Vidya Vikas Education Trust's
Universal College of Engineering
Accredited with B+ Grade by NAAC
(Permanently Unaided | Approved by AICTE, DTE & Affiliated to University of Mumbai)
Gujarati Linguistic Minority Institution

CURRENT WAVES

The Official Newsletter of Dept. of EXTC, UCOE

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College Profile

Everything you need to know about us.

Embraced by lush greenery and scenic beauty, Universal College of Engineering is a treasured place for aspiring engineers to leave their imprints on success.

As a college within the wider network frame, we are one of the fastest-growing institutions in India. Our institute has been accredited by the National Assessment and Accreditation Council (NAAC) with a B+ grade in the first cycle of accreditation. Times of India Survey Ranked No. 1 in India among Top Emerging Private Engineering Institutes for 6 consecutive years 2015, 2016, 2017, 2018, 2019, and 2020 and the saga of accolades still continues.

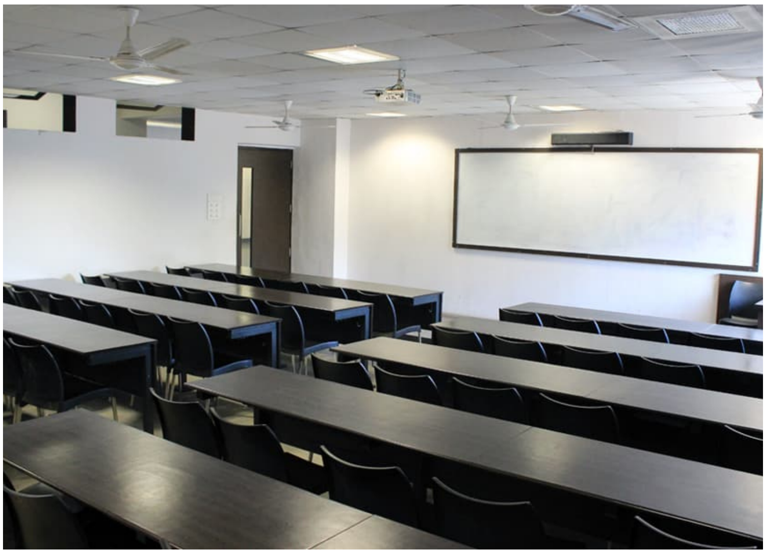
In response to the expectations of quality technical education, our college is approved by the All India Council for Technical Education (AICTE), New Delhi; Recognized by the Directorate of Technical Education (DTE), Government of Maharashtra; affiliated to Mumbai University.

Our college is also associated with professional bodies like IEEE, IETE, ISA, and CSI to update the revolutionary technological advancements.

ARTICLES INSIDE THIS ISSUE:

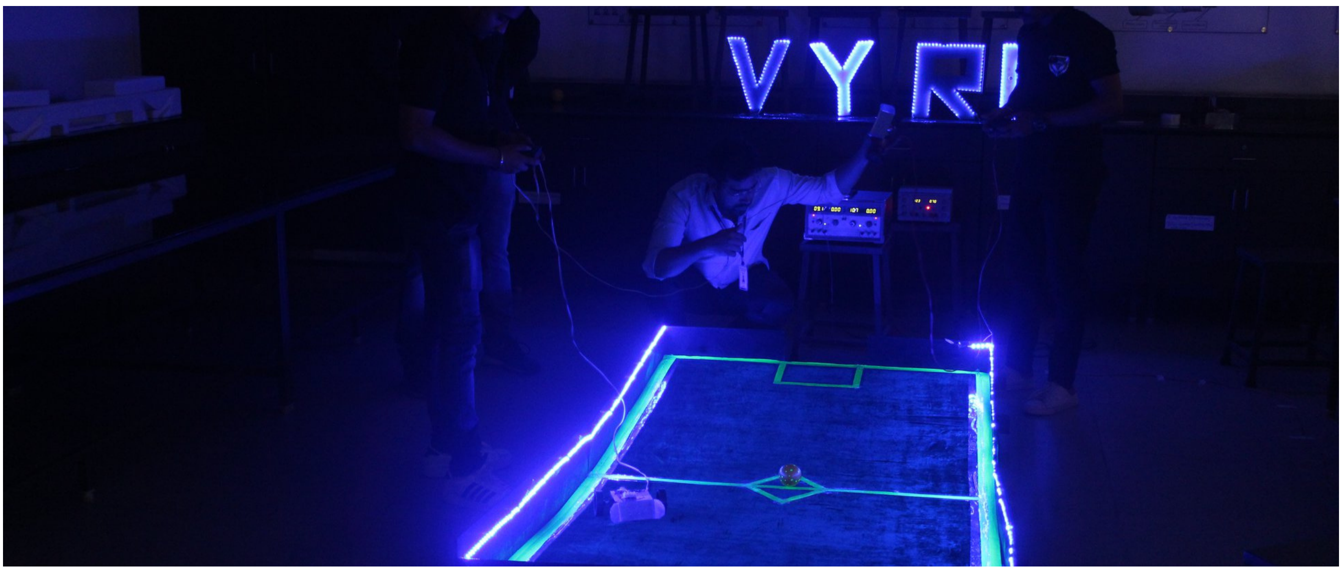
We offer 4 years of full-time Bachelor of Technology in Computer Engineering, Civil Engineering, Artificial Intelligence & Machine Learning, Information Technology Engineering, and Data Engineering.

The unique state-of-the-art facility of the institute has been carefully designed to accommodate the needs of the students. Laboratories are equipped with world-class facilities based on the latest technology of different sectors. Our smart classrooms are well ventilated, spacious, and equipped with overhead and LCD projectors along with the public address system. The College library provides a rich collection of specialist library resources and services to support student's academic work and enrich their research skills.



We are obliged to equip our students to get placed in highly reputed companies by mentoring their necessary skill set for cutting-edge technologies. The core highlighted areas are helping students with their technical competency, communication skills along with career guidance and counseling.

Universal College of Engineering has produced a large number of successful alumni who are working in reputed organizations in India and abroad and have contributed immensely to the cause of nation-building and society. We welcome all engineering aspirants to create an incredible legacy in the field of engineering.



Dig holes and get paid to fill them up

In this newsletter, we talk about Keynes, the great Depression and government spending

Economy

The story

In the previous edition, we summarized the budget and in it, we wrote—"The government intends to spend big on capital assets (roads, bridges, and dams) to spur the economy back into life."

One reader wrote back asking—"How?"

Well, that's a complicated question and the answer may be beyond the scope of this article. But we thought we could offer more context on how this idea gained mass appeal i.e. When did people begin to recognize that government spending (even when financed by large amounts of debt) could in fact reverse "economic decline?"

Okay! To understand this bit we need to go back in time.

Back in the 1930s, the world was in crisis. The Great Depression was in full swing. A quarter of the US workforce was unemployed. And those that still remained employed saw their wages cut. It was an economic recession like no other. The popular consensus at the time was to leave the economy to its own device. Let it be, they said.

And despite the nonchalant approach, this idea has some intuitive appeal. Think about it—In a competitive marketplace, a mismatch in demand and supply can't last forever. Market forces will correct it sooner or later.

If oranges are selling for Rs. 1000 a kilo, more farmers will grow oranges next season. The ensuing supply will precipitate an equilibrium. Demand will match supply—someday.

And economists reasoned—that this would transpire in any rational universe if we simply let people act on their own accord.

—That someday demand will spontaneously bounce back and incentivize companies to produce more.

—That prosperity is just around the corner.

But one economist, a certain John Maynard Keynes argued that this was madness. He didn't think the government should just sit back and wait for the economy to rebound. Instead, he advocated for active intervention. He believed that the state had an important role in reversing the economic slump and he batted for massive government spending.

In fact, he had some pretty radical ideas. At one point he confessed—"The government should pay people to dig holes in the ground and then fill them up."

The critics would reply—"That's stupid, why not pay people to build roads and schools"

Keynes would respond by saying—"Fine, pay them to build schools. The point is it doesn't matter what they do as long as the government is creating jobs"

Paul Krugman, the Nobel Prize-winning economist offered another analogous metaphor advocating government spending after the 2008 global financial crisis. This is how he put it— "If we discovered that, you know, space aliens were planning to attack and we needed a massive buildup to counter the space alien threat and really inflation and budget deficits took secondary place to that, this slump would be over in 18 months. And then if we discovered, oops, we made a mistake, there aren't any aliens, we'd be better. . . ."

The idea is that government spending can spur the economy back into life even if such spending is misdirected, or in this case, directed against an alien invasion that never comes to fruition.

There's an assumption that such spending can often stimulate the private sector to get in on the act as well. A multiplier effect could kick in—aiding economic growth even though there may be some wasteful spending in the mix.

At first, not many people were convinced that this would work. But when US President Franklin D. Roosevelt embarked on a government spending mission in the 1930s, everything changed. As we wrote in one of our articles— "At the height of the Great Depression, US President Franklin D. Roosevelt's Public Works Administration (PWA) paid private construction firms $7 billion to build airports, dams, bridges, roads, schools, zoos, tennis courts, theatres, dormitories, and hospitals. It was a desperate act of rebellion against the faltering economic engine. A Hail Mary pass, if you will.

The hope was that this spending would rejuvenate demand—more jobs, more spending, more economic activity, and a virtuous cycle of growth. But there was another angle here. Roosevelt wanted the PWA to provide local jobs directly to the unemployed. And although new jobs couldn't outpace unemployment levels in the country, it put 8.5 million Americans to work, who went on to erect 600,000 miles of new roads, build 100,000 bridges and construct 35,000 buildings.

Some believe that this helped turn the tide for the American economy back in the day.

But others are not so convinced. They believe many factors were at play and they argue that wasteful spending has costs associated with it —Costs that governments seldom take into account. So yeah, there's little consensus on whether government spending on capital assets can in fact spur the economy back into life. But governments across the world, including India, commit to these programs nonetheless.

As proponents of Keynes would argue—"Sometimes doing something is better than doing nothing."

So let's build roads, bridges, and dams now, shall we?

Zomato is betting on "Eating Now & Paying Later"

In today's newsletter, we explain why a food delivery company is trying to turn into a lending business too.

Business

The story

Imagine it's a Friday evening. And you're craving pizza. So, you open Zomato, find your favourite pizza, and you're all set to place your order. But then you see a myriad of payment options. And suddenly you're wondering—"Should I pay the ₹400 immediately or choose the option to pay the bill later?" The option to pay later is tempting. After all, you don't see your bank balance drop immediately when you do this. And as a bonus, you don't get an SMS from your bank reminding you of your transgression either. That's enough to make you feel good, no? So you choose the option to pay later.

Now Zomato sees this. And it sees thousands of others like you doing the same thing too.

Every day, more and more people are choosing the option to pay later. But something about this makes Zomato a little unhappy. It realizes that each time someone chooses to pay later, it loses a bit of money.

How's that, you ask?

Well, when a customer chooses the pay later option on Zomato, there's a Buy Now Pay Later (BNPL) company like Simpl, LazyPay, ZestMoney on the other side of your transaction. These companies pay Zomato the order value upfront but not before they keep a small percentage of the transaction value for themselves. And this fee could be anywhere between 1–2%. Let's take your pizza order for instance. On the order value of ₹400, the BNPL company pockets anywhere between ₹4–8.

And what the BNPL company gains, Zomato loses.

Now on the face of it, it may seem like a paltry amount. But what if you keep adding this sum over millions of orders? Well, it could be worth crores of rupees. And no one wants to simply lose crores of rupees.

So Zomato wakes up one day and thinks it's quite foolish to simply give away all that money to BNPL companies. And it then announces that it will be setting up its own BNPL company! That's right, a food delivery company now wants to become a full-fledged fintech player.

If you think about it, Zomato's logic here is pretty simple and hinges on two things really. Firstly, it's betting on the growth of its core business. You see, the penetration of online food delivery in India is still very low. We just need to look at the latest financial numbers that Zomato published to give us a sense of this—nearly 50% of the customers who ordered food on Zomato in 2021 were actually "new customers." And it tells us that there could still be a big untapped market that hasn't warmed up to online food delivery apps quite yet. And secondly, those new customers will soon be prime candidates for the BNPL play. After all, it's a market that is booming and it's expected to rise by 15x, to $45–50 billion by 2026.

But it doesn't end there. Zomato knows that if they build out their own BNPL alternative, they could probably get more people to eat now and pay later. This is in Zomato's best interest. Because when people pay later, they also tend to order more. In fact, many years ago when McDonald's started allowing people to pay using credit cards, their order value went up from $4.50 to $7. That's a 55% increase!!!

It's basic psychology. So maybe Zomato is hoping to lift its average order value this way.

And if it does succeed in doing so, they won't just be saving money using their home growing BNPL solution, but they'll also be taking a higher commission on the orders. That is the key to profitability. Zomato has to keep the average order value way up, to be consistently profitable.

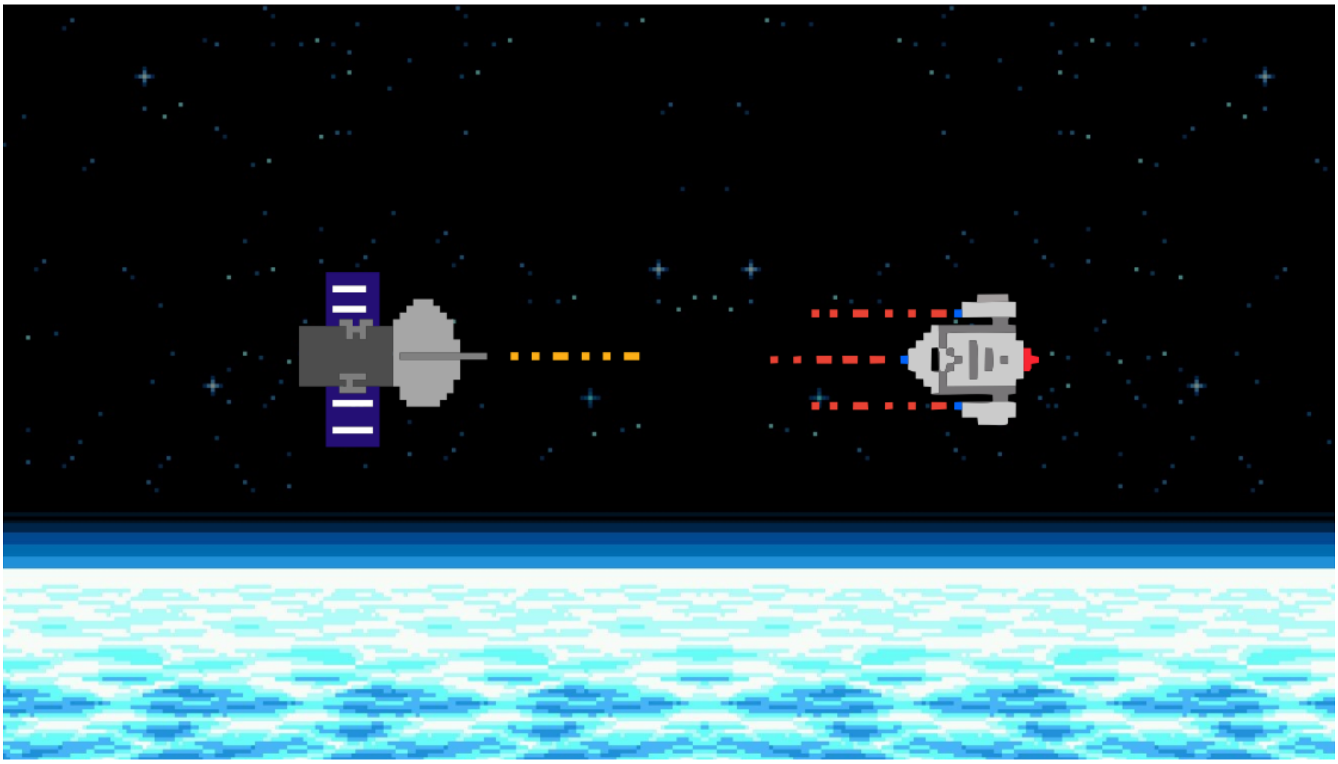
But wait, what if people don't pay and they default? Won't Zomato lose money?

That could happen. And that probably will happen. But Zomato does have a lot of data on you. They know about your eating preferences, your payments preferences, and the kind of money you spend on the app. So it can kind of make a guess on whether you'll be good for the BNPL type of credit too. And the goal here is not about being a BNPL behemoth, but to keep the customer within its ecosystem and extract maximum value.

To be sure, Zomato isn't the only food delivery business that's eyeing the lending space. In January, its counterpart, the Germany-based Delivery Hero announced that it would be testing the waters with its own BNPL service too. And for both Zomato and Delivery Hero, which are now companies whose shares trade on stock exchanges, the driving force is similar—that elusive profitability mark. Maybe they've realized that the world of last-mile delivery won't help them get there. And that to thrive, they need to be lenders. But will it all work out the way they hope? Well, your guess is as good as ours.

The beginning of the Satellite Wars

In today's newsletter, we see why India could become a key battleground for companies trying to conquer space internet



Business

The story

Satellite-based broadband internet works on a rather simple premise. Wires and cables can't reach everywhere. It is expensive to dig up holes and plonk cables underneath. And if you're expected to cover a large geographical area with a low population density, it may not even be worth the effort.

However, satellites solve this problem. They can beam the internet right from the sky and reach most places on earth. All you need are some satellites in space, a pizza-sized dish antenna, a tripod, and a Wi-Fi router to go with it. Doesn't matter if you are working from Leh or chilling on a remote island in the Bay of Bengal—if you have the necessary apparatus, space internet is yours.

And India is fast becoming a key battleground.

Why?

For one, we have the highest number of people without internet access—think somewhere around 700 million people. This disparity is most obvious when you look at the hinterlands. Internet access is lackluster, patchy, or non-existent in most rural areas. And we seem to have a lot of those. Second, it also helps that making and launching satellites into space isn't as expensive as it used to be. In fact, if anything costs are expected to trend downwards. And according to one estimate by E&Y, India's satellite services market could grow to as much as $4.7 billion by 2025.

So you can see why companies are interested in leveraging space internet.

And here's the big kicker. Earlier this week, Jio announced that it was partnering with a Luxembourg-based satellite and telecom network provider—SES, to offer satellite broadband services in India. A week before that the company went ahead and applied for a satellite communication services license known as GMPCS —short for global mobile personal communication by satellite services. And Reliance wasn't the only one making the moves. OneWeb (majority-owned by Airtel) had done so long before. In fact, they already secured a license for 20 years, and are expected to begin operations by May 2022. Meanwhile, both companies are expected to duke it out with far more advanced players such as Elon Musk's Starlink, Amazon's Project Kuiper, who are yet to make an official Indian entrance. Tatas too have paired up with a Canadian firm Telesat, hoping to kickstart their own satellite-based venture. Setting the stage for a multi-company satellite war.

Now back to Jio. Its joint venture (JV) with SES takes a slightly different approach from OneWeb or Starlink. For starters, Jio will not explicitly launch thousands of satellites on its own like Starlink does, at least not in the immediate future. Instead, the JV will use SES's existing fleet of geostationary (GEO) and medium earth orbit (MEO) satellites to make this work. More importantly, SES's existing constellation of satellites may also be used to extend and complement Jio's terrestrial network here in India. Meaning, if you are a Jio customer living in a relatively remote place, your internet could get faster and more reliable than ever before. And if everything works out, they could hypothetically be locking in a sizeable chunk of those ~700 million people we spoke of earlier.

But what about Starlink? Aren't they the first movers here?

Well, yes and their satellites flying in low earth orbit (LEO) should pose a formidable threat. But it's also likely going to be expensive. We already know SpaceX is investing some $30 billion and they may have to convince tens of millions of people to become paying subscribers. A questionable prospect considering the target audience mainly resides in remote parts of the world. And even more difficult to pull off in India, considering Starlink would set you back ~₹1.58 lakhs per year.

So yeah, many companies are duking it out for satellite internet and we will have to see how all this plays out in the future.

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