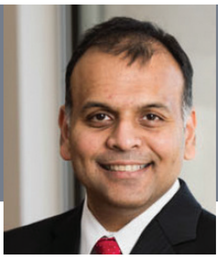

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Joining the dots – Part 1 (Collaboration and Decentralisation)

Portfolio Manager Amit Lodha has spent his career being imbued by insights from companies across global value chains and 'joining the dots'. In the first of a two-part piece, Amit discusses how the current COVID-19 pandemic is shaping a future where collaboration and decentralisation may become cornerstones for the way companies work. The notable role blockchain can play as enabler of this emerging zeitgeist (with proof of concepts like bitcoin already in play) will be the topic of the following piece.

My process of global investing focuses on seeking undervalued management talent in growing industries at reasonable valuations. While the bulk of my time is spent thinking about stocks, to deliver consistent and sustainable alpha one has to also constantly have an eye on evolving long-term trends and position well in advance of them becoming consensus. This requires predicting not only what's in the current zeitgeist (spirit of the time) but also thinking about what it might be in the future.

One way to 'process' this evolution is by focusing or listening to what companies (irrespective of sector or geography) are telling us about their ecosystems, on the problems that they are trying to solve and what is top of mind for the CEOs, CTOs and CIOs who we speak to daily. If certain things get repeated several times, in incongruous places – those anomalies are usually worthy of more attention. **Often it is in connecting these dots, globally, that the most powerful insights are found.**

In keeping with this process, in my note in 2016, I postulated that (a) personalisation, and (b) simplification were likely to be important trends to focus on. Over time, they became very much part our zeitgeist. The identification of these two trends led (and continues to lead) to some profitable investment ideas.

The recent pandemic period feels right as a time to reflect afresh on longer-term trends that appear to be taking off. Doing six to eight Zoom calls a day, listening intently to how the world's top CEOs, CFOs and CTOs are navigating this environment, you start to build a mosaic of what could be potential candidates for the zeitgeist of the future.

In this note, I will cover two that have stood out for me during these COVID-19 lockdown interactions: (a) collaboration, and (b) decentralisation.

Below are some exploratory thoughts on both these ideas and their potential investment implications.

Collaboration

Given that so many companies are working remotely during this period, it is no secret that collaboration has been top of mind for most CEOs and CTOs. For those organisations which invested early in technology and collaborative tools like Zoom, Microsoft Teams, Slack, DocuSign etc, this period has shown productivity levels which erstwhile office environments could only dream of.

Concurrently, stocks of these collaboration enablers (like Zoom Video Communications, Atlassian, Slack Technologies, Dropbox, DocuSign etc) have also seen a significant re-rating through this period – in effect, the market has been quite alive to the collaboration theme.

However, what has struck us in the ongoing dialogue with corporates is that while solving for internal collaboration seems to have been supercharged by the pandemic, solving for external collaboration seems to have actually gotten tougher.

Simply put, geopolitics between the US and China, the global march towards deglobalisation, reshoring of supply chains, the necessity to understand the business processes of suppliers in an increasingly ESG-aware world (Apple's concern for the labour policies of its suppliers, Tesla's concern for the source of its chrome and nickel) has made '**trust**' (the other side of the collaboration coin) increasingly unstable in a globally connected world.

Politically, economically and socially, trust seems to be in short supply. As consumers, our worries around social media privacy, data sharing, fake news, etc are all manifestations of this lack of trust.

Unfortunately, this lack of trust continues to have real-world costs. If we look at the medical field, every US health care company we have spoken to in this COVID-19 phase has bemoaned the absence of a repository of electronic health care records (a patient's medical history cannot be shared and lies in different organisations which don't have systems that talk to each other).

Lack of a centralised repository for recording and sharing (anonymously) medical data has meant that despite incredible medical advances in the field of genomics, for example, we are still slower in finding a vaccine than we would have been if we had access to this data.

Globally, while Russia and China seem to have working vaccines, most Western-world scientists seem to have limited insight on the scientific data backing these.

Even in the West, privacy concerns and data interoperability issues have made it difficult for frontline COVID-19 hospitals to find ways to collaborate as data for scientific study and analysis has been tough to come by. However, human ingenuity luckily always finds a way and, during the peak of the crisis, we observed medical professionals around the world defaulting to using Twitter as a means of search and collaboration of new modalities of treatment. Twitter did well to create channels to better enable these global conversations. **Much work lies ahead to create some long-term solutions which solve for this trust problem as collaboration in an increasingly connected complex world seems more necessary**.

In our view, the zeitgeist of collaboration, especially outside the organisation and in a geopolitical challenged world, creates some interesting challenges and opportunities:

(a) **Supply chains will need to be re-imagined.** Like the issues with Huawei showcased, the West and China would like control of critical technological infrastructure to guard against cyber security threats. Companies and technologies which enable that will be in high demand, especially those which can claim to be neutral (look for the 'Switzerlands' as we covered in our note 'Is the end of globalisation, the end of global investing?').

(b) **The world is becoming increasingly automated.** Collaboration is not only restricted to between humans, but machines will need to collaborate with humans and with other machines as well. Hence, enablers of machine to human collaborations (like cobots and machine vision suppliers) will possibly have a long runway for growth.

(c) **The Internet is one of the biggest enablers of global collaboration and the internet of things (IOT) is nothing but enabling of machine-to-machine collaboration.** If we look at the early iteration of software development, it was about conversation between computers and humans. As we move forward, the development of Application Programming Interface (APIs), enables easier conversations between machines as well as much easier software development on the fly (being agile, I believe, is the lingo). The underlying reason payment service providers like Square and Stripe are thriving and disrupting the marketplace is because they are making the conversation between machines faster, simpler and secure.

(d) **Software collaboration is being further turbocharged by open source development, where companies for example share their code, allowing developers from around the world to contribute and make the code better.** Crowd-sourcing the code results in an overall much more robust software system as bugs are immediately found and sorted by the consensus, which is incentivised to see the success of the ecosystem. Luckily, a lot of the Western world artificial intelligence code base development remains open source and it does seem that we will soon be able to create software programs as simply as we can write documents in Word (the zeitgeist for simplification remains alive and well).

(e) **Regulation has driven some phenomenal changes in the field of finance, the impact of which is just starting to be felt.** In September 2019, the second payment services directive (PSD2) went into full effect in Europe. This change makes it possible for a third party to connect to banking APIs to obtain history of clients' accounts, make a payment or check the availability of funds. The UK, with its open banking directive which came into effect in January 2018, was already far more evolved than the rest of Europe. This has meant that I can consolidate my view across my two bank accounts with NatWest and Santander across either or both apps, giving me a consolidated view of my finances. **Finance is a slow-moving industry at the best of times, but the impact of these seminal changes lies ahead and it seems to me that we are still very early in the stages of how collaboration (along with personalisation and simplification) will impact the financial industry.**

The idea of sharing some of these examples is basically this: Companies which can embrace collaborative technologies and **unbundle** trust and collaboration should do well in a world where trust is in deficit.

While this may seem like an uphill climb in the context of the barrage of negative headlines we all face today, **if we can delink collaboration from the pre-requisite of trust, the implications for trade, finance and economic growth are much more positive than the current news flow will have you believe.**

Decentralisation (or empowerment of the front line)

At first blush, decentralisation is a tougher concept to digest. If one looks at what success looks like today, one could argue that a tendency towards greater centralisation is the order of the day. In politics it seems to be the age of the strong, powerful, central leader who follows the 'my way or the highway' approach. In business, also, centralisation allows full control and seems to breed success in a complex world.

Take Apple, for example. The company seeks to control nearly every part of its software and hardware development process and has continued to insource critical supply chain parts (ex hardware) over the last few years. The App Store is also a walled garden where entry is controlled as per Apple's decision. This superior user experience has driven Apple's market capitalisation to now over US$2 trillion, and if it were a country, it would rank in the top 10 – booting Canada at US$1.7 trillion to number 11. Success even beyond what was achieved under founder Steve Job's visionary leadership.

So why decentralisation?

Forward-looking business leaders are always focused not only on where the puck is but where it is likely to be.

COVID-19 has proven to be an accelerant of certain trends while causing a U-turn in some.

If we look at the current health crisis, many commentators have pointed out the difference in outcomes between countries that have tried to fight the pandemic in a decentralised manner versus those that adopted the centralised approach. Germany, South Korea, Taiwan and even China took important decisions at the centre, allocated resources and then left the details to the individual states/provinces/municipalities.

On the other hand, countries like India, USA, Brazil (and to an extent the UK), tried to centralise all important decision making and then, when there was a lack of enough information or leadership, the 'one size fits all' approach failed to work. **Personalisation and flexibility of approach, which is easier to achieve at a local level, became tougher at a more central level.**

During our interactions with companies, we have observed something similar. In theory, one of the benefits of centralisation cited in academic literature has been fast execution of choices. **However, in practise, what one observed was that while fast initial choices were made, the feedback loops/communication systems were not robust enough to drive flexibility to change decisions when the facts changed.** Those which followed a decentralised approach navigated the period significantly better in how they managed their employees, supply chains and the customer response.

As we look forward, centralisation versus decentralisation is leading to important questions on organisational design that are going to re-appear quite quickly once we exit this 'Groundhog Day'.

The reason CEOs are bringing up decentralisation is the superb collaboration in an environment where some global companies have effectively gone from a few hundred offices to tens of thousands of offices.

While many are questioning the requirement of office space, the elite CEOs are questioning the organisation's basic organisational structure and the redundancy of the many layers between them and the front line. Zoom has allowed many to rediscover the ability to transmit their purpose and energy directly to the employee base, where previously it would get lost in layers of bureaucracy and red tape.

In a world where the pace of disruption continues to accelerate, empowering the front line (decentralisation) and de-layering the organisation to reinvest in solving critical problems by creating internal start-up-like structures seems paradoxically easier, given much more than what was previously thought possible has been achieved **without the constant twentieth-century supervision of the cubicles.**

I think a similar 'flattening of the world' is likely with the 'service sector' essentially losing the geographic tether and becoming freely mobile either in country or globally.

To make a sweeping generalisation, if we look at history, a long time ago what you ate was correlated to where you lived, as farming was a predominantly local industry. With the agricultural revolution and improvement in transportation networks, agricultural chains are global and farming is now localised to where the best trifecta of land, climate and technology are available. Over the last twenty years, we have also observed this trend in manufacturing, with China quickly turning into the factory of the world (try buying a laptop which is not made in China) as its efficiency and productivity were difficult to match for any competitor once it entered the World Trade Organisation.

As we look to the future of the service industry, while currently we focus on COVID-19-afflicted industries of travel, tourism and restaurants, paradoxically it might be these jobs which are the stickiest from a location perspective. **On the other hand, do so many high-cost finance jobs really need to be in the highest-cost cities in the world?**

This decentralisation of services will drive a deflation in pricing for service talent which is not geographically tethered. Further motivating and managing that distributed workforce will be a bigger question than how much office space the organisation really needs to give up.

Role of trust in the decentralisation process

Generally, the evolution of technology gives us a good insight into the future. In cyber security threat management, we see the full impact of decentralisation and zero-trust technologies to enable better collaboration and higher security. The prior security/anti-virus software and networking models were trust based. If you were inside the network firewall you were trusted by default. If you were outside, a castle/moat approach was used to grant access (and everyone was considered a threat).

The new zero trust decentralised model works on the basis that:

(a) **Threats can originate from both inside and outside, hence identity is verified for every person and device trying to access <u>any</u> resource, irrespective of location.**

(b) **Zero-trust networks also utilise the concepts of micro segmentation and least-privilege access,** meaning there are no super users who have access to the entire network. The network is segmented into small bits where access to one part does not grant access to another part without fulfilling all the security checks on an ongoing basis.

(c) **Network access is also controlled on a decentralised device level rather than on a centralised network structure** with multi-factor authentication (like your password and PIN or an SMS verification code) to layer on access.

While some may philosophically bemoan this disruption of 'trust', to us this seems to be the pragmatic way forward where decentralisation becomes an important enabler of secure collaboration without the prerequisite of trust based on historical performance or past relationships, especially in a global context.

This is where developments related to the blockchain (and Bitcoin) become interesting for an equity investor like me considering the future. Blockchain could potentially enable zero trust collaboration at scale and change the way companies reorient their supply chain management. Some initial thoughts around this topic will be the subject of Part 2 of this blog.

Before that, one last point: Today's technological behemoths (Microsoft, Google, Apple, Amazon, Facebook) were all invented in garages and college dormitories, and besides Apple and Microsoft, most of the others have only just crossed their 20th birthdays. Google, Apple and Facebook seem to exhibit more centralised models of decision making than Amazon and Microsoft. Superb network effects plus the right focus on the zeitgeist have effectively made all these companies the 'Xeroxes' of their sector and the market can see no threat to their success until the end of the forecast period.

Yet paradoxically, as we apply higher and higher valuations to these 15 to 20-year-old companies, we are in some ways suggesting that the garage/dormitory-based disruption model no longer holds true.

While it is difficult to have a strong view on a two- to three-year basis, if you gave me a 10-year time horizon, personally, I wouldn't be as bearish as the market currently is on youth and human ingenuity and its ability to disrupt status quo.