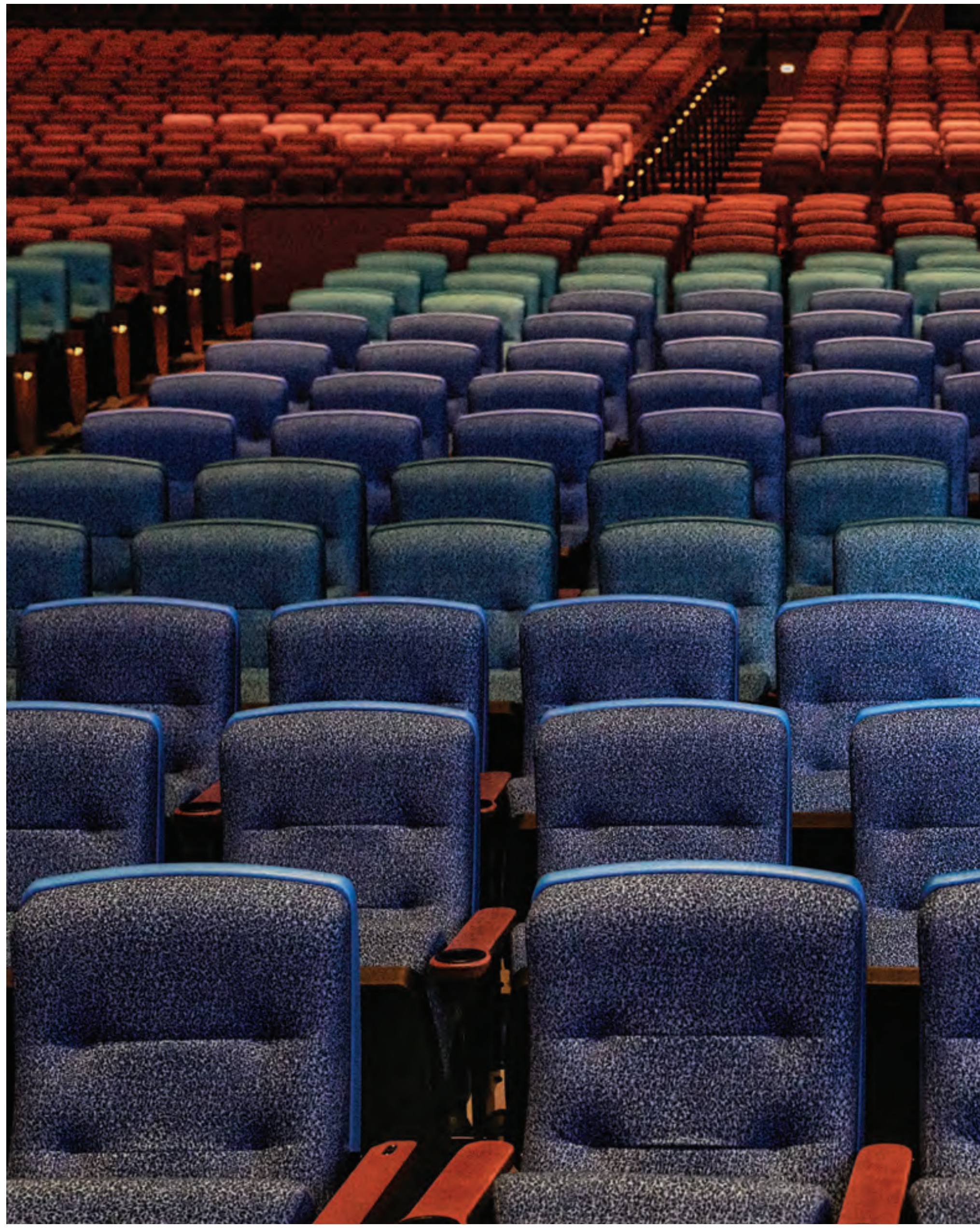


Venture capitalists were already gunning for Epic before the pandemic struck. After all, the company's big-system mindset and hundred-million-dollar installations seem out of step in the era of cloud computing and cheap, ubiquitous mobile apps. Then, shortly before lockdown, the US government finalised new federal data-sharing rules empowering patients to have ownership over their own digital medical records—potentially further eroding what has historically been a health-data oligopoly dominated by Epic and Cerner.

"We are right in the middle of this phenomenal transformational swirl," says John Glaser, a former Cerner executive who currently lectures at Harvard Medical School. It's not that electronic health records will go away, he says, but more nimble and agile startups will enter the market. Just as the web and smartphones crushed Microsoft's seemingly unassailable 1990s-era desktop monopoly, this new

era may pose the same challenges for Faulkner. But there's one huge difference. The move-fast-and-break-things ethos of Silicon Valley doesn't work in health care. "You can't tell a doctor it's okay to fail," Glaser says. "It's not okay to fail. That's death."

Faulkner has loved tackling tough problems since she was a kid growing up near Haddonfield, New Jersey, in the 1950s. In seventh grade, her math teacher put riddles on the blackboard, and she's been hooked on math and logic ever since. She majored in math at Dickinson College in Carlisle, Pennsylvania, and had a summer job in particle physics at the University of Rochester, where she was introduced to computer programming and Fortran (the ancient coding language invented by IBM). "I always liked making things out of clay," Faulkner says. "And the computer was clay of the mind. Instead of physical, it was mental."

In 1965, she started a doctorate in the University of Wisconsin's nascent computer science program. In Madison, she met psychiatrist and professor Warner Slack, who was teaching one of the first-ever courses on computers in medicine. A few years later, Slack introduced Faulkner to John Greist, then chief resident in medicine and now professor emeritus at the University of Wisconsin, who was looking for a better way to schedule on-call doctors. In 1969, Faulkner developed a system in which a secretary could punch data cards to generate the schedule for an entire year in 18 seconds at a cost of $5.

Faulkner graduated without completing a dissertation ("I never could figure out what to write a thesis on," she says) and in the early 1970s started working for a physicians group at the University of Wisconsin, developing a database to keep track of patient information over time. It would take a few more years (and lots of convincing from colleagues) before Faulkner was ready to start her own software company. "It almost seemed like a joke to start a company," she recalls. "How do you do that?"

In 1979, Faulkner and Greist borrowed from friends and family—and against their homes—to scrape together the capital to launch Human Services Computing (later renamed Epic), which was originally valued at $70,000 (about $270,000 in today's money). Faulkner had six or seven other collaborators, but from the beginning it was the Judy show; the company was her idea, and she served as its first president. At first, it operated after-hours from a Madison basement. Faulkner wrote all the original code on a Data General Eclipse 16-bit minicomputer the size of a refrigerator.

After a few years, Greist had a disagreement with Faulkner over the company's direction. Greist says he stepped down from Epic's board in 1983 but still holds onto some shares. "Part of my difficulty with her was me saying, 'Gosh, why don't we get some venture capital and we can build it faster?'" Greist says. "And she said, 'No, we're not going to do that. Because we'll lose control'. And certainly that's been her policy. And she has lived it out and proven it. I was wrong. She was right."

Epic saw slow but steady growth in its first two decades, gaining a handful of new customers every year as it expanded its offerings. In the late 1980s, the company added billing software; in the early 1990s it adopted a graphic user interface for outpatient clinics. Aside from Faulkner's obsessive focus on its customers, Epic had another advantage: Computer code that worked. "It's not perfect, but it's quite reliable," Faulkner says.

In 2004 the company landed its biggest deal yet: A three-year project with Kaiser Permanente that would cost the health giant $4 billion. Epic's cut would be around $400 million. "[Epic] brought that safety factor that if you chose them, they were actually going to deliver on implementation and they were going to do it on time," says George Halvorson, who was the CEO of Kaiser Permanente at the time. "That's huge."

The year after Epic inked the Kaiser deal, it moved to a new corporate campus, which is often compared to an adult Disney World. Headquarters features one of the world's largest underground auditoriums, a Hogwarts-inspired Great Hall, an elevator to Hell, an enormous tree house and myriad other strange and fantastical buildings and sculptures amid the rolling hills of southern Wisconsin. At Epic's annual customer meeting, Faulkner is known for dressing up in costumes, ranging from Lucille Ball to the Mad Hatter from *Alice in Wonderland*. It all seems somewhat at odds with the self-proclaimed nerd who shies away from the public eye. "Introverts can act like extroverts," she offers by way of explanation. "What they say is extroverts can't act like introverts."

The company sees a lot of turnover. Each year, Epic hires around 2,000 employees, who are required to pass a series of aptitude tests measuring things like coding skills and logic. The company motto is "Do good. Have fun. Make money", and the culture is fast-paced and hypercompetitive. Former employees talk about burnout from an environment filled with overachievers. But even Epic's employees can be pushed too far: There was a revolt when the company tried to force all staffers to return to campus amid the pandemic last August. After several stories about the contretemps appeared in the local press, the company reversed course.

Florida's AdventHealth, which signed its $650 million contract in a

Through the Looking Glass: Office spaces based on *Alice in Wonderland* and *The Wizard of Oz* at Epic's 'Intergalactic Headquarters' in Verona, Wisconsin. "How do we expect people to develop software that's going to be beautiful for our users if we keep people in a boring, sterile environment?" Judy Faulkner asks pre-Covid world, will be Epic's largest fully remote build and installation. In a blow to Cerner and Athenahealth, CEO Terry Shaw decided it would be better for his 5.5 million patients to switch to Epic rather than trying to get its current combination of three electronic health record companies to talk to one another. While it's expensive upfront, he says, the move will lower operating costs in the long term. Epic's system "has tentacles that go out through amazing networks", he adds. "You can actually help a person get the care they need, wherever they need to get it."

Epic's tentacles are notorious for reaching only so far, however—and that seems largely by design. It's super-easy for, say, a hospital to share a cancer patient's records with an outside chemotherapy clinic—as long as both places are running Epic's software. If the chemotherapy clinic is using software from a big competitor, it's still probably going to be able to access the patient's records. But if the clinic wants to experiment with a cheaper third-party app, it may be quite a struggle. Epic works with health care apps only on a case-by-case basis.

Geeks call this "interoperability"—getting different software systems to talk to each other, in essence—and the issue came to a head in January 2020 during a debate over the new federal rules. Sharing medical records with third parties—even at the patient's own request—could pose "serious risks to patient privacy", Epic said in a statement at the time.

Nearly every other tech company—including Cerner, Apple, Microsoft and Google—disagreed, arguing that Epic's stance is bad for patients and stifles innovation. Even federal officials took veiled digs at Faulkner's business. "The disingenuous efforts by certain private actors to use privacy—vital as it is—as a pretext for holding patient data hostage is an embarrassment to the industry," former Centers for Medicare and Medicaid director Seema Verma said at a conference. In the end, the feds prohibited health care data blocking by Epic or any other company.

Critics and competitors accuse Epic of being a closed network that makes it difficult to exchange data with other systems

Big Tech has flirted with health care data for more than a decade, with companies like Google trying and failing to launch an internet-based personal health record in the late aughts. Microsoft HealthVault similarly crashed and burnt. Apple's attempt to measure heart rhythms with its watch was panned by doctors. And Amazon had a giant flop with Haven, its joint venture with Berkshire Hathaway and JPMorgan Chase, which was supposed to dramatically reduce employer health care costs.

Where the whales failed, the minnows might win. With the new federal guidelines rolling out over the next couple of years, plenty of venture capitalists are now betting big that one of many tiny upstarts can breach Epic's moat. Health IT venture funding hit an all-time high in 2020 of more than $3.6 billion, a 51 percent increase from 2019, according to CB Insights. "I have never in the history of health care in the United States seen this kind of supernova of innovation with a flurry of investment activity into digital health," says Missy Krasner, a former Google Health and Amazon executive who recently joined New York–based venture shop Redesign Health. "Covid has totally made interoperability sexy again."

Faulkner says she's not concerned about all the Silicon Valley players entering the health care space. "I think that what will happen is that a few of them will do very well. And the majority of them won't," she says. "It's not us as much as the health systems who have to respond to the patient saying 'send my data here' or 'send my data there'."

The new federal rules concern individual patient records, but the industry is rapidly heading toward aggregating bulk data. It's a space in which many, including Epic, want to play. These large, anonymous medical data sets can be used for everything from drug discovery to unearthing emerging national health trends and could be worth a lot of money. In 2019, Epic unveiled a big-data initiative called Cosmos, which aims to mine more than 100 million de-identified patient records.

Despite being just 28 months shy of her 80th birthday, Faulkner says she has no plans to retire. She has not named a successor, and none of her three children works at Epic. Faulkner has secured Epic's future only insofar as the company will never be taken public. She has split her stock into voting shares that can't be sold and have gone into a trust controlled by family members and employees. Her nonvoting shares are being left to a foundation she established with her husband called Roots & Wings, which funds her interests in child brain development and criminal justice reform (she signed the Giving Pledge in 2015). "I enjoy what I do and I'd like to do it as long as I am effective and can bring value in the job," she says. She worries about what happens to people when they retire, having read that the average person dies two years after leaving the workforce. "They seem to lose that edge that says, 'Why am I waking up in the morning? What is my day going to be?' I wake up and think, 'How do I get everything done in my day?'" F

PHOTOGRAPH: GABRIEL RINALDI FOR FORBES

The Friendly Assassin

David Vélez set out to kill off the fat fees and lousy service of Brazil's big banks. The operation succeeded beyond his wildest dreams: Today, his no-fee Nubank is the most valuable digital bank in the world, with 35 million customers—and he's gunning for more

By JEFF KAUFLIN, MARIA ABREU & ANTOINE GARA

In the summer of 2012, David Vélez moved to São Paulo with a Stanford MBA and a plum job as a Sequoia Capital partner. Douglas Leone, the head of Sequoia, had recruited the then-30-year-old Colombian to stake the venture capital (VC) powerhouse's claim in Brazil—a youthful, resource-rich country of 200 million that had grown 4 percent a year for a decade to become the world's seventh-largest economy. But on October 1, Leone called Vélez with bad news: After considering the uninspired pitches from Brazilian entrepreneurs and hearing that top-ranked University

> **Brazilian banks, with their high fees, poor service and seeming obliviousness to how technology was changing consumers' expectations, were sitting ducks**

of São Paulo had produced just 42 computer science graduates the prior year, he was pulling the plug. Sequoia's Brazilian adventure was over.

"It was the day before my birthday and it was a bit of a shock," Vélez admits. Still, he had always wanted to launch his own startup and saw opportunity in the very dearth of Brazilian innovators that had turned his VC compatriots off. "You want to position yourself on the side of the market where there's scarcity," Vélez explains. "In the US, there's an oversupply of good entrepreneurs. Somebody with my experience and background is a commodity. In Latin America, there was significant scarcity."

Before long, he had a target: Brazil's big and—to hear Brazilians tell it—bulletproof banks. Yet as Vélez saw it, the banks, with their high fees, poor service and seeming obliviousness to new technology, were sitting ducks. And they were. Less than a decade after its founding, Vélez's São Paulo-based Nubank has 35 million customers and is valued at $25 billion. Vélez, who is CEO, retains a 23 percent stake that *Forbes* values at $5.2 billion. "What's happening in Brazil is nothing short of a real revolution. And it's waking up the incumbent banks, who have had the going really easy for a long time," says Nigel Morris, the co-founder of Capital One and a Nubank investor.

"David is going to build a $100 billion–plus financial powerhouse in Latin America," predicts TCV partner Woody Marshall, another investor who has poured $1.2 billion into Nubank. Among the billionaire-backed firms betting on Vélez: Yuri Milner's DST Global, Peter Thiel's Founders Fund, Chase Coleman's Tiger Global—and yes, Leone and Sequoia.

Equally impressive, Vélez built his fintech juggernaut while previously booming Brazil suffered through recession, corruption scandals and Covid-19. And he did so despite warnings from Brazilians that the banking establishment would block him—or worse. "'They're going to kill you,'" Vélez says one friend told him. "'They're going to kidnap your kids.'"

Growing up, Vélez saw how entrepreneurs persevere through adversity. Born in Colombia in 1981 into a family of small-businessfolk (his father's 11 siblings are mostly entrepreneurs), he watched as his hometown of Medellín was ravaged by drug wars. He remembers leaving a shopping centre with his family minutes before it was bombed. After an uncle was kidnapped and rescued, the then-9-year-old Vélez, his parents and his two sisters (both now also entrepreneurs) moved to Costa Rica. There, Vélez's dad, who had co-owned a small button factory with two brothers in Colombia, built a new one.

Vélez attended a local German-language prep school, graduating as valedictorian and winning admission to Stanford, where he majored in engineering and yearned to join Silicon Valley's startup frenzy. But while Google had been birthed in Stanford's dorms, as an undergraduate Vélez couldn't come up with his own big idea. So he played it safe after graduation, taking an investment

"If banks are Darth Vader, credit cards are the Death Star," says Cristina Junqueria, Nubank's co-founder. "They're the horrible weapon the banks used."

banking job at Morgan Stanley. Two years later, he joined private equity firm General Atlantic to build up its investments in Latin America. In 2010 he returned to Stanford for his MBA and, he hoped, to develop the concept for his own startup and the killer instincts to execute it. But while still a student, he was recruited by Leone to develop Sequoia's Latin American business. When that opportunity evaporated, Vélez retreated to his parents' Costa Rican home to plot his assault.

Vélez is an unlikely assassin. He's an even-keeled manager who, before the pandemic, began meetings with a minute for meditation. In his spare time, he reads fiction. His favourite novel is Gabriel García Márquez's *One Hundred Years of Solitude*. But he's also a fan of Ayn Rand's *Atlas Shrugged*, and he learned in his VC and Stanford days that an entrepreneur can hit it big by using technology to take out fat, complacent incumbents. "What's the biggest industry in Brazil? Banking. And what's the most profitable? Banking," he says.

Back then, five banks—Itaú, Bradesco, Santander, Banco do Brasil and Caixa—controlled 80 percent of the Brazilian market, earning massive profits by lending at high interest rates and charging exorbitant fees while providing lousy service. "'Brazilian banks suck. It has always been like this and will always be like this,'" Vélez says one Brazilian friend told him.

In the early 2010s Vélez saw broadband internet and smartphones spread across the country. "You had these gigantic opportunities [to disrupt] industries like banking that no one was looking at because nobody thought it was possible." He adds: "Nubank could never have been started by a local... It required a Silicon Valley investor who has seen this story of the ant going against the elephant and succeeding. A Latin American investor sees that and says, 'No way, the elephant is going to crush you.'"

Vélez spent months chatting up

"Nubank was in the right place at the right time with the right strategy," says co-founder and CTO Edward Wible. "All banks are becoming software companies."

Brazilian bank insiders and studying digital bank upstarts like Capital One in the US and ING Direct in Europe. He began to chart his course. Nubank would start with credit cards and then expand to other services, using technology to undercut the big banks' fees and beat them on convenience. He returned to Sequoia's Menlo Park, California, offices, securing $1 million from his mentor Leone and his former VC partners. Argentine venture firm Kaszek pitched in another $1 million.

Sequoia partner Roelof Botha told Vélez that he needed a co-founder with banking experience. Through an acquaintance, Vélez met and recruited Cristina Junqueira, a 30-year-old Brazilian engineer with an MBA from Northwestern's Kellogg, who had just quit her job running Itaú's largest credit card division. To build Nubank's technology, he recruited as the third co-founder an American he knew from his Sequoia days, Edward Wible, a 30-year-old Princeton computer science graduate.

The trio set up shop in a rented São Paulo house. In August 2014, they raised $15 million in series A funding led by Sequoia, with Nigel Morris buying in through his specialty fintech VC firm, QED. To close the deal, Vélez took papers to the hospital for Junqueira's signature—while she was in labour with her first child.

The next month, Nubank rolled out its first product: A credit card. Nubank couldn't start with bank accounts because it faced a high hurdle to getting a bank charter—a Brazilian constitutional provision barring foreign bank ownership. But it didn't need a banking license to offer credit cards. Plus, Brazilian credit cards had sky-high interest rates—200 to 400 percent a year—meaning customers would either have to pay off their cards in full each month or pay Nubank a small fortune. While Vélez aimed to make money primarily from interchange fees—the 5 percent of credit card sales merchants kick back to issuers and the banks—he wasn't going to be shy about penalising late payers with interest and fees.

Rather than burn scarce cash on marketing, Nubank used the "velvet rope" strategy common in Silicon Valley—at the start you had to be invited by a friend to apply for its credit card. Faux exclusivity aside, the appeal for Brazilians was obvious: Nubank charged no annual fee and handled applications entirely through its app. Those who qualified were notified within minutes, and the cards arrived as soon as two days later. Plus, everything—from credit-line increase requests to bill paying and fraud reports—could be done through the app.

By contrast, almost all Brazilian banks charged annual fees for even basic credit cards—$20 the lowest. And that was just the start; the banks also charged monthly fees for everything from fraud protection to text-message alerts. In 2019, fees made up nearly 40 percent of Brazilian banks' revenue, compared with 15 to 20 percent for banks in

Mexico, Argentina, Peru and Chile, according to a JPMorgan analysis. The big banks are still resisting, but Nubank is putting those fat fees under tremendous pressure.

Brazil is the country of the future and always will be," the old saw goes. That captures both the boom-and-bust nature of its resource-based economy and a sense that its vast potential has repeatedly been squandered. "The fact that everybody sees the macroeconomic picture and 99 percent of people get scared means it's an opportunity for us to play the contrarian," Vélez says. "We think that over a period of 10 or 20 or 30 years, Brazil will find its way."

At the end of 2014, Brazil slipped into a deep recession. Yet just 12 months later, more than a million people had applied for a spot on the Nubank card's waiting list. To protect itself from losses, Nubank approved only 20 percent of applicants and gave some ultra-low spending limits of $14, raising that only if payments were timely. And Nubank continuously tested new ways to use data to gauge risk—for example, considering not only an applicant's own credit history, but the payment record of the referring customer.

In 2016, Nubank hit 1 million credit card customers—almost entirely through word of mouth and referrals—and Vélez was ready to step on the gas. That December, he closed an $80 million funding round led by Yuri Milner's VC firm. To put the size of that in context, by PitchBook's count, the rest of Brazilian startups combined raised $340 million in venture capital that year. Vélez used his portion of the stash to hire hundreds of tech workers, opening an office in Germany to get access to additional talent.

Finally, in May 2017, after a presidential decree gave it an exemption from foreign ownership rules, Nubank received a Brazilian banking license. Now it could offer its checking and savings accounts—all digital, naturally. While established banks were then charging as much as $10 a month per account—with extra fees for ATM withdrawals and other basic services—Nubank's accounts were free, save for a passed-along $1.20 charge to use other banks' ATMs. Within five months, 1.5 million of Nubank's 4 million credit card customers had signed up.

Nubank was growing fast—it booked $523 million in revenue, with a $78 million loss, in 2019—when the pandemic hit. Then it started growing faster. Like other fintechs serving consumers, it benefited mightily from lockdowns and fear, as even older Brazilians took to banking via mobile phones and the web. In 2020, Nubank's revenue nearly doubled, to $963 million, while losses narrowed to $44 million.

Not surprisingly, copycat digital banks are cropping up in Brazil, and the old-line banks are investing more heavily in technology. Some are even launching their own digital-only services. In response, Vélez is piling on new features. Last year, Nubank acquired a pioneering digital investing platform and rolled out a life insurance product, selling 100,000 policies in the first two months.

Such diversification is a holy grail for digital banks, but few have done it so successfully. "Nubank is the exception that proves the rule," says QED's Morris. Customer satisfaction remains strong. In a recent JPMorgan survey, Nubank's net promoter score (a measure of satisfaction) was 86, compared with 53 for Itaú and 43 for Bradesco. "With Nubank, they show you what you can do, you press a button and it works," says Bruno Alves, a 28-year-old customer from Salvador, a city in northeastern Brazil.

Nubank expanded to Argentina and Mexico in 2019, and into Vélez's native Colombia last year. While most meetings are conducted in English to accommodate its international staff, Vélez has no plans to compete north of the border.

Vélez met his wife, Mariel Reyes Milk, in 2013 at a gathering for international business types in a São Paulo bar. They are a global-village power couple: She has an American mother and Peruvian father and has lived in Uruguay, the US and the Philippines while working for the World Bank. Their three young children hold Brazilian citizenship; Vélez himself is a citizen of both Colombia and Costa Rica. "My wife and I usually say that we have no nation, no roots," he joked to a Brazilian magazine in 2019. "We have lived in so many places and are considered gringos in all of them."

So while Vélez doesn't plan to set up shop in the US, he's considering taking Nubank public there, mostly as "a marketing event." But he's in no rush. "We're in the first second of the first minute of the first half of the soccer game," the congenial assassin says. "You always have to use a soccer analogy in Latin America." F

"Nubank required a Silicon Valley investor who has seen this story of the ant going against the elephant and succeeding. A Latin American investor sees that and says, 'No way, the elephant is going to crush you.'"

[redacted]

Corporate Cryptomania

Up 300 percent in 2020, bitcoin is suddenly getting respect in the C-suite. Here's how PayPal, Square and the 48 other big companies on *Forbes*'s third annual Blockchain 50 are outpacing their competition using bitcoin and the underlying blockchain

By **MICHAEL DEL CASTILLO**

Locked down in his Palo Alto, California, home last March, as the coronavirus spread across the US, PayPal chief executive Dan Schulman knew that the pandemic was a once-in-a-lifetime business opportunity.

The pioneering electronic-payments company he took over in 2014 had been working toward a world without cash for two decades, but recently its growth had begun to slow. Over the decade after eBay acquired the startup in 2002, PayPal's revenue grew at an average annual rate of 38 percent, but today, the company, again independent, is growing at half that rate. Now, as people retreated to their homes, online commerce and digital payments had suddenly become necessities in everyday life—for grocery shopping, banking and more.

Almost immediately, PayPal's active accounts began increasing—by more than 50 million, to 361 million, by the end of 2020. Its stock took off along with other digital-economy shares, from $86 last March to a recent $247. In April, some $269 billion in stimulus payments needed to be distributed, and PayPal stepped in to help get cash to the seven million American households without bank accounts. As PayPal worked to accommodate the unbanked, Schulman felt a sense of urgency.

"You were seeing the acceleration of trends that would have typically taken maybe three to five years happening in three to five months," says Schulman, 63. "I thought it was important that PayPal help

Covid Currency: After the pandemic hit, PayPal CEO Dan Schulman (left) seized on digital cash to speed ecommerce transactions. MicroStrategy CEO Michael Saylor filled his company's treasury with bitcoin as a bet against devaluation of the dollar. The move made him a billionaire shape what that future could look like and not react to it."

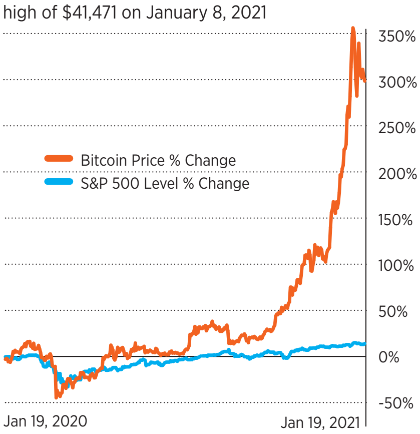
PayPal's existing technology, integrated with traditional banks, was clunky and slow, taking as long as ten days to complete a transaction. First, it relied on a Georgia-based startup called Ingo Money to upload and verify the images of stimulus checks, and then a bank in Georgia to clear and settle them. Five to ten days later, the cash showed up in an account at PayPal or its millennial-friendly subsidiary Venmo. If the customer is willing to pay a 1 percent fee, the cash is credited in minutes, but behind the scenes the bank assumes the risk if the check doesn't clear.

Schulman, who was already familiar with blockchain, the technology underlying bitcoin, knew there was a better way. Blockchain technology could easily—and much more quickly—distribute cryptocurrencies like bitcoin directly into electronic wallets. Sure, the unbanked would need an internet connection to spend it—or turn it back into plain old greenbacks—but that was also true of PayPal's current solution.

Schulman knew that the federal government—the supplier of stimulus payments—could soon become his

Bitcoin Blasts Off

While the S&P 500 rebounded strongly after the pandemic selloff last March, stocks' gains were modest compared with bitcoin's explosion. The cryptocurrency hit a Covid bottom of $4,803 on March 14, 2020, before shooting up to an all-time high of $41,471 on January 8, 2021



BLOCKCHAIN 50

No longer dismissed as a haven for criminals and drug dealers, bitcoin and blockchain have gone mainstream. Bitcoin's 2020 surge grabbed the attention of C-suite executives worldwide; not only are companies employing the technology underlying bitcoin to perform tasks such as reconciling invoices and verifying product provenance, but dozens are now holding bitcoin as a treasury asset. Our third annual Blockchain 50 features companies that lead in employing distributed ledger technology and have revenue or a valuation of at least $1 billion. Twenty-one newcomers—including the world's largest bank, the Industrial and Commercial Bank of China, and four others from Asia—make their debut. They take the spots of such US companies as Facebook, Google, Amazon and Ripple, all of whom are still active in blockchain but kept lower profiles in the space over the past 12 months

•••EDITED BY MICHAEL DEL CASTILLO, JANET NOVACK & MATT SCHIFRIN

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AP MOLLER-MAERSK

COPENHAGEN, DENMARK

The Danish shipping and logistics giant's blockchain, TradeLens, is digitising supply chain information. Since its August 2018 launch, it has onboarded roughly 50 percent of container ships globally. In 2020, it processed one billion shipments, 30 million containers and 14 million documents, more than double the previous year. Maersk has partnered with Microsoft to process marine insurance using blockchain tech.

BLOCKCHAIN PLATFORMS: TradeLens, Hyperledger Fabric, IBM Blockchain

ANT GROUP

HANGZHOU, CHINA

Alibaba spin-off Ant has more than 50 blockchain applications in development on its own blockchain platform, AntChain. One notable example is OpenChain, which launched in 2020 to enable small and medium sized enterprises to tap its blockchain technologies and smart contracts as a way to lower costs. So far, more than 6,000 users have written 100,000 smart contracts, facilitating 400 million transactions.

BLOCKCHAIN PLATFORMS: AntChain, Hyperledger Fabric, Quorum

BAIDU

BEIJING, CHINA

China's search giant and its fintech venture Du Xiaoman Financial have introduced more than 20 blockchain solutions. One of them, Libra Chain, is serving as the infrastructure for China's three internet courts handling copyright and ecommerce disputes through virtual litigation. To date, more than 35 million pieces of electronic evidence have been filed at the Beijing Internet Court.

BLOCKCHAIN PLATFORMS: Baidu Xuperchain, Hyperledger Fabric

BHP

MELBOURNE, AUSTRALIA

The mining giant is using blockchain to digitise multiple operations, including tracking ESG (environmental, social and corporate governance) attributes and verifying suppliers' identities. BHP completed its first iron ore blockchain trade with China Baowu Steel in June 2020.

BLOCKCHAIN PLATFORMS: MineHub, Hyperledger Fabric

BINANCE

CAYMAN ISLANDS

The world's largest cryptocurrency exchange lists 184 tokenised assets and supports almost a hundred blockchains. Total trading volume reached $2 trillion last year. In July, Binance rolled out a Visa debit card that automatically converts users' crypto assets to local currency and will be accepted at 70 million merchants worldwide.

BLOCKCHAIN PLATFORMS: Bitcoin, Binance Chain and dozens of others

BOEING

CHICAGO, ILLINOIS

Its HorizonX venture arm has contributed funds to the development of SkyGrid, a blockchain-enabled air traffic control system to track and communicate with drones. Already approved by the FAA to provide drone pilots with low-altitude authorisation and available as a free iPad app, Skygrid creates a permanent record of data—important for package delivery, industrial inspections and especially (someday) autonomous flying taxis.

BLOCKCHAIN PLATFORMS: Go Direct, Hyperledger Fabric

CARGILL

WAYZATA, MINNESOTA

The ag giant first dipped into blockchain in 2017 when it used Intel's Hyperledger Sawtooth to track turkeys through its pre-Thanksgiving supply chain. Last year it became one of six partners (with the likes of ADM and Louis Dreyfus) in the Covantis platform—which uses the Ethereum-based Quorum blockchain to create an immutable record of every step in the process of moving grain and oilseed cargoes around the world.

BLOCKCHAIN PLATFORMS: Quorum, Hyperledger Grid, Ethereum

CARREFOUR

MASSY, FRANCE

The French supermarket chain is tracking more than 30 product lines on the blockchain, including farm-raised eggs, Norwegian salmon and Rocamadour cheese. These products are tagged with a QR code that customers can scan to find out more about where their food comes from. Carrefour says the feature has boosted sales and aims to expand it to 100 product lines by the end of next year.

BLOCKCHAIN PLATFORMS: IBM Blockchain, Hyperledger Fabric

CHINA CONSTRUCTION BANK

BEIJING, CHINA

The massive bank has built BC Trade 2.0, where 75 financial institutions can quickly identify risky borrowers, as well as compete to offer lower rates to more desirable ones. So far, the platform has facilitated $134 billion worth of loans for 5,800 users, including manufacturers and trading companies. Importantly, the platform cuts out Swift, the interbank messaging platform that was a required middleman before blockchain.

BLOCKCHAIN PLATFORMS: BC Trade 2.0, Hyperledger Fabric, Hyperchain

CME GROUP

CHICAGO, ILLINOIS

The derivatives exchange began offering bitcoin futures contracts in December 2017. This January, it added options on bitcoin futures and in February is adding ether futures. So far, 6,000 individual accounts are trading bitcoin derivatives on the exchange.

BLOCKCHAIN PLATFORMS: Bitcoin, Ethereum

COINBASE

SAN FRANCISCO, CALIFORNIA

America's largest cryptocurrency exchange has more than 43 million individual accounts in 100-plus countries. It also has $20 billion in crypto under custody, up from $6 billion in April 2020. Coinbase is the first principal issuer of debit cards that allow customers to spend their cryptocurrency anywhere Visa is accepted and to withdraw cash from any ATM. The Coinbase Card became available to customers from 29 European countries last year and is now being rolled out to US residents.

BLOCKCHAIN PLATFORMS: Bitcoin, Ethereum and dozens of others

"Blockchain will fundamentally change financial systems in the next 10 to 15 years. A blockchain technology will be applied in many areas because it is about trust, credit, security—the security of data and the privacy of data."

JACK MA,
COFOUNDER OF ANT GROUP AND FOUNDER OF ALIBABA

competition. Digital currencies issued directly by central banks, so-called CBDCs, were on the horizon; their development would enable governments to send payments directly to citizens. According to the Bank for International Settlements, 70 percent of central banks were already exploring the new technology—and some, including China, Sweden and Uruguay, would soon launch their own digital currencies.

Under Schulman's direction, PayPal immediately started hiring employees with expertise in bitcoin and blockchain. In October, Schulman announced that it would let customers buy, hold and sell cryptocurrency directly via their PayPal accounts. Cryptocurrency now can be used as payment at any of PayPal's 26 million affiliated merchants worldwide. Not that most people would want to spend it: Since the onset of the pandemic, the price of bitcoin has increased from $4,803 to more than $36,000 as of mid-January.

Schulman is not alone in believing that crypto is the future of money. Hundreds of sizeable companies are now using bitcoin and its underlying technology to make their operations more efficient—and, thanks to its extraordinary

How to Play It

How To Buy Bitcoin

While the early days of bitcoin seemed like the Wild West, today many companies offer easy, secure access to cryptocurrencies like bitcoin. Most crypto exchanges function similarly to online brokers. And now some online stock brokerages, including Robinhood, allow customers to buy major cryptos such as ethereum and bitcoin. You can also buy bitcoin through PayPal and Square. If you want access to dozens of tokens and more sophisticated trading strategies, open an account at a crypto-native exchange. San Francisco's Coinbase is the blue-chip firm in the US, but other reputable exchanges include Kraken, Gemini, Bitstamp and eToro.

—Steven Ehrlich

returns, boost their profits. From JPMorgan to Boeing, Honeywell to Aramco, there have never been more businesses that qualify for *Forbes*'s annual Blockchain 50 list of large companies undertaking meaningful projects using this technology.

This year's list has 21 newcomers, including five from Asia, one from Australia and one from Africa. South Korea's dominant messaging app, KakaoTalk, for example, has its own cryptocurrency, Klay, which can be traded and loaned to others as collateral in exchange for rewards. Tech Mahindra, a big information technology (IT) outfit in India, is using blockchain technology to help millions of mobile-phone customers avoid spam calls, and Industrial and Commercial Bank of China, the world's largest bank, with $4.9 trillion in assets, is helping importers and exporters get financing in as little as two days, as opposed to the seven it would normally take. Notably absent from this year's list: Google, which hasn't progressed far beyond a limited blockchain search engine, and Facebook, which announced an ambitious token called libra in the summer of 2019, only to face widespread backlash. The coin, since renamed the diem, has yet to launch.

By contrast, Jack Dorsey's Square has been moving fast. In addition to doing a brisk business facilitating cryptocurrency purchases and trading on its popular Cash App, Square moved some $50 million of its cash into bitcoin in October. Boeing is using a blockchain-powered app called SkyGrid to work as an air traffic controller for drone flights. Holders of Visa cards will soon be able to spend their crypto using its plastic and earn reward points in bitcoin. In Chicago, Northern Trust, a 131-year-old bank servicing corporations and ultra-wealthy individuals, recently expanded its services to include digital cryptocurrency wallets.

PayPal had been dabbling in crypto since 2016, when it filed a

CONA SERVICES

ATLANTA, GEORGIA

Owned by the 12 largest North American Coca-Cola bottlers, CONA (which stands for Coke One North America) is moving orders and shipments between bottlers to the blockchain and will eventually include external suppliers of raw materials, aluminum cans and more.

BLOCKCHAIN PLATFORMS: Baseline, Ethereum, Hyperledger Fabric

CREDIT SUISSE

ZÜRICH, SWITZERLAND

The Swiss banking giant is using the Paxos Settlement Service to settle US listed stock trades with broker-dealer Nomura's Instinet. The blockchain technology allows participants to settle trades directly with each other, without the traditional intermediary, enabling same-day settlement versus the two days it typically takes.

BLOCKCHAIN PLATFORMS: Enterprise Ethereum, Paxos Settlement Service

DAIMLER

STUTTGART, GERMANY

The maker of luxury Mercedes-Benz vehicles is using blockchain to streamline everything from production to a recent fundraising.

BLOCKCHAIN PLATFORMS: Hyperledger Indy, Hyperledger Fabric, Corda, Ocean Protocol, Ethereum, MoveX

DEPOSITORY TRUST & CLEARING CORPORATION (DTCC)

NEW YORK

The clearing behemoth behind $2.2 quadrillion in trades annually is reimagining its services. After moving $11 trillion of credit derivatives to a blockchain, it announced Project Ion to track cash equities traded on public markets, and Project Whitney, which would do the same for pre-IPO stocks trading on both the primary and secondary markets.

BLOCKCHAIN PLATFORMS: Axcore, Hyperledger Fabric, Corda, DAML, Ethereum

DIGITAL CURRENCY GROUP

NEW YORK

The most prolific investor in cryptocurrency startups, with a portfolio of 170 companies, also owns two of the largest crypto institutions—trading platform Genesis, with 1,000 institutional clients, including payments giant Square, and Grayscale, which manages $27 billion in assets in 10 trusts, all traded over the counter.

BLOCKCHAIN PLATFORMS: Bitcoin, Ethereum, XRP, Zcash and others

EQUINOR

STAVANGER, NORWAY

The oil giant has put 10 oil and wind power projects on the blockchain, including its new megafield in the North Sea.

BLOCKCHAIN PLATFORMS: Data Gumbo, Vakt

"The tokenisation process is efficient for assigning title to real physical goods. By making that process more efficient, it allows for more liquidity, more investment and opening up those assets to a broader range of investors."

JEANINE HIGHTOWER-SELLITTO,
CEO OF ATOMYZE, A PARTNER OF NORNICKEL

FIDELITY

BOSTON, MASSACHUSETTS

The mutual-fund behemoth has been helping institutional investors store and trade bitcoin since early 2019. Today, Fidelity Digital Assets has 100 clients, including Kingdom Trust, which allows individuals to hold bitcoin in their retirement accounts. Fidelity has also filed paperwork for a Bitcoin Index Fund but is tight-lipped on details.

BLOCKCHAIN PLATFORM: Bitcoin

HONEYWELL

CHARLOTTE, NORTH CAROLINA

The industrial conglomerate has transferred more than two million aviation quality documents to a blockchain ledger, making them fully accessible to its customer base. It also operates blockchain-based marketplace GoDirect Trade, which lists $4 billion in used aviation parts and has attracted more than 10,000 users.

BLOCKCHAIN PLATFORMS: Hyperledger Fabric, GoDirect Trade

HSBC
LONDON, ENGLAND

The British bank is using blockchain to increase the efficiency of foreign-exchange flows among its global branches. Since 2018, 1.9 million trades with a nominal value of $1.7 trillion have been settled on its ledger.

BLOCKCHAIN PLATFORMS: Quorum, Corda, Ethereum, Hyperledger Fabric, OneConnect

IBM CORPORATION
ARMONK, NEW YORK

Among the first enterprises to invest seriously in blockchain, IBM's new Digital Health Pass application lets organisations verify an individual's Covid-19 test and temperature results; customers such as stadium operators can choose their own criteria, including whether a person was vaccinated.

BLOCKCHAIN PLATFORMS: IBM Blockchain, Hyperledger Fabric

ICBC
BEIJING, CHINA

The world's largest bank now has 30 blockchain applications that let customers trace everything from their health care coverage to how their philanthropic donations are spent.

BLOCKCHAIN PLATFORMS: ICBC Chain, Ethereum, Hyperledger Fabric, Tendermint

ING GROUP
AMSTERDAM, THE NETHERLANDS

Among the earliest banks to embrace blockchain technology, it now leads a group of other financial institutions working to help authenticate crypto assets so they comply with global anti–money laundering standards.

BLOCKCHAIN PLATFORMS: Corda, Quorum, Ethereum, Hyperledger Fabric, Hyperledger Indy

JPMORGAN CHASE
NEW YORK

Has signed up 425 banks, including Deutsche Bank and Mexico's Banorte, to use its Liink blockchain network to speed up interbank transactions. The technology will eventually help banks issue fewer paper cheques and move more transactions online.

BLOCKCHAIN PLATFORMS: Quorum, Ethereum

KAKAO
JEJU-SI, SOUTH KOREA

South Korea's dominant messaging app, KakaoTalk, with 52 million users, has a Ground X blockchain unit that has developed its own public blockchain with its own cryptocurrency, klay. So far 370,000 verified KakaoTalk users have opened digital wallets; 10 percent of them use the wallet every day.

BLOCKCHAIN PLATFORM: Klaytn

After moving $11 trillion of credit derivatives to the blockchain, DTCC is launching projects for both publicly traded and pre-IPO stocks. "Ultimately you can deliver something for your clients that's better, faster, cheaper."

JENNIFER PEVE,
DTCC MANAGING DIRECTOR, FINTECH STRATEGY

LVMH
PARIS, FRANCE

The luxury-goods conglomerate is using blockchain to track products and fight counterfeiting of brands such as Louis Vuitton and Bulgari. Nearly 10 million luxury products have been registered on the platform, created with Prada and Richemont's Cartier.

BLOCKCHAIN PLATFORMS: AURA, Quorum, Ethereum

MICROSOFT
REDMOND, WASHINGTON

One of its blockchain applications, developed with EY, manages content rights and royalties. Game publishers Xbox and Ubisoft were the first to use the new system, which makes royalty payments automatically, compared to a traditional processing time that can stretch to 45 days or more.

BLOCKCHAIN PLATFORMS: Quorum, Ethereum

patent for a new kind of digital wallet that speeds crypto transactions. In 2019, PayPal Ventures made its first blockchain investment in Massachusetts-based Cambridge Blockchain, which is developing a crypto wallet that lets individuals prove who they are without leaking unnecessary personal information. It also bought stakes in TRM Labs, a startup focussed on helping financial institutions prevent cryptocurrency fraud and financial crime, and TaxBit, a Salt Lake City firm that automates cryptocurrency tax payments.

Fuelled by small-fry speculators, demand for PayPal's easy-to-buy crypto services has been so great that there is both a wait list and purchase limits, currently $20,000 a week. It's a similar story at Square. Pantera Capital, a Menlo Park, California–based blockchain investment firm, estimates that PayPal and Square are buying up most of the 900 new bitcoins being mined each day. This year, Schulman says, PayPal will expand its cryptocurrency service to Venmo's 40 million customers. "It's not just an investment instrument," he adds. "It's a way that we will enable commerce."

Another bitcoin adopter jolted into action by the pandemic is $483 million (sales) business intelligence software company MicroStrategy. Michael Saylor, the 55-year-old chief executive of the publicly traded company, spent $1.1 billion buying bitcoin in 2020, borrowing $650 million of it. The digital asset, currently worth $2.6 billion, sits on the Tysons Corner, Virginia–based company's balance sheet alongside more mundane stores of value like Treasury bills. Saylor, outspoken and controversial since he briefly became a multibillionaire during the first internet bubble in 1999, sees it as a hedge against the federal government's easy-money policy, which he figures is devaluing the dollar at a rate of 15 percent per year.

"As the energy is sucked out of the dollar, the currency's value is collapsing," Saylor says. "That means that every stock, bond, piece of real estate or other asset that rests on the foundation of fiat currency is sagging." With MicroStrategy demonstrably unable to produce organic growth that measures up to the likes of Amazon or Netflix, Saylor effectively turned his enterprise software company into a leveraged bitcoin ETF. Its stock is up by 270 percent in 12 months. By *Forbes*'s count, at least 25 other publicly traded companies have bitcoin on their balance sheets.

Most companies on the Blockchain 50, however, are not bitcoin speculators but rather are looking to employ the technology underlying the cryptocurrency in innovative ways. North Carolina–based Honeywell, for instance, is using blockchain to connect buyers and sellers of used aviation parts. So far 117 suppliers, including Boeing and Lufthansa, have signed up, and in 2020, some $65 million in parts changed hands. That's small potatoes for the $37 billion (sales) giant, but Honeywell executives hope that their proprietary platform could one day move the entire industry for second-hand parts online.

South African wood-pulping giant Sappi uses blockchain to track its products from the sustainable forests it cultivates to manufacturing plants used to spin the pulp into fabric for clothing. The blockchain continues to track the garments all the way to retailers who can charge more because they can prove that no naturally occurring forests were harvested to make T-shirts and underwear.

Atlanta's CONA Services, a newcomer to the Blockchain 50, provides technology services to the 12 largest Coca-Cola bottling companies in North America. Prior to its adoption of blockchain technology, orders and shipments

MICROSTRATEGY

TYSONS CORNER, VIRGINIA

Mature business-analytics software company jump-started the trend of storing bitcoin in corporate treasuries to offset inflation by buying more than $1 billion worth of the cryptocurrency in 2020. Morgan Stanley recently bought a nearly 11 percent stake in the company.

BLOCKCHAIN PLATFORM: Bitcoin

NATIONAL BASKETBALL ASSOCIATION

NEW YORK

The NBA's Top Shot marketplace is helping the league cash in on the sports-memorabilia boom. Using its partner Dapper Labs' blockchain, the NBA is selling packs of "moments", similar to trading cards but in digital form. More than 400,000 moments have been sold so far, including one featuring a LeBron James block that traded for $100,000.

BLOCKCHAIN PLATFORM: Flow

NORNICKEL

MOSCOW, RUSSIA

The world's largest high-grade nickel and palladium producer is testing an industrial asset tokenisation platform through Connecticut-based startup Atomyze, which it partially owns.

BLOCKCHAIN PLATFORM: Hyperledger Fabric

NORTHERN TRUST

CHICAGO, ILLINOIS

In December 2020 it invested, along with Standard Chartered, in cryptocurrency startup Zodia Custody.

BLOCKCHAIN PLATFORMS: Bitcoin, Ethereum, Hyperledger Fabric, Hyperledger Sawtooth, DAML

NOVARTIS

BASEL, SWITZERLAND

The drugmaker is a leading member of PharmaLedger, a blockchain consortium in the EU that is targeting incorrect or outdated information on prescription inserts—a top reason for recalls. Along with Merck and the Polytechnic University of Madrid, Novartis built an app that scans drug packages and makes real-time requests to manufacturers for up-to-date information, to be accessed by patients via scan codes. PharmaLedger is also using the technology to combat counterfeit and black-market medicines.

BLOCKCHAIN PLATFORMS: Ethereum, Sovrin, Hyperledger Fabric, Corda, DAML, Quorum

ORACLE

AUSTIN, TEXAS

The database giant launched its proprietary blockchain in 2018. Its most mature project is Global Shipping Business Network (GSBN), a maritime shipping consortium that now has 300 customers, including container-shipping giants and port operators.

BLOCKCHAIN PLATFORMS: Oracle Blockchain Platform, Hyperledger Fabric

PAYPAL

SAN JOSE, CALIFORNIA

The payments-processing pioneer is gunning for a leading position in a future in which digital assets and central bank currencies abound.

BLOCKCHAIN PLATFORMS: Bitcoin, Ethereum, Bitcoin Cash, Litecoin

"The reason I have so much passion for bitcoin is largely because of the model it demonstrates: A foundational internet technology that is not controlled or influenced by any single individual or entity."

JACK DORSEY,
CEO AND CO-FOUNDER, SQUARE

PING AN

SHENZHEN, CHINA

The insurance and financial-services giant has more than 30 blockchain applications, including a supply chain project going through the Port of Tianjin and a financing platform in Guangdong Province, both operating through its fintech subsidiary OneConnect.

BLOCKCHAIN PLATFORM: FiMAX

SAMSUNG GROUP

SEOUL, SOUTH KOREA

The conglomerate's IT arm, Samsung SDS, has built a number of blockchain projects for local governments, hospitals and airports. That includes a one-stop medical claims processing service allowing patients to submit claims at a hospital reception center, a kiosk or via a mobile phone.

BLOCKCHAIN PLATFORMS: Nexledger

SAPPI

JOHANNESBURG, SOUTH AFRICA

The South African pulp producer has partnered with Indian eco-friendly fabric maker Birla Cellulose on GreenTrack, a blockchain that tracks fabric products from sustainable forests to pulp to manufacturing plants. More than 250 supply chain partners, including Walmart and Marks & Spencer, now use GreenTrack to verify the sustainability of the apparel they sell.

BLOCKCHAIN PLATFORMS: GreenTrack, Hyperledger Fabric

SAUDI ARAMCO

DHAHRAN, SAUDI ARABIA

In 2019, Aramco invested $6 million into Data Gumbo, which has built a blockchain platform that aims to integrate thousands of sensors at oilfields and refineries, to verify asset performance and reconcile smart contracts with Aramco's vendors. Last year, Saudi Aramco Energy Ventures invested $5 million in Vakt, a blockchain platform for trading cargoes of oil and petroleum products.

BLOCKCHAIN PLATFORMS: Ethereum, Hyperledger

SIGNATURE BANK

NEW YORK

The $64 billion (assets) New York bank is developing a specialty in serving institutional crypto customers, providing fast and simple ways for them to deposit money in their crypto trading accounts through its Ethereum-based platform, known as Signet. In 2020, deposits from crypto customers increased from $2 billion to more than $10 billion.

BLOCKCHAIN PLATFORMS: Signet, Ethereum

SQUARE

SAN FRANCISCO, CALIFORNIA

Two years ago, Square started letting users of Cash App, its peer-to-peer money transfer and digital banking service, buy bitcoin. The app has grown to 30 million active users. Square generated $1.6 billion in revenue and $32 million in gross profit from bitcoin in the quarter ended September 30. In October, Square said it had invested $50 million, or 1 percent of its own total assets, in bitcoin.

BLOCKCHAIN PLATFORM: Bitcoin

STATE FARM

BLOOMINGTON, ILLINOIS

For insurers resolving claims, the process of subrogation—that is, determining which policy and insurer is ultimately responsible for paying which claim—can take months. State Farm and insurer USAA used to mail each other an average of more than 200 cheques a day. Since they began using the Subrogation Net Settlement blockchain last year, the number has been reduced by 80 percent.

BLOCKCHAIN PLATFORMS: Quorum, Ethereum

By tracking hundreds of fresh food items, including leafy greens, meat and seafood on the blockchain, Walmart has made it easier to identify the origin of rotten products—a benefit to not only the retailer but also the FDA."

ARCHANA SRISTY,
WALMART SENIOR DIRECTOR—SOFTWARE ENGINEERING, BLOCKCHAIN PLATFORMS

between bottlers involved antiquated spreadsheet forms, inconsistent recording practices and cumbersome regulations that sometimes left the bottlers bickering over lost products and unexpected costs. Using its new encrypted system, order confirmations, proof of shipment and proof of receipt are added to the blockchain in real time.

Among the most frequently used blockchains on our list this year are four standouts. Twenty-five companies used one of the free versions of software provided by Hyperledger, the blockchain branch of the non-profit Linux Foundation. Twenty-two used Ethereum, the blockchain that runs the $160 billion ether cryptocurrency; nine used Quorum, an enterprise version of Ethereum developed by JPMorgan and sold to New York blockchain startup ConsenSys; and six used Corda, developed by R3, a blockchain startup that has raised $112 million in venture capital. Then there's bitcoin, of course, which is being used by no fewer than 11 members of our list.

According to the Gartner group, there were more than 1,000 corporate blockchain projects underway in America as of November 2020. Most are early-stage and experimental, but 14 percent are either in production or will be soon. Forrester Research is even more optimistic, predicting that as many as 30 percent of active blockchain projects will be ready for customer use this year.

One significant trend amid the excitement over digital assets has been a flood of major companies getting into cryptocurrency custody services. It's telling, for example, that MicroStrategy's Saylor and other institutional investors won't reveal how they store their bitcoin. This difficult task—bitcoins worth billions have gone missing over the years—has long been a barrier to institutional adoption. There are other problems besides fraud and theft. If the owner of a bank account forgets her password, the bank simply resets it. With bitcoin, for which banks aren't necessary, losing the password, called a private key, is like losing the asset itself, with no recovery possible.

In July, the Office of the Comptroller of the Currency published a letter stating that banks would now be permitted to provide custody services for crypto assets. It's no surprise that financial institutions, preparing for a day when digital asset ownership is common, are rushing into the crypto-custody business. No fewer than six institutions, including Spanish bank BBVA, Dutch bank ING and Swiss securities firm SIX, are now crypto-custodians. In December, hedge fund One River disclosed that it was using Northern Trust's custody services to manage $600 million worth of cryptocurrency and was looking to increase the amount to $1 billion. That same month, Northern Trust invested in London-based cryptocurrency custodian startup Zodia Custody.

In many ways, companies like Northern Trust and Fidelity, which is also offering crypto-custody services, are perfectly positioned to build a bridge to a regulated digital asset reality. Northern Trust has already partnered with a Singapore fintech startup named BondEvalue to act as servicing and custody agent in a business that uses blockchain technology to carve up and sell fractional interests in corporate bonds. In August, the partnership executed the world's first blockchain-based bond trade, an $8,000 sliver of a $300 million, 4.375 percent coupon bond originally issued by Singapore agriculture giant Olam. The trade, which normally takes two days to settle, required just seconds.

"We're going to continue to invest in digital asset programmes across the landscape," says Justin Chapman, an executive vice president at Northern Trust. "We think the technology is there, the understanding is there. Clients are ready." F

STONE RIDGE

NEW YORK

Through subsidiary New York Digital Investment Group, Stone Ridge has become one of the largest institutional investors in bitcoin. In October, it said it had made the cryptocurrency its primary treasury asset, and in December, disclosed to *Forbes* that it had purchased 20,000 bitcoins, now valued at more than $700 million. Overall, the firm now has custody of $4 billion in digital assets.

BLOCKCHAIN PLATFORMS: Bitcoin, Ethereum, XRP, Litecoin and Bitcoin Cash

SWISSCOM

BERN, SWITZERLAND

The telecom giant has 11 blockchain applications in various stages, including crypto stock-issuance startup Daura and crypto custody firm Custodigit, a joint venture with digital asset bank Sygnum. Last November, the firm joined a $30 million investment in Fireblocks, which helps institutions create, store and trade digital assets.

BLOCKCHAIN PLATFORMS: Hyperledger Fabric, Hyperledger Ares, Hyperledger Indy, Corda

TECH MAHINDRA

PUNE, INDIA

The technology arm of Indian conglomerate Mahindra Group has developed multiple blockchain technologies. In July 2019, it introduced a blockchain-based app that is now helping 500 million mobile phone customers manage their preferences to avoid spam calls.

BLOCKCHAIN PLATFORM: Hyperledger Fabric

TELEFONICA

MADRID, SPAIN

The Spanish telecom uses blockchain to track four million home-equipment devices. It has also invested in Zamna, a blockchain-enabled data platform that helps airlines verify passengers' identities prior to arriving at an airport, and it has teamed up with IBM to use blockchain to manage international calls.

BLOCKCHAIN PLATFORMS: TrustOS, Hyperledger Fabric

TENCENT

SHENZHEN, CHINA

The tech giant built the blockchain that is used by Shenzhen's tax authority to issue some 10 million invoices. In addition, it founded WeBank, whose blockchain platform FISCO BCOS (Be Credible, Open & Secure) is used by more than 2,000 enterprises and includes WeIdentity, which has helped process more than 17 million border crossings between Macao and mainland China. Another Tencent blockchain app, WeSign, shortens arbitration processing time and is used in Chinese courtrooms to record pieces of evidence.

BLOCKCHAIN PLATFORM: FISCO BCOS

VANGUARD

VALLEY FORGE, PENNSYLVANIA

In June, the index-fund king announced an initiative to address the often messy process of keeping records for asset-backed securities—as loans get repackaged and sold from one party to another, important credit information can be lost. Vanguard piloted a new product—with Citi, State Street and BNY Mellon also participating—to store that loan information on a shared, unalterable ledger.

BLOCKCHAIN PLATFORM: Symbiont Assembly

"The crypto economy is what we're driving toward. It's a new economy that starts off primarily online, but it's also accessible to people in emerging markets. It's more global. It's more fair. It's more free. It's more efficient."

BRIAN ARMSTRONG,
CEO AND CO-FOUNDER, COINBASE

Crypto Billionaires

The stock market has given investors good reason to grin this past year, but none are smiling wider than the holders of cryptocurrencies. The combined value of all digital coins is north of $1 trillion, up four-fold from $250 billion in January 2020. Given the surge, *Forbes* set out to calculate the fortunes of crypto's wealthiest investors and entrepreneurs, counting not just the value of their digital money but also their stakes in related businesses and traditional assets. The result: A record 11 billionaires

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BRIAN ARMSTRONG

NET WORTH: $6.5 BILLION

His Coinbase is one of the most popular places to buy and sell crypto, processing about $3 billion in trades every day. Armstrong, 38, co-founded the exchange in 2012 after stints at Deloitte and Airbnb. It's now the most valuable crypto business in America. Armstrong owns an estimated 20 percent of Coinbase, which in December filed confidentially to go public. Asked why he got into this business, the press-shy entrepreneur told *Forbes*: "I wanted the world to have a global, open financial system that drove innovation and freedom."

SAM BANKMAN-FRIED

NET WORTH: $4.5 BILLION

At just 28, Bankman-Fried manages $2.5 billion of assets through Alameda Research, the quantitative crypto trading firm he founded in 2017. An MIT grad and former Wall Street ETF trader, he also launched FTX, a crypto derivatives exchange, in 2019. The vast majority of his wealth is in FTX's equity and tokens (FTT).

CHRIS LARSEN

NET WORTH: $2.9 BILLION

A serial entrepreneur, Larsen, 60, co-founded online lender Eloan in 1997 and, eight years later, peer-to-peer lender Prosper. This third bet has been the most valuable—and controversial: He co-founded Ripple with Jed McCaleb in 2012 to facilitate international payments for banks through blockchain technology and a token called XRP. In January 2018, the cryptocurrency bubble briefly pushed his fortune over $17 billion. However, XRP crashed with the rest of the market when the bubble burst later that year. Larsen was named a defendant in a December 2020 lawsuit brought by the Securities and Exchange Commission (SEC) alleging that Ripple sold XRP to the public in an unregistered securities offering. "The SEC is completely wrong on the facts and law," Ripple said in a statement.

MICHAEL SAYLOR

NET WORTH: $2 BILLION

The CEO of software firm MicroStrategy, he was one of the best-known executives of the internet bubble—even making *People* magazine's list of Most Eligible Bachelors. But questionable accounting led to a restatement of financial results, and the dotcom bust crashed his stock. Two big moves land him on this list: In December 2020, MicroStrategy announced that it used its cash and borrowed $650 million to buy 70,784 bitcoins for $1.1 billion (now worth $2.5 billion), helping drive shares up more than 300 percent. Plus, Saylor says he personally snagged 17,732 bitcoins for about $175 million (now worth about $650 million).

CHANGPENG ZHAO ('CZ')

NET WORTH: $1.9 BILLION

The former software developer sold his house in Shanghai in 2014 to go all in on bitcoin. He launched Binance in 2017, and in under a year it became the most popular place to trade crypto. It has since launched business lines ranging from a venture capital fund and a bitcoin mining operation to a debit card that lets you spend your crypto in Europe. The son of a professor who was temporarily exiled from China, he flipped burgers at McDonald's and worked overnight shifts at a gas station to help cover household expenses.

TYLER AND CAMERON WINKLEVOSS

NET WORTH: $1.6 BILLION EACH

Olympic rowers best known for accusing fellow Harvard student Mark Zuckerberg of stealing their idea for a social network, the twins used some of their 2012 $65 million legal settlement with the Facebook CEO to start stockpiling bitcoin. They still own an estimated 70,000 bitcoins, in addition to other digital assets. In 2014, they co-founded crypto exchange Gemini; today it processes about $200 million a day in trades.

BARRY SILBERT

NET WORTH: $1.5 BILLION

After selling startup stock trading platform SecondMarket to Nasdaq in 2015, the Emory University grad launched Digital Currency Group, a conglomerate of five companies. Its biggest revenue generator: Digital asset manager Grayscale, which oversees $28 billion worth of bitcoin, ether and other assets. Capitalising on a classic first-mover advantage, Grayscale was the first to win regulatory permission to sell securities backed by bitcoin to institutional and accredited investors. That now generates an estimated $590 million in revenue annually.

JED McCALEB

NET WORTH: $1.4 BILLION

An early pioneer, McCaleb, 46, helped launch three crypto firms. In 2010 he created Mt Gox, the first major bitcoin exchange, which he sold a year later. In 2012, he co-founded Ripple, but soon left over reported disagreements with fellow founders. And in 2014 he co-founded Stellar, the $4.8 billion (asset value) Ripple competitor that aims to speed up cross-border payments. The bulk of McCaleb's wealth comes from the estimated 3.4 billion XRP he still holds, from the original 9 billion XRP he pocketed as a Ripple founder. Before entering crypto, McCaleb was known for creating file-sharing service eDonkey2000, which settled a 2006 lawsuit from record companies over copyright infringement for $30 million.

TIM DRAPER

NET WORTH: $1.1 BILLION

This scion of a Silicon Valley investing dynasty and founding partner of venture capital firm Draper Fisher Jurvetson has made hundreds of VC investments in companies, including Tesla and Theranos. In 2014, he bought 29,656 bitcoins that had been confiscated by US Marshals from the shuttered Silk Road black market for $18.7 million (price: $632 per coin). They're now worth $1.1 billion. "I bought a few more along the way, but not enough to pass the Winklevii," he says, without disclosing details about his wealth: "I would rather not get the proctology exam."

MATTHEW ROSZAK

NET WORTH: $1 BILLION

A longtime crypto evangelist, Roszak worked in venture capital and as an entrepreneur (he also settled insider trading charges in 2006) before amassing a crypto portfolio starting in 2012. Today his day job is co-founder and chairman of Bloq, a Chicago blockchain technology startup that consults on projects such as helping banks store digital assets securely. Roszak recently co-led an initiative to give each member of Congress $50 worth of digital assets; some accepted, but not all.

SHUTTERSTOCK

VISA

FOSTER CITY, CALIFORNIA

Visa's golden goose is its vast network of access points—some 70 million merchant locations. Now that central banks are starting to mint digital currencies, Visa is doing extensive R&D so digital money can flow safely (out of fraudsters' reach) over its rails. It has applied for 159 blockchain-related patents for uses such as making transactions more secure and using biometrics to verify someone's identity. In December, it announced an integration with the cryptocurrency "stable coin" USDC, or US dollar coin, to speed up international business-to-business payments.

BLOCKCHAIN PLATFORMS: Bitcoin, Ethereum

VMWARE

PALO ALTO, CALIFORNIA

Known for developing the technology behind Facebook's cryptocurrency diem (previously libra), VMware introduced its own enterprise-focussed blockchain platform in November. Broadridge Financial Solutions is already using it to enable automation and digitisation of repurchase agreements. The Australian Stock Exchange brought on VMware in 2019 to work on a post-trade platform to replace its quarter-century-old system.

BLOCKCHAIN PLATFORM: VMWare Blockchain

WALMART

BENTONVILLE, ARKANSAS

Its Food Traceability Initiative, which helps Walmart detect contamination and other food safety issues, now tracks nearly 500 items like fresh leafy greens, coffee, seafood and meat. Last year, it assisted the FDA with six investigations into food safety and was able to provide detailed information on the original source of potential contamination within an hour. This year, Walmart will conduct a pilot with US Customs and Border Protection to track imported foods.

BLOCKCHAIN PLATFORM: Hyperledger Fabric

"In the first live application of blockchain technology for listed US equities, Credit Suisse is using the Paxos Settlement Service to settle trades directly, on the same day, with broker-dealer Nomura's Instinet."

EMMANUEL AIDOO,
CREDIT SUISSE, HEAD OF DISTRIBUTED LEDGER STRATEGY

CHRISTIE HEMM KLOK FOR FORBES

The Outsi

der

Frank Slootman doesn't start companies. But no one in business history has a better track record of turning the ideas of others into jackpots. With $80 billion Snowflake, the biggest software IPO ever, he's rewritten the playbook

By ALEX KONRAD

By Labor day, it had become clear that Frank Slootman's third initial public offering (IPO) would not be like the other two. After a slight summer lull, Covid-19 was resurgent, which meant that rather than a global tour of get-to-know-you lunches and PowerPoints in hotel meeting rooms, his roadshow for data warehousing company Snowflake was going virtual.

Slootman, 62, took over a nondescript conference room on the second floor of Snowflake's Dublin, California, office, embarking on a series of meetings that now rank with Mark Zuckerberg's Harvard dorm coding sessions in terms of value per hour. For seven days in mid-September, packing in everything from a series of one-on-one meetings to large presentations, the naturally gruff Slootman met over Zoom with more than 1,000 people, including fund managers and investment bankers, who were on hand to win a piece of his IPO.

Rather than the usual grilling, Slootman was toasted instead. "The issue was not 'Do I like the company?' The issue was 'How many shares do I get?'" he recalls in his Dutch accent. Of the virtual IPO, he says, "I absolutely loved it."

Slootman, who took over Snowflake in April 2019, had been as ruthlessly efficient with the rest of the process. Just six months in, he had lined up his anchor investors, including Dragoneer Investments and Marc Benioff's Salesforce. Around the same time, he began meeting with research analysts who would wind up setting bullish prices for the IPO. And when Slootman and his team virtually rang the bell of the New York Stock Exchange, a process that looked as awkward as it sounds, raising some $3.4 billion in the process, Salesforce and others were there to support the floor. "These are people we knew from previous rodeos," Slootman says with a shrug.

Snowflake, valued at $4 billion when Slootman took over, more than doubled that first day and is up significantly since. It currently boasts a market capitalisation of $81 billion on trailing sales of roughly $580 million. His personal net worth, an estimated $2.2 billion, is an extraordinary figure for someone who has never been part of a company in its earliest days.

Slootman likes to say that he doesn't have a formula, even after having pulled off similar magic at both Data Domain and ServiceNow. Talk to him at length, though, and watch the patterns, and you can see that's not true. The former sailor runs pre-IPO companies like a tightly rigged high-performance watercraft, a captain with extreme confidence who will throw overboard anyone who shows the mildest mutinous inclination.

"The job of the board is to hire and fire the CEO. If I'm doing a bad job, you should go ahead and fire me. Otherwise, I'm going to go ahead and run the company."

[redacted]

"When I was a younger man, I was more tolerant; I always thought I could coach people to a place where they would be great," Slootman says. "And 99 times out of 100, you're wrong on that, which is the reason I [now] pull triggers much faster. I still don't think I've ever taken anybody out of a job too soon. It's [always] been too late.

"I exercise executive prerogative," he adds. "I don't have to justify it, I don't have to convince you. I just have to know that this is what I want to do. And the reason is, CEOs are only there for one reason, and that is they need to win. When you win, nobody can hurt you. And when you lose, nobody can help you."

Frank Slootman's path to the American Dream, via IPO billions, started with his making Naugahyde seats for the automotive and boating industries. Born in the Netherlands to a military veteran and a portrait artist, Slootman had a childhood regimented by high academic achievement and racing sailing dinghies. A standout economics student at Erasmus University Rotterdam, Slootman finished school a year early to pursue internships in the United States. His dream employer: IBM. In 1982, after a number of rejections from Big Blue, he "crawled ashore with $100 in my pocket" (a phrase he repeats so often his employees know it by heart) in South Bend, Indiana, with a job as an intern in the seemingly dead-end fake-leather industry.

"I learnt from that experience that I don't want to be in an elevator that's going down," he says. "It doesn't matter how good you are or how bad you are—in the wrong elevator, you're going to get hosed." Eventually, he was able to shift to the up elevator—computers—first in Detroit, then in Ann Arbor, Michigan, where he moved customers off mainframes to more modern server products. When executives at a later company, Compuware, realised in 1995 that an acquisition in Amsterdam was going sideways, its young staffer, a native Dutch speaker, was given a chance to clean up the mess.

By 1998 Slootman was running Compuware's California office amid the dotcom boom. The assignment itself was another challenge: Compuware was bleeding employees to Silicon Valley's emerging powers. "My whole career was doing jobs that

During his short-lived retirement, Slootman raced aboard his Pac52 Class 52-foot yacht, Invisible Hand. “The thing I liked about sailing was that if you make a mistake, it’s obvious within minutes.”

other people didn’t want to take,” he says. “So after a while I’m like, ‘Instead of bitching about it, I’ll just stick to these train wrecks and show you what I can do with them’. ”

Prioritising the development of raw talent with high upside, Slootman was able to stabilise Compuware. Rather than return to Michigan, he jumped to Borland Software, a database darling of the 1980s by then in dire straits. After successfully building out its Java development and testing business, Slootman received his first CEO job offer in 2003, when investors in a data-storage startup tapped him for another rescue. Data Domain was running out of money; its technology, while theoretically more powerful than the existing alternatives, ran prohibitively slowly.

Slootman began to hone his skills: He put more energy into short-term sales, worked to improve the product and raised cash to keep the business afloat. Data Domain’s revenue more than doubled each year for the next four years. The day he took the company public on Nasdaq in 2007, shares jumped 66 percent; two years later, EMC outbid rival NetApp to acquire the business for $2.4 billion.

With an exit in his back pocket, Slootman had his pick of companies for his next act, in 2011. He settled on a fast-growing but under-the-radar software startup based in Santa Clara called ServiceNow. Founded by billionaire Fred Luddy, ServiceNow was cash-flow-positive and doubling revenue, but understaffed—“anaemic,” as Slootman now says. Investor Sequoia wanted an executive with more experience building a sales team to target the world’s biggest corporations. The board, including Doug Leone—an investor on *Forbes*’s Midas List and Sequoia’s co-leader at the time—tasked Slootman with doing for ServiceNow what he had just done for Data Domain. “Frank took us from a very large startup and made us into a very large, well-oiled machine,” Luddy told *Forbes* in 2018.

Slootman once again led with sales as a bridge to a better product. To win over large customers like Johnson & Johnson, he repositioned ServiceNow from a help-desk IT solution—not exactly something to excite a fellow

CEO in a meeting—to an all-you-can-eat buffet of tools that could help a needy CIO solve any challenge. About a year after he came aboard, Slootman took ServiceNow public on the New York Stock Exchange. Along the way, investors witnessed his brusque leadership style firsthand when Leone made the mistake of interrupting Slootman with unprompted advice in a board meeting. "Doug, thank you for that comment," Slootman replied. "Have I told you my point of view on boards? The job of the board is to hire and fire the CEO. If I'm doing a bad job, you should go ahead and fire me. Otherwise, I'm going to go ahead and run the company."

Slootman's my-way-or-the-highway attitude caused a stir when he arrived at Snowflake on April 26, 2019, hours after co-founders Benoit Dageville and Thierry Cruanes informed well-liked CEO Bob Muglia, a Microsoft veteran, that his services were no longer required. One major cause for the shock: By all appearances, Snowflake wasn't struggling—and it already had a high-profile CEO.

Snowflake was founded in August 2012 by Dageville and Cruanes, two French-born database experts from Oracle, and was backed by Sutter Hill, whose venture capitalist Mike Speiser served as its first CEO. The company promised to do for data warehouses, which then lived on customers' own servers, what Amazon Web Services had done for data storage. Harnessing the cloud's flexible computing output as if it were one giant supercomputer, Snowflake's software could locate and organise customers' increasingly large amounts of data—consumer information, product sales, employee overhead—then help make sense of it all quickly and cheaply enough to make it truly useful.

In 2014, after two years under the radar focusing on shipping the software, Speiser tapped Muglia to replace him as CEO. Muglia was no slouch: An engineer who was one of Microsoft's four presidents before Steve Ballmer replaced him with Satya Nadella. At Snowflake, Muglia moved fast to get the company into the market, pricing it to match Amazon Web Services' by-the-second consumption model, which offered a pay-as-you-go alternative to a subscription, then targeting customers of Amazon's own rival product, Redshift. Billboard ads with corny messages like "Happy Holi-data" soon lined Silicon Valley's main highway, US Route 101. In early 2018, just over a year before his dismissal, Muglia met *Forbes* for breakfast at a New York hotel. A Gartner analyst on vacation spotted the executive and crashed the meeting to go full fanboy.

But behind the scenes, months before WeWork's epic IPO-attempt flameout helped make profitability cool again, Snowflake was shaping up to become the tech industry's next great cautionary tale. Buying up cloud storage credits from Amazon and its rivals and reselling them, all while keeping Snowflake's own software running, was costly, especially as Snowflake expanded to new markets such as Australia. Its technology—quicker to offer cloud data warehousing than Oracle, Teradata and other database companies but challenged at every turn by Redshift, Google's Big Query and Microsoft's Azure Synapse products—required a large and continuous amount of R&D spending. After needing just over \$5 million in investment in its first two low-profile years, by early 2018, when Snowflake reached a valuation of \$1.8 billion, it had raised almost a half-billion. It took on another \$450 million, this time at a \$4 billion valuation, about nine months later.

Concerned about Snowflake's appetite for capital, Speiser approached Slootman, whom he knew through the board of another investment, Pure Storage, to see if he

Co-founders Benoit Dageville (left) and Thierry Cruanes (third from left) are counting on Slootman and his trusted lieutenant, CFO Michael Scarpelli (right), to steer Snowflake through the stock market's gyrations. Says Dageville: "We have a lot of pressure to deliver on this valuation."

could tempt him to join the company's board. Having built ServiceNow to a market cap of $14 billion by 2017 (it's valued at seven times that today), Slootman was focussed on bringing back professional yacht racing to California and running a conservation and animal welfare foundation from his Montana ranch. In other words, he was bored. "I have empathy with a lot of quarterbacks who don't know to retire," he says.

When Slootman expressed interest in the Snowflake CEO job, Sequoia and Sutter Hill jumped. In a rare interview, the press-shy Speiser discussed the difficult decision to fire Muglia: "When you have the potential [to build] one of the game-changing companies of all time, you should take the chance."

Just one problem: No one told Muglia until the day the company announced the coup. Speaking publicly about his departure for the first time, Muglia tells *Forbes* that it took him months to get over the shock. "The board was the one telling me to spend money, the board was just as strongly behind this. But certainly I did it," says Muglia, noting that overall spending at Snowflake increased after he left. "I used to call it 'drunken sailors' spending. I would say, 'We're spending like drunken sailors', and they would say, 'Yes, keep doing it'. And it was the right thing to do."

"They've clearly shown they can execute, but I can't justify this valuation by any means. This stock is being completely driven by the Robinhood crowd."

[redacted]

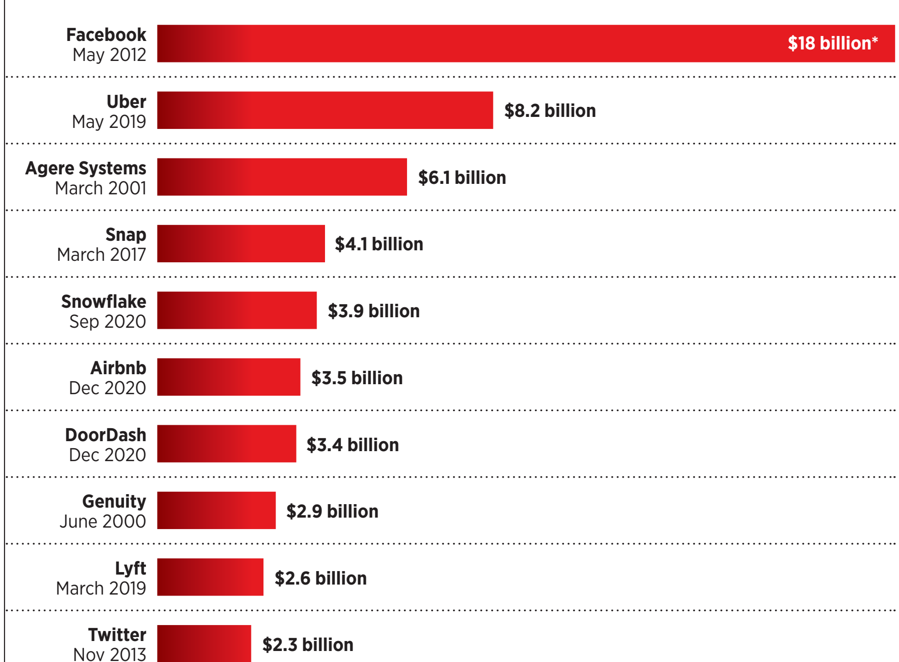
In the weeks after the Slootman era kicked off at Snowflake, executives filed into Slootman's unadorned office one by one to meet the boss, while Speiser, the one who had reached out to Slootman, filled in for him in meetings. Soon Slootman resumed his old tricks. His first action: Reorganising the sales arm of the business to separate large customers from small, focusing more intently on converting the bigger fish. His second: Parting ways with anyone who seemed fond of palace intrigue or who didn't deliver precisely on their word. In came two of his top lieutenants from Data Domain and ServiceNow: Mike Scarpelli to oversee finances, and Shelly Begun to run HR. Out went executives and sales reps who didn't fit Slootman's mould or didn't want to work for new supervisors who did.

Just a month later, Snowflake under Slootman had shifted to become a performance-based business. Chief revenue officer Chris Degnan figured his lack of experience in such a structured sales organisation would be enough for Slootman to show him the door. To his relief, Begun told him a few weeks later that the new CEO valued his hustle and loyalty to the product. "He's like, 'I'm getting [to be an] old man, I don't have time to wait'. That's just how he operates," Degnan says.

Scarpelli got to work on Snowflake's books. Under the company's Amazon-style pricing, customers could easily expand their usage over time. The flip side: Sticker shock as companies' bills rapidly grew, and unpredictability as Snowflake struggled to deliver accurate revenue projections. To make the company more Wall Street–ready, Snowflake started working with its bigger customers to show

Outsized Offerings

Software's largest-ever IPO, Snowflake stands as the fifth-largest of all US-based tech listings



*All proceeds have been adjusted for inflation

SOURCE FactSet

When Slootman took ServiceNow public in 2012, he rang the NYSE bell in person. Eight years later, with Snowflake, he had to do it over Zoom. "An IPO is a blip on the radar, a mile marker during the marathon," he says now

them where they were wasting money running needless reports. Better modelling and the focus shift to larger accounts also made it easier to guess how users might expand or contract.

When Covid-19 hit, Snowflake was prepared, having just raised $479 million from investors, including Salesforce, in early February. Because struggling sectors like the travel industry could simply reduce their usage without renegotiating contracts—and others, such as those in ecommerce or food delivery, saw demand quintuple—Snowflake's sales barely hiccuped. Slootman hit the austerity button all the same, refocusing resources toward the "drive train"—product, engineering, sales and legal—and away from less urgent areas like marketing. "It's like being on the America's Cup boats: Every day is about sailing faster," says Denise Persson, Snowflake's CMO. "It's about getting this entire organisation to go in one direction."

So far, Snowflake is outrunning its competition. Analysts say it continues to beat Amazon and the tech giants' products head to head; as Snowflake gets bigger, it can negotiate better rates, too, driving down its operating costs.

Perhaps Slootman's greatest triumph so far: Selling both outside experts and those within the company on the possibilities of "Snowflake 2.0", its shift from being a data warehouse to more of a data hub on which businesses can securely (and temporarily) share information with each other, develop apps and feed their data into artificial intelligence tools. That push, which Snowflake says would increase its addressable market from $14 billion to a recent $81 billion, is very much a work in progress. Inside Snowflake, Slootman re-engaged co-founder Dageville, now a billionaire himself, to spearhead the project; outside, analysts trust Slootman to figure it out. "Very large enterprises are choosing a vendor to go to bed with for five years, minimum," says Patrick Colville, an analyst at Deutsche Bank. "So it's showing them a really nice path forward. It's much easier to select [Snowflake]."

One unanticipated challenge, however: Snowflake's current stock price, which has exceeded even Slootman's expectations and which, as of mid-January, was trading at a revenue multiple of 140 times its estimated fiscal 2021 revenue, ahead of cloud darlings Crowdstrike, Okta and Zoom. Should Snowflake stumble on its numbers, or if exuberance fades, employees who made their money in the IPO might not want to stick around. "These are multiples, frankly, that the world hasn't seen since the internet bubble in 1999," says Brad Zelnick, an analyst at Credit Suisse. Adds Srini Nandury of Summit Insights Group, who has a rare sell rating on Snowflake: "They've clearly shown they can execute, but I can't justify this valuation by any means. This stock is being completely driven by the Robinhood crowd."

The ever-cocky Slootman relishes the idea of proving the doubters wrong. "You can look at my private companies and see how that turned out," he says. The CEO has plenty of reason to stick around, too, with billions tied up in unvested Snowflake shares.

After fighting so hard to become a CEO, Slootman doesn't know how to do anything else. So the day after Snowflake's public offering, he was back to business as usual, demanding that executives present their plans for the next quarter and beyond. "I don't get that excited," he explains. "My eyes are on the horizon." F

Should Snowflake stumble on its numbers, or if exuberance fades, employees who made their money in the IPO might not want to stick around

A Higher Calling

Billionaire Beau Wrigley is building his cannabis company, Parallel, to be bigger than his family's chewing gum business—and he's not banking on getting consumers stoned

By **WILL YAKOWICZ**

In 2017, when billionaire William "Beau" Wrigley Jr was pitched cannabis as a new investment opportunity by his family office's managing director, Jay Holmes, he shut it down immediately. "Are you kidding me?" he said. "I'm not excited about wearing orange and possibly ending up in prison."

Still, Wrigley, heir to the all-American chewing gum fortune, couldn't deny that the burgeoning legal marijuana industry checked off all his investment criteria: A trend in changing consumer behaviour, a transforming regulatory environment and multiple applications in health care.

So Wrigley rethought the proposition. He told Holmes to find a target company, and he eventually located one at home in Florida: Surterra Wellness. Wrigley and his team flew down to its 180,000-square foot operation outside Tampa, the company's biggest facility where cannabis flower is grown. After

The legal marijuana industry checked off his investment criteria: Changing consumer behaviour and regulatory norms, and applications in health care

Beau Knows: Part of Wrigley's business motivation is to find replacements for Big Pharma drugs. He believes innovative cannabis products can "change the face of health care"

JAMEL TOPPIN FOR FORBES

inspecting the cultivation site—it was the first time the 57-year-old Wrigley, who says he has smoked pot only once in his life, had seen a room full of cannabis—the group boarded the plane home with the flowers' sweet, pungent smell permeating their clothing.

"No one had known where we were, and I think they thought we were out getting high," Wrigley recalls on a sunny afternoon while sitting on the patio of his North Palm Beach estate on Lake Worth lagoon.

Soon after that excursion, he led a $65 million investment round in Surterra, and in November 2018, he replaced the company's co-founder as CEO. Renamed Parallel, Wrigley's company now has 42 dispensaries across three states, with 39 in Florida and the rest in Massachusetts and Nevada, with new ones slated to open in Pennsylvania and Texas. To date, it has raised a total of $400 million, largely from Wrigley and other high-net-worth individuals. The latest funding round, which closed in 2020, valued the $250 million company (2020 sales) at an estimated $2 billion.

In 2019, Parallel spent more than $100 million on a Boston-based startup, Molecular Infusions, which is working on a THC-infused seltzer. Parallel is also in talks for a roughly $150 million acquisition of a three-store dispensary chain in Chicago, which would bring the company to the city synonymous with the Wrigley name.

It's also exploring going public in Canada via a SPAC deal, according to two people with knowledge of the discussions. Wrigley denies that the company will go public.

In just three years, Wrigley has transformed Parallel into a new kind of cannabis company. On a mission to build the first mainstream marijuana brand, he has stacked his management with executives and advisors from some of the largest and best-known corporations in the world—including Coca-Cola, Walgreens and Patrón Spirits. Wrigley believes his cannabis concern could one day rival his family's chewing gum business, which he sold to Mars, Inc for $23 billion in 2008.

Parallel Lines: Among Wrigley's cannabis brands is Jimmy Buffett's Coral Reefer, which includes vapes, balms and gummies—but no gum

"I think this can be bigger than the Wrigley company," he says. "At Wrigley, we brought joy to people's lives. This is much bigger than that."

Parallel is not the largest cannabis firm in America—Massachusetts-based Curaleaf is—or even the largest in Florida (that's Trulieve), but it has slowly and methodically built up its operations. Its strategy is markedly different from that of Curaleaf, which pulled off an aggressive national rollup strategy headed by its billionaire chairman, Boris Jordan. Instead of a national land grab, Wrigley has mostly focussed on Florida, which he calls "New York South" and where medical marijuana is legal.

Florida has more than 100 million visitors a year. Wrigley expects that when it legalises cannabis for recreational use, his company will grow by a factor of 10

Florida has a growing population of 21 million and more than 100 million visitors every year, and Wrigley expects that when it legalises cannabis for recreational use, his company will grow by a factor of 10.

"The potential is huge in Florida alone," he says.

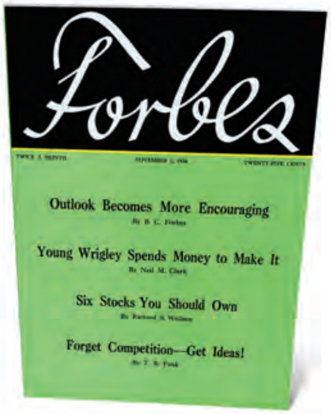
The hidden value in Parallel lies in its investments in medical and recreational R&D. The company inked an exclusive partnership with biopharma company Eleszto Genetika in Budapest, Hungary, in 2019. Through a yeast-based microbial process, Eleszto Genetika can genetically sequence rare cannabinoids and engineer specific effects at commercial scale. One future product Wrigley is excited about is CBN, a cannabinoid that helps improve sleep.

"Call it an 'Ambien killer,'" he says.

Parallel is also looking at THCV, which has the same euphoric effects as THC, the main psychoactive compound in cannabis, but is an appetite suppressant—meaning no more "munchies", he says. The idea is to create a noncaloric alcohol replacement that "makes you feel better, is not more addictive than a cup of coffee, has no side effects," he adds. "And, oh, by the way, it suppresses your appetite."

He goes on, his Italian water dog, Rio, sitting at his feet: "One of these products is bigger than the entire company."

Wrigley, who uses his company's THC drops in lime LaCroix to unwind, says cannabinoids have the potential to improve "quality of life", whether by easing one's pain, reducing anxiety or helping



The Vault

PK Wrigley Chews It Over

Under his dad, he had a long and wonderful training. He was thirteen years old when [his father] came home one night and told of an opportunity to sell out to a chewing-gum trust at a figure that would make them both rich for life.

"Do you think you'll ever want to go into the business, Phil?" his dad asked. "I'll sell."

"This was one critical time when Phil said, "No!" But he meant "Yes!"

He said, "Don't sell."

—"YOUNG WRIGLEY SPENDS MONEY TO MAKE IT" (NOVEMBER 1, 1934)

promote a good night's rest.

Parallel also has something no other cannabis company has: The Wrigley name.

Morgan Paxhia, co-founder of a San Francisco-based $150 million cannabis investment firm, believes Wrigley is primed to build a successful, mainstream cannabis company. "It's ingrained in their DNA," Paxhia says. "Multigeneration, family-driven—this is how we build big, durable legacy brands."

Wrigley was born into one of America's great business dynasties. His namesake great-grandfather, William Wrigley Jr, started William Wrigley Co in 1891 as a manufacturer of soap but pivoted in 1893 to produce Wrigley's chewing gum instead. The company was handed down through the generations, and Beau's father ran it until the day he died, in March 1999. Beau, who started working at the company over his summer break when he was 13, was 35 years old when he became CEO and chairman the day after his father passed away.

He is credited with breathing life into a 100-year-old family business by helping replace its natural-gum formula with a more cost-effective synthetic base and expanding its reach by acquiring Life Savers and Altoids. In October 2008, Wrigley closed the deal of his lifetime—he took Wrigley Co private by selling to Mars, Inc, another company owned by a family of billionaires.

Understandably, many assume Wrigley will produce a cannabis gum one day. After launching into a three-minute explanation of the science and molecular biology behind ensuring the release of the right flavours for the appropriate amount of time from chewing gum base, he says he's concerned about how expensive the R&D process could be—as well as the risk of appealing to children. Still: "Never say never," he says.

Much like Wrigley Co, Parallel has global ambitions. According to an investment document obtained by *Forbes*, Parallel is exploring cannabis and hemp cultivation licenses in Southeast Asia. (Wrigley admits he has spoken to government officials in the region but says talks have slowed during the pandemic.)

Wrigley breathed life into a 100-year-old family business by replacing its natural-gum formula with a more cost-effective synthetic base and acquiring Life Savers and Altoids

"In comparison to Wrigley, this is also a cross-cultural product," he says. "Just like we sold in 180 countries, cannabis plays everywhere."

When asked what his ancestors would think about his foray into the industry, Wrigley takes his time to answer. Standing on a wooden walkway leading to the main entrance of his estate, he is flanked by two ponds filled with koi. Flags on a small putting green nearby wave in the breeze off Lake Worth.

"Gosh, at first blush they would roll over in their graves," he says with a smile.

Although pot is still illegal under federal law, 43 states have created their own legal markets of one kind or another, and with Democrats now in control of Congress, national legalisation seems closer than ever. "I don't consider our business illegal," he says. "It's caught up in a political quagmire for the moment."

Wrigley, who has a net worth of $3.1 billion, says he feels lucky to be a part of helping an industry transform from black-market to legal. The last generation of entrepreneurs who made that claim turned the desert town of Las Vegas into a city home to multibillion-dollar public corporations. Wrigley compares the cannabis industry today to Vegas in the post-Mafia period before luxury hotels dominated the Strip.

"I see us [as] in the era before Steve Wynn came and made it a destination experience," he says. "Anyone can put up a table with green felt and gamble. But he created this whole experiential thing with the art, the Bellagio, the fountains, and it became a destination." Wrigley believes Parallel can become the world's first gold-standard cannabis company by changing how Americans view marijuana, much like Wynn made over Sin City's image. "It isn't about getting high," he says. "It's about quality of life." F

FUNNY GUY

Multi-hyphenate comedian Danish Sait has broken out of his regional playground during the lockdown months and expanded his footprint nationally. And he's only getting started

By **KATHAKALI CHANDA & NAINI THAKER**

When we catch Danish Sait on a Zoom call mid-March, he's down with Covid-19 and isolating. "Are you sure you can speak?" we ask. "Of course. I am much better now," he says. We offer to do the interview another day, but the 32-year-old insists, "I'm fine. I'm not such a delicate darling either." The first few days of the infection were bad, he admits, but with the symptoms on the wane, Sait is looking for an escape from boredom. "I've asked my manager to line up as much work I can do from home," he says.

His friends, though, will tell you isolation fatigue is a mere excuse; even in the best of times, Sait is a restive chap. "He can't sit still for a minute," says Vamsidhar Bhogaraju, writer, comedian and the director of *One Cut Two Cut*, Sait's third film. "Even if he's on a break, he'll call up five times with some idea or the other. He's always thinking about his next project."

Sait doesn't deny his eternal restlessness. "If I'm sitting idle, I'll probably start eating my furniture," he laughs. Which is why, during the first phase of the lockdown in early-2020, he picked up whatever was lying around in his home—a broomstick, sneakers, glasses, tissue boxes, and even a cat—and transformed them into props for his daily minute-long skits, imitating typical households struggling with the agonising confinement. Out of Sait's boredom emerged conversation pieces between the fictional motley avatars of Jaya, Ramamurthy, Bro and others who, through their chatter on topical themes (from the PM's 8 pm speech to the British royal family split), transcended the Bengaluru tropes he upheld and resonated with a wider pan-Indian audience.

As an RJ, emcee, show host, actor, influencer and IPL's only travelling comedian (with the Royal Challengers Bangalore, hosting the Insider Series as loveable buffoon Mr Nags for seven seasons now), Sait was a recognised multi-hyphenate even before the lockdown. But through the last several months, he's broken out of his regional playground and produced online content that had social media across the country hooked and in splits.

With most of his videos clocking over 5 lakh views on Instagram, Danish Sait is among Indian social media's biggest trailblazers

With most of his videos clocking over 5 lakh views on Instagram, Sait is among Indian social media's biggest trailblazers. He's as comfortable autographing actor Anushka Sharma's palms as Mr Nags, as he is asking cricketer David Warner poker-faced, "Australia first had Warne, then Warner, when are they going to have Warnest?" His fan-following ranges from commentator Harsha Bhogle to former Jammu & Kashmir Chief Minister Omar Abdullah, who alluded to his lockdown sketches through a tweet on his birthday on July 1: "Happy birthday… I'm not sure whether I should be wishing Jaya, didi, Ramamurthy, bro & all the others who share a birthday with you…"

Sait was quite the showman, even as a child. Kubbra, his elder sister and now an actor, recalls that in his pre-school days, he would sit on a merry-go-round with his classmate and hum '*Do deewane shehar mein*'. Later, at Coorg Public School in Kodagu, where he studied for six years, and at his college in Coimbatore, Sait would always be up on the stage for cultural events.

Mimicry also came easy to him and, at home, his antics were appreciated as the Sait siblings would record impersonations and voices on blank tapes, encouraged by their mother. "My mom's great at mimicry too," says Sait. It is at home too that Sait was wired to laugh without judgment. Says Kubbra, "Because he grew up with two women—our mother and me—his Hindi would be feminine gendered. Like '*Main khaa rahi hoon*.' But instead of chiding him, we'd always have a good laugh."

Despite an early initiation to humour, being funny is not something Sait cultivated consciously. "I think it was his survival instinct. He would think that's his way of being accepted when he was bullied in school, or when the pressures were too high. It came to him as a reflex. And his impersonations aren't meant to hurt people. He catches on to quirks faster than anyone else and copies them," adds Kubbra.

Through his astute comic sense, Sait is able to embellish a character from minutes-long spoofs into a full-fledged feature film. Self-centred politician Nograj, who started off as a radio and YouTube sketch, morphed into a Kannada movie in 2018 as *Humble Politician Nograj* and now a web series, produced by Applause Entertainment, filming for which has been completed. For his current and third overall, *One Cut Two Cut*, Sait elevates simpleton Gopi into an arts and crafts teacher and the protagonist of a family entertainer. "We put together a video of Gopi while Danish was travelling during the IPL in 2020," says Bhogaraju, the debutant director. "In half a day we received about 600-700 emails from people saying they were interested in the character. That's when we decided to turn it into a feature film."

Adds Bhogaraju, "Most characters Danish does are not merely because he can do accents and impressions well, but because he has great insights into people. He picks up things that most of us are probably aware of but never really observe. That's why his characters are life-like."

Because Sait manages to sculpt characters through keen observation, and weave the quirks into scripts even for branded content, his product plugs seem far more organic and real than blatant. In over 40 brands that he has endorsed, from national ones like Swiggy to local ones like Bengaluru's Hotel Empire—"I've sold pretty much everything. I have no filters of choosing a brand"—Sait has laid down clear ground rules on how much control he will have on content ("almost entirely").

"This makes Danish's content primarily entertaining in a Danish-way than making it seem like a mildly entertaining branded content. It helps the audience enjoy the content from the content creator's perspective. The brand infusion is only incidental," says Karthik Srinivasan, communications consultant. "If FMCG brands can try to infuse Hindi and Hinglish across India through advertising, then Danish is showing the reverse is possible too, that even without Hindi, you can gain pan-Indian acceptance if you stick to what you do best."

A childhood photo of Sait and his elder sister Kubbra (right), who is now an actor. It was at home, growing up with Kubbra and his mother, that Sait learnt how to laugh without judgement

"MOST CHARACTERS DANISH DOES ARE NOT MERELY BECAUSE HE CAN DO ACCENTS AND IMPRESSIONS WELL, BUT BECAUSE HE HAS GREAT INSIGHTS INTO PEOPLE."

VAMSIDHAR BHOGARAJU, writer, comedian and filmmaker

Once Sait graduated from college, he joined events management firm Phase 1 as a client servicing agent. "I used to put together a lot of profiles of artistes who were emcees and hosts. At some point, it hit me, 'Hey, I also deserve being on these presentations as a performer and not be the guy putting it together'," says Sait, who soon got a job offer with a radio station in Bahrain. "I lied my way into the job saying I had done radio before. It was a good lie, and I don't regret it." Sait's earliest gig on air entailed saying his and the station's name, and playing a song. The first time, it took him 6 minutes to get it right. It was while working at the community radio station in Bahrain that he would scour the internet to access international stations and learn tricks from them—like conducting game shows and constructing short sentences appropriate for radio. That's where the idea of playing prank calls came from.

"However, my first prank call was also my last. I called up a school teacher and asked her to help me speak to a girl that I liked. But the local community didn't like their trusted radio station fooling them. We had to take it off air immediately. But I had that clip that helped me land a job at a station in Dubai next," says Sait. He started off as a producer in Dubai, doing prank calls every morning with celebrated presenter Kritika Rawat. Sait was young, ambitious and impatient, looking to get ahead of

the line, perhaps a little too quickly. It threw him into a spiral of unhappiness. "I constantly felt I was painting a canvas and someone else was signing on it. The art was mine, but the artiste was someone else," he says. "My mind was rogue and that was my first handshake with mental health issues."

When Danish spoke to Kubbra about his condition, she hardly identified it as clinical depression as we know it today. But her brother's bristling unhappiness was enough for her to tell him to pack up and return to India. In subsequent years, Sait has gone through depression in three phases and it was only later, through a similarity of patterns, that Kubbra realised what he had suffered from earlier. But even during his toughest phases—and Sait has openly spoken about it across platforms—when even tying shoelaces would seem onerous, he has performed seamlessly when thrown in front of the microphone. "When I perform, I am in a state of trance, the feeling is almost spiritual. I reach the zenith when I am playing someone else," says Sait.

▲ Sait has been travelling with RCB during the IPL for seven seasons now; Sait, in character as Mr Nags, with cricketer Yuzvendra Chahal (extreme right)

In 2010, Sait came back to Bengaluru from Dubai and "with some luck" met Darius Sunawala, an RJ on Fever 104 FM, and landed a job there. But his creative restlessness continued to bug him here as well. "My only goal was to show off my work. I realised it was not about the length or the size of your content, but the impact. For instance, I thought I wanted an evening show, but then when it did come to me, I no longer wanted it. By then, I got interested in films, digital content etc. You constantly evolve," says Sait.

It was around the same time that the discovery of instant gratification on social media began to distance Sait from radio. "On air, you had to solicit text messages from listeners. But the minute you upload on the internet, you begin to get reactions," he adds. During an improv comedy show, he struck up a friendship with Saad Khan, the director of *Humble Politician Nograj*. The stage of improv also opened the doors of RCB for him when Nikhil Sosale, the team's head of business partnerships, saw Sait at a show. Since 2015, he has been travelling with RCB, alternating between Mr Nags (a character inspired by Ali G and Borat, both played by Sasha Baron Cohen) and the presenter, rubbing shoulders with the likes of AB de Villiers and Virat Kohli. "The idea was to emulate content by global sporting giants like Barcelona or any NBA/NFL team and give fans a glimpse of the lighter side of cricketers," says Rajesh V Menon, the vice president and head of RCB. "With Danish growing and coming into his own in the last couple of years, we have used him to build other properties like Bold Diaries. He also adds to the versatility of content, ranging from short-form documentary to parody press conference videos."

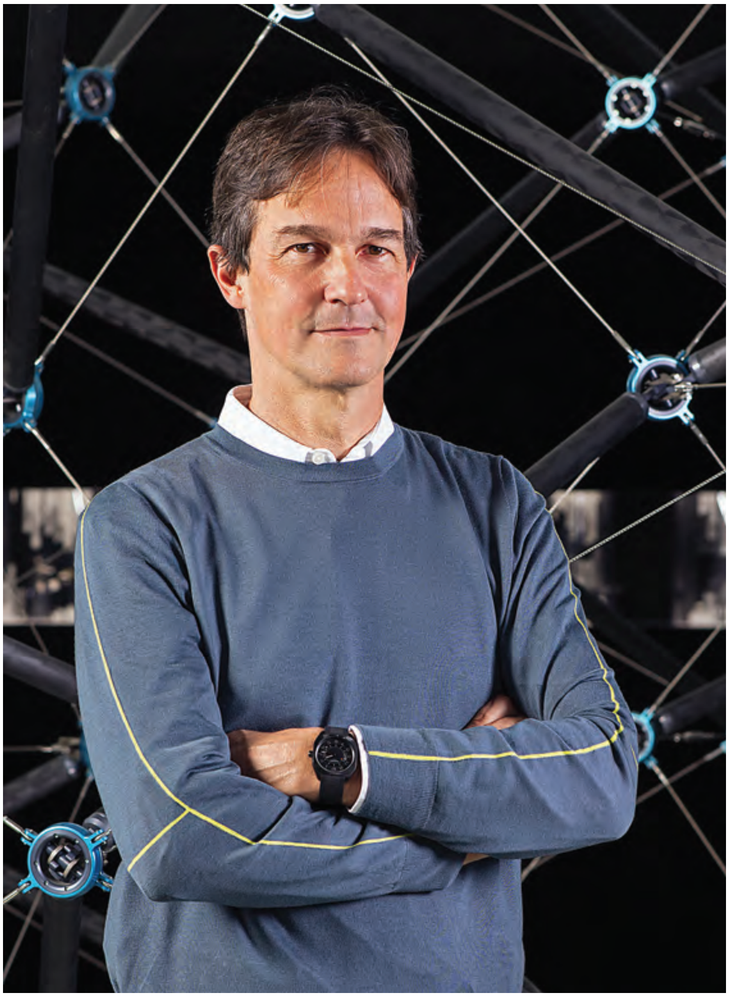
The flipside: The bio-bubble which Sait has had to endure since last year due to the Covid surge. "I felt completely down when I entered the bio-bubble last IPL. But then you learn to get on with it. When you get to speak nonsense with AB and Virat, strapping on a moustache, a wig and a pair of shades, you learn to pick yourself up," he says.

But once the lights are off, Sait prefers to leave his characters behind and doesn't like to indulge in casual mimicry at times too. "It got boring after a point," he says. He does admit though that, at times, he is a bit of a Ramamurthy—the old-school Bangalorean. "Even though I am young, a part of me is an old soul. I believe I am wise enough to not do something stupid, and I am young enough to do something stupid. It's a dichotomy that I live with." F

'FOR HERMÈS, TIME IS A FRIEND, WE LIKE TO PLAY WITH IT'

Hermès Horloger CEO Laurent Dordet talks about the brand's new launches and bringing fun and creativity to the watch universe

By **MONICA BATHIJA**



In the year of the pandemic, luxury brand Hermès reported a consolidated revenue of €6,389 million, a decrease limited to about 6 percent at constant exchange rates. About 3 percent of the turnover comes from Hermès's watchmaking division, set up in 1978 in Bienne (Brugg) at the heart of the Swiss watch industry, and which in recent years has increasingly been involved in developing and producing its own movements, combining them with the unique aesthetic of Hermès.

On the sidelines of Watches and Wonders 2021 held in Geneva, Laurent Dordet, who has been with Hermès for over 25 years and who took over as CEO of Hermès Horloger in 2015, speaks to *Forbes India* about the brand's new launches and older iconic watches, the relevance of watches in the digital age and the playfulness Hermès brings to the telling of time. Edited excerpts from an interview:

Q How big a component are watches in the Hermès universe and where do they fit in in the bigger watch universe?

In terms of figures, watches are about 3 percent of the sales. Thirty years ago it used to be close to 10 percent; the figure has reduced not because watches reduced but because leather, specially, boomed. So 3 percent is not big, but it's 3 percent of a big turnover.

The watchmaking industry is about pure players—pure players since centuries or since 20 years, like Richard Mille for example. In the more extended brands that have succeeded in true and authentic Swiss watches, it's about Hermès, Chanel and Bulgari. Our segment is quite limited, and we play a role to make this segment bigger.

When we entered this business 43 years ago, we had everything to prove in terms of know-how and we have managed to do so and learnt a lot too. But in terms of creativity, we are super different from the pure player brands. You can like or dislike what we do, but we are definitely bringing a fresh air and a fantasy wind into this industry.

Q What are some of the new launches this year?

The new launch for men is a new line, a line with a sporting spirit. I say sporting spirit rather than a sports line, because a sports line is associated with performance etc.

We have two main lines in the men's range today—the Arceau and Slim. H08 is the third line. Again, the purpose is to be very functional—the watch should be your companion for all day, including sports. It must be light, robust and comfortable, and forgotten once you have it on your wrist. That's why we used combinations of materials, bringing lightness and robustness.

The shape is not a square or a circle, it's something in between and the shape of the bezel gave the shape of the typography, of the 0 and the 8 especially, and that's where the name H08 comes from. Also considering 0 is nothing and 8 is a part of infinity, it's a watch between nothing and everything, and we found this code was funny and kind of a tribute to the typography.

The second is an extension of the Faubourg line for ladies, a jewellery line launched seven years ago with a diameter of 15.5 mm. It's one of our thinnest watches and we wanted to reinterpret it with a new bracelet more inspired by jewellery. It's called the Fauborg Polka because it has a polka dot motif included in the different elements of the strap.

Q What would you say are some of the iconic lines?

For men, two complications have marked the industry over the last few years... the first was the Arceau Le Temps Suspendu—time suspended, 10 years ago, and two years ago the Arceau L'Heure De La Lune—hour of the moon. For ladies, our iconic watches would be Cape Cod and Nantucket, which is the same line, one is square, one is rectangle.

We also have a logo line, the Heure H. We were one of the first to play with our first letter and create a real watch out of it. So the Heure H is still very successful, Cape Cod is booming, and the latest creations, the Fauborg Polka or the Galop, which we launched two years ago, are very promising lines.

Q What is the relevance of watches in the age of smartphones?

They are complementary and opposite because one is only about functionality, not at all about emotion and not at all about style. And the other is the opposite, just about emotion, style and craftsmanship. You don't buy a watch today to get the time, you buy a watch today because it's a fantastic object of technique, a style, a jewel that reminds you of lots of things. So I'm not worried at all.

Q How does going digital work with luxury, especially when we have had a year when everything had to go online?

▶ | ▼ The Arceau Le Temps Suspendu (left) was launched 10 years ago; the H08 (right), the latest line, is robust and light; the Fauborg Polka (below) has a polka dot motif included in different elements of the strap

The year 2020 has been an accelerator of trends, and everything is changing. Our stores changed too, contacting customers and showing them new products. We invested a lot into our digital ecommerce, and it's paying off. We had tremendous growth last year and again this year in ecommerce, so probably we will target a significant part of our business to be done on ecommerce, even though for Hermès, and for luxury in general, the physical experience will remain the vast majority of the experience. But the omni-channel experience is coming. So it's not digital or physical, it's both.

Q What do you think of India as a market?

It's a very promising market and I can't tell you when it will take off [laughs]. Because it will depend on the customs rate. When you have such taxes, the business remains small, but it's a very promising market.

Q Do you think the concept of time has changed in the pandemic?

At Hermès we have always considered that we will privilege qualitative time to quantitative time. We never thought about watches as something meant for only measuring time. Neither did we develop complications to be the thinnest or the most precise chronometer in the world because, first, most brands do it better than us. And secondly, because it's not fun for us. When we issued the time suspended complication, we were the first brand to imagine a watch that would suspend the time, a complication to literally stop your watch, which was a fantastic resume of our philosophy. For Hermès, time is a friend, we like to play with it, to open interludes and bring fantasy and fun to our customers. And in the pandemic, maybe since everybody had to stay home and rediscover their home, family etc, that qualitative time is becoming more and more important. F

GOURMET BREADS

THE RISING

European-style breads have gone mainstream in urban India, thanks to a growing bunch of bakers, and a push from the Covid-19 pandemic

By **JASODHARA BANERJEE**

Not too long ago, authentic European-style breads were available only within the confines of cafes and restaurants of five-star hotels. Outside of them, bagels were often nothing more than ring-shaped, soft, white bread, while croissants were crescent-shaped versions of the same thing. Urban India, accustomed to consuming various forms of commercial, white bread for several decades, was yet to get a taste of, let alone develop a liking for, European breads each of which comes with its distinct flavours, crusts, textures and characteristics.

In the last few years, however, thanks to the enthusiasm and efforts of a growing bunch of bakers, European style breads have become more mainstream than they ever were, becoming available in multiple cities, cafes and restaurants, grocery stores and online delivery platforms, and even delivered to your doorstep. So now, a bagel is not light and fluffy any more, but dense, moist and chewy, like it is supposed to be, and croissants are light and flaky, with layer upon layer of buttery goodness. And then, of course, is the sourdough, which has emerged as the unlikely hero in a year plagued by Covid-19.

▲ Bagels from The Baker's Dozen, a bakery co-founded by Aditi Handa (right). Despite cakes bringing in the money for bakeries, Handa decided to stick to breads and is now reaping benefits

"When we started the bakery we made a decision to not have a bakery and patisserie together and instead focus only on breads, even though cakes is where you make the money," says Aditi Handa, head baker and co-founder of The Baker's Dozen, who started her journey as a baker with one outlet in Mumbai's Prabhadevi neighbourhood in 2013. "A lot of people told us, 'How much bread will you sell? How will you make a sustainable business out of it?' But when you have fallen in love, whether it is with a boy or bread, nothing else seems to matter."

The beginning was not easy either, with clients not accustomed to an entirely new range of flavours and textures. "I think my sales team hated me, and would keep telling me that no one wants to eat the bagels I made," she laughs. "But I insisted on boiling the bagels, as they should be, and eventually it has paid off."

From the single outlet in Prabhadevi, The Baker's Dozen has grown to three branded stores in Mumbai and 21 delivery outlets pan-India, and plans to expand to 50 stores across 15 cities by the end of 2021. With a massive scale-up in demand, manufacturing moved from its initial unit in Mumbai's Wadala neighbourhood, to a larger space in Navi Mumbai, and finally to a 25,000 sq ft unit outside Ahmedabad. It is no surprise that revenues too have kept pace with this growth, rising from ₹6 crore in 2018-19 to an expected ₹20 crore in 2020-21.

From the Navi Mumbai unit, Handa started supplying to Pune, and then to Bengaluru. "We wanted to keep our processes artisanal, but at the same time, scale it up, which is a difficult proposition. So we wanted to have a central manufacturing facility, as well as improve the shelf life of the products so that they could be transported to different cities," says Handa. "Since we don't use preservatives, we turned to using 'modified atmosphere packaging', which is similar to how products like paneer are packaged."

This form of packaging is not used to package bread in India because it is quite an expensive affair, and adds ₹10 to ₹12 per package, she adds. "But we realised our consumers are very quality-driven and would not mind that extra cost."

Facing a similar conundrum with clients was Suchali Jain, who started Suchali's Artisan Bakehouse in Gurugram in 2017. "Initially, when we started baking sourdough breads, consumers complained about the crust being hard and the bread being nearly impossible to consume. There were complaints about its sour taste," she recalls. "But by 2019, we saw more acceptance for this bread. 2020 was a year where everyone wanted to have just sourdough bread. In fact, during the initial 10 to 15 days of the lockdown, when we were unable to operate our bakery, we got regular calls and emails from our customers requesting us to supply them with bread as it was their staple. That made us realise the level of acceptance of this bread in the market."

Samruddhi Nayak, the founder of Krumb Kraft in Bengaluru, which specialises in sourdough breads

Jain moved her bakery to a bigger space four months back to be able to cater to the current increasing volumes, and meet future demand. "We are also considering expanding our operations to another metro city by this year," she adds. Jain started with baking once a week in 2017, followed by daily production by the end of that year. "Now we have a 24-hour production model to support our demand and growth plans. Since the start of our venture, we have seen nearly a 100 percent year-on-year growth."

Also expanding operations is Samruddhi Nayak, founder of Krumb Kraft in Bengaluru, which specialises in sourdough breads. "I started with baking at home, making two breads a week," says Nayak, who first conducted classes at home in 2015, before launching her enterprise in 2017. Starting out alone, she subsequently recruited her husband, and brother and moved to a 2,000 sq ft space to bake. "We will soon be shifting to a 3,000 sq ft space, because I need a separate space for our gluten-free products, and I am also conducting my classes." On an average, in a week, Krumb Kraft makes between 200 and 300 sourdough breads for selling directly to individual customers; this apart, it also supplies breads to cafes and restaurants.

Finding an increasing demand for gourmet breads

Sourdough's Soaring Popularity

During the ongoing Covid-19 pandemic, sourdough seems to have found a legion of followers. But what makes the bread so special?

"Sourdough is the real bread. It's the oldest, purest form of bread, it's delicious and its probiotic too," says Akash Sajith, the founder and CEO of Living Food Company in Bengaluru, which launched freshly baked goods in early 2019, and has been growing 40 percent month-on-month in this category. "Commercial bread has 40 to 120 ingredients, most of them being additives and preservatives. Sourdough bread is made using three to five natural ingredients, and is made without using additives, preservatives, oil or milk."

Samruddhi Nayak of Krumb Kraft explains that since sourdough does not use commercial yeast, and instead uses natural, live-fermented culture—or starter—to leaven the dough, the gluten in the bread is in a pre-digested form and is therefore more gut-friendly. "Its complex carbohydrates also mean that it is better than regular, white bread for diabetics who want to keep their sugar levels under control," she says. The pandemic, she adds, became a time when people suddenly wanted to eat better, and became more conscious of what ingredients were there in their food, thus leading to the soaring popularity of sourdough.

She, however, cautions against the rampant use of the word 'sourdough' for marketing breads that are not made using the sourdough technique. "Even in high-end grocery stores, all you have to do is look at the ingredients on a bread packaged as 'sourdough', and you will see ingredients like yeast and vinegar. The bread can't be sourdough if there is yeast in it. And vinegar is added to give it a mildly sour taste."

is not just bakeries such Handa's, Jain's or Nayak's, but even an enterprise as mainstream as BigBasket. "We had launched our Fresho brand of breads in 2013, but by 2015, our customers began asking for gourmet breads, as they became more familiar with baguettes and bagels," says Seshu Kumar Tirumala, national head, buying and merchandising, BigBasket. "We did a market survey, and in early 2015, we launched our Signature range of gourmet breads."

Of the 30 cities in which BigBasket services are available, the company supplies gourmet breads in eight to nine. In these cities, BigBasket ties up with a local baker, who is then trained to make gourmet breads. "Breads have a short shelf life, and customers often don't find fresh products in local stores. If our breads are more than three days old, we return them to the manufacturers," he adds.

The Signature range of gourmet breads saw sales touch ₹2 crore a month during the lockdown months of July and August. "This happened because a lot of local bakeries were closed. After this period, the sales stabilised to about ₹1-1.5 crore a month, which is still double of what the sales were before the pandemic," says Tirumala.

ADAPTING EUROPEAN BREADS TO INDIA

Recalling her training in European baking at the Akademie Deutsches Bäckerhandwerk Weinheim in Germany in 2016, Nayak talks about the challenges of adapting the ingredients and techniques of European bread-making to Indian conditions. "In Germany, there are different kinds of grains and flour, such as spelt or dinkel, emmer, rye and weizen. They all taste different, and give the bread different kinds of properties. But in India you only get one kind of wheat and flour. So we have to innovate," she says. So, for instance, there is 'Vollkorn', which is Nayak's version of rye bread, but made with 100 percent whole wheat; or ragi and sesame sourdough.

Handa says when they started The Baker's Dozen, they decided not to import any raw material, "because that is how a true chef is tested", and also because of cost factors. "No one would buy a sourdough bread if it costs ₹500," she says. "The first thing we accepted is that the sourdough we would make in India is going to be very good, probably one of the best you get in the country, but it will probably not be as good as the one you get in France."

For croissants, which needs butter to be in a cold and solid state, Handa uses an extra-dry variety that does not melt as fast as regular butter. "Even then, we make the croissants in a room that is kept at 19°C, and if we see the butter is melting too quickly, we fold it and put it in the chiller for 5-15 minutes."

When it came to things like proofing, product consistency would always be a problem. Handa, therefore, invested in a proofing machine so that consistency could be maintained at all times, regardless of seasonal changes. "We invested in European equipment, which are much more reliable and consistent compared to Indian and Chinese ones," she says.

Like all the other cuisines that India has adapted and made its own, it is perhaps now time for European style breads too to find their footing and fan following. F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Freedom begins the moment you realise someone else has been writing your story and it's time you took the pen from his hand and started writing it yourself.

—BILL MOYERS
American journalist & commentator

Ownership is the only way to influence decisions—the right decisions.

—GEETA GUPTA-FISKER
Co-founder & CFO, Fisker Inc

That's what makes [the land] ours: Being born on it, working on it, dying on it. That makes ownership, not a paper with numbers on it.

—JOHN STEINBECK
American author & Nobel laureate


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We own what belongs to us whether we claim it or not.

—SARAH M BROOM
American writer

AWAKENING / GETTY IMAGES

You own your own body, and with it your own voice—and that's the most revolutionary insight of all.

—ERICA JONG
American novelist


GETTY IMAGES

What you really value in life is ownership, not money. If ever there is a choice—more money or more responsibility—you must always opt for the latter.

—50 CENT
American rapper

When you own your story, you get to write the ending.

— BRENÉ BROWN
American researcher & author

By what right can anyone whatever appropriate the least morsel of this immense whole and say, 'This is mine, not yours'?

—PYOTR KROPOTKIN
Russian revolutionary & economist

You can have it all, but don't expect to have it at exactly the same time.

—JANE FRASER
CEO, Citigroup

The stupid mind thinks only in terms of possession. The man of insight thinks of utility.

—OSHO
Spiritual leader


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Once you have something—knowledge, skills, possessions—or have achieved something—climbing Mount Everest, for example—it becomes banal.

—REINHOLD MESSNER
Italian mountaineer

To have so little, and it of so little value, is to be quaintly free.

—WALLACE STEGNER
American novelist


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