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# Covid-19 highlights the need for digital transformation across industries

June 2020



# Executive summary

While it is too early to predict the long-term implications of the global pandemic, it is undeniable that organizations must evolve more urgently than ever to meet the demands of a new digital-first normal. We have quickly found alternative ways to communicate, socialize and conduct business. In many instances however, the shortcomings of legacy systems and processes have been brutally exposed as firms and even entire industries look to adapt to a new 'business as usual'.

Technology is helping people navigate these challenges. Existing digital services that mimic the offline world, such as Amazon for online goods delivery along with the recently emerged Zoom for video conferencing are two of the leaders. Additionally, Covid-19 has intensified the importance of being able to transact with less friction, and it is now clear that digital technologies are necessary for delivering this transformation. The need for data transparency, provenance and access are more critical than ever. We believe that this will fuel digital transformation across industries as firms seek to not only survive in these challenging times, but re-emerge triumphantly.

This paper walks through the impact of disruption in five industry verticals—trade, healthcare, insurance, financial services and telecommunications—and outlines opportunities within each for digital transformation.

## Trade



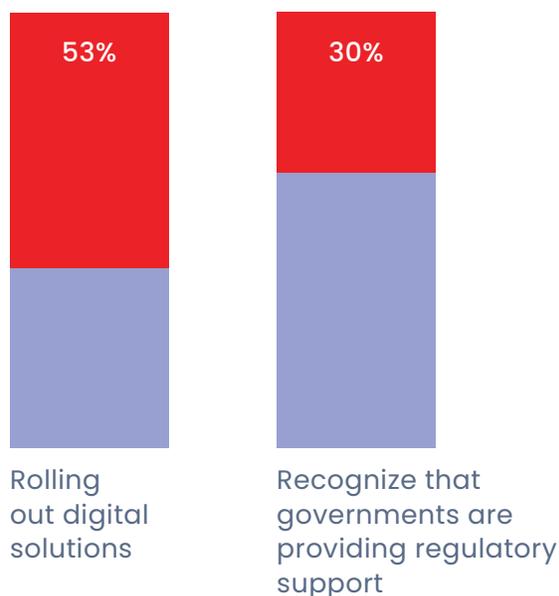
China's dominant role as the "world's factory" means that any major disruption to the flow of goods puts global supply chains at risk. A secondary problem is that even where supply chains are domestic, factory shutdowns and reduced workforces are limiting the ability to produce goods. Trade decisions made now will shape whether we have diverse, cost-effective and accessible sources of supply in the future. This point is reinforced by the World Economic Forum's **Covid Action Platform**.

Businesses need to be agile to adapt their production processes to manufacture critical goods. They also must cope with practical problems, such as accepting digital signatures to minimize human contact and facilitating faster short term financing to keep suppliers working, for example through the use of supply chain finance (SCF) offerings. Critical goods cannot sit for days waiting to clear customs. Additionally, there is a clear need for more robust global digital services and greater visibility into supply chain data.

Data from the International Chamber of Commerce's (ICC) report, **Digital Rapid Response Measures Taken by Banks under Covid-19** highlights that since April 2020, financial institutions have indicated that they are being negatively

impacted by the pandemic. 53% of ICC survey respondents confirmed plans to roll out new digital solutions in response to Covid-19. However, the same participants reported that only 30% of local authorities or governments have provided any regulatory guidance on the digital document process.

How are financial institutions responding, and how do they view the government's response:



Source: ICC, 24 April 2020

Meanwhile, industry bodies are advocating for governments to pass emergency measures that support the adoption of international paperless trade agreements (i.e. United Nation's Model Law for Electronic Transferable Records). Banks highlighted that limited operational staff and shortages of document couriers to facilitate the processing of paper documentation is resulting in an inability to meet service-level agreements (SLAs), a growing preference for online channels and further investment in digital trade solutions. Additionally, risk of default and fraud (i.e. fake and double invoicing) is a growing concern among banks.

Banks have responded by extending additional credit and relief for SMEs affected by Covid-19. As a result, trade industry bodies (i.e. Singapore Chamber of Commerce) have begun providing credits for retraining staff, adopting digital solutions and holding digital trade fairs.

#### **There are four categories of trade related adjustments to bank workflows resulting from the pandemic:**

- expanded digital channels
- temporary allowances for electronic documents
- temporary allowances for electronic signatures
- new business processes and controls

Enterprise blockchain, Machine Learning, AI and Optical Character Recognition are just some of the technologies that are being unified to address these four categories. Distributed ledger applications, for example, help to build and reinforce a single source of truth across supply chains. When combined with increasingly digitalized supply chain transactions, this strengthens the ability to anticipate risk, achieve greater visibility and coordination across the supply chain and manage issues that arise from growing supply chain complexity.

#### **Opportunities for digital transformation:**

- **Track and trace:** Following the peak of the disruption, track and trace products, and solutions that enable network connectivity within supply chains will be in high demand. The more applications we have to illustrate this, the better placed we will be to take advantage of new market opportunities.
- **Market visibility:** The biggest targets for supply chain managers will be visibility, exceptions management, and market flexibility (i.e. where buyers can also become suppliers as we are seeing with hospitals buying and then offloading ventilators). With better insight into vendors and product inventory during a disruption, many buyers could identify where suppliers are sending products—allowing them to reallocate to new sources and redirect shipments where they are needed most.
- **Procure-to-pay / Order-to-cash:** One of the core issues in the current P2P/O2C scenario is maintaining individual records at buyer and seller systems. This leads to manual processes and reconciliations often resulting in disputes and delayed settlements. To improve the last mile settlement turnaround time for invoices, an automated 3-way invoice matching system can drive quicker settlements and real time visibility—a great benefit to most organizations. It would have a direct impact on accounts payable/accounts receivable, leading to better planning and forecasting capabilities while reducing costs of manual errors by bringing in process efficiency.

# Healthcare



As the world has awakened to the potential risks of Covid-19, there has been a massive effort to rapidly scale up the healthcare system. As authorities begin to think about what's needed to navigate a post peak environment, the public-health tools deployed will include at-scale testing, sophisticated real-time surveillance, rigorous contact tracing, and targeted quarantine to isolate cases. The readiness of the health system to navigate recurrence of this disease will be of utmost importance.

## Opportunities for digital transformation:

- **Safe worker certificate:** Public health authorities can create credentials for an individual upon verification of immunity. As a result, an employer can require a request for a list of immutable conditions required to prove immunity. This can provide verifiable assurance for people to return to work and participate in the economy. Furthermore, it can also serve as the foundation for future pandemic containment, by managing the full lifecycle of a person's immunity state.
- **Physician credentialing:** In healthcare, where resources are re-allocated across hospitals based on demand, current healthcare professionals, retirees, and even students will be mobilized to meet this demand. In order to do so, hospital IT staff will need to find easier and faster ways to credential, onboard, and track their physicians. ProCredEx, is already building a DLT-based digital marketplace for verified credentials, which will look to onboard telemedicine providers during the pandemic.
- **Securing medical supply chains:** Overstretched hospital staff will struggle daily with the inability to locate devices in a timely manner and as a resort may underreport on device-related incidents or safety alert notices. Real-time location visibility through API-enabled geolocation services would more efficiently track and trace medical devices throughout the supply chain to the point of care. Additionally, related solutions could provide greater visibility into the delivery of necessary Personal Protective Equipment (PPE).

- **Regulatory requirements:** Compliance with regulations like the European Medical Device Regulation (EU-MDR) are important and timely. It will require an ecosystem (manufactures, suppliers, logistics providers, care providers) wide approach, bringing together cross-functional teams across each participant set. For compliance reporting, a decentralized single source of truth solution could be pivotal to provide immutable records of all audit checks complied with and reporting the compliance in real time to the regulatory authorities as needed.

# Insurance



Insurance companies play a pivotal role during times of economic stress given their mandates to help companies and households manage risks and cushion against losses. In Asia, insurers are reporting that demand for health products is already growing by more than 200%. Regardless of the market segment within insurance, insurers are expecting claims to increase by 10x—leading to strains on resources and technology. As the first wave of claims is being filed, many companies are discovering that it is difficult to track cross-accumulated exposures that involve resources in short supply.

Covid-19 will result in an increase in claims, especially across long-term care, life and disability insurance. Even though specific losses may be excluded, some carriers are likely to see a surge in claims involving health, travel, event cancellation, business interruption and supply chain policies. Additionally, Covid-19 has made insurers realize gaps in how insurance is priced, along with the issues associated with claims.

## Opportunities for digital transformation:

- **Cyber insurance:** With several employees working from home, employers face increased vulnerability with their IT systems. Cyber insurance has traditionally been priced “guesstimatey” due to lack of trust in sharing accurate pricing data and worries around misuse. Digital tools that can aggregate disparate pricing data can accurately address the security and confidentiality needs associated with pricing cyber insurance and help insurers increase their appetite around this offering.
- **Workers compensation claims subrogation and settlement:** Several front-line workers are continuously exposed to the virus. Employees, such as those at grocery stores, are subjected to exposure from customers, fellow employees, suppliers, etc. Expect workers compensation claims to be on the rise and firms to have a greater demand for digital tools, such as blockchain, that can handle subrogation procedures between different insurers.
- **Augmenting existing digital solutions:** For life insurers, digital identity solutions can help guarantee the identity of the designated beneficiary in the event of loss of life. For reinsurers, digital tools will streamline the claims settlement process between the insurer and reinsurer to enable the insurer to offset the losses instantaneously and continue paying out primary insurance claims.

## Financial Services



Based on several analysts' opinions, the financial system will suffer distress from Covid-19, but will avoid a full-scale banking crisis since banks are better capitalized and have more supervision in place following the 2008 financial crisis. In addition, there have been several fiscal and monetary-policy responses to the pandemic.

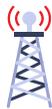
Still, financial institutions are feeling the effects of the pandemic in several ways. For example, valuation and price discovery are becoming a challenge for the banking industry because of market volatility and a possible decline in liquidity for certain products. As credit quality deteriorates throughout the economy, some investors may need to address asset impairment and expected credit losses in their portfolios. In the securities markets, March volumes that increased as much as 140% in some regions (according to the World Federation of Exchanges) are testing the most resilient of centralized infrastructures.

Meanwhile, larger economic trends are being compounded by the Covid-19 shock. Interest rates will likely remain lower for longer. Banks have responded by extending loans to hard-hit borrowers and renegotiating credit terms. They are also increasing regulatory compliance efforts and shifting priorities to maintain capital levels, provide appropriate supervision and surveillance, and report anomalies. Regulators may step up oversight and implement requirements including more detailed reporting on asset adequacy, alter stress testing considerations based on the pandemic and rethink assumptions that relate to the impact on solvency. Meanwhile, non-Covid-19-related regulations, such as the Central Securities Depositories Regulation (CSDR), are simultaneously causing concern around the availability of liquidity.

## Opportunities for digital transformation:

- **Central Bank Digital Currency (CBDC):** A bulletin from the Bank for International Settlements (BIS), the body owned by 62 central banks, states that perceived risk around cash due to Covid-19 brings the potential for digital payments to the forefront. Furthermore, one of the first drafts of the U.S. Congress's stimulus bill included the introduction of a digital dollar.
- **Digital asset trading:** The introduction of atomic delivery versus payment (DvP) would reduce settlement cycles to T-0, removing significant risk from client trades. The resulting risk reduction will reduce much of the capital requirement in the post-trade process, particularly in times of extreme volatility and volumes.
- **Syndicated lending:** With business uncertainty and concerns of higher loan defaults, a real time view on the obligation –accounts payable/accounts receivable– and settlements for the syndicated lending market would help reduce the impact of non-performing loans.
- **Digital Standing Settlement Instructions:** A collaborative initiative addressing Central Securities Depositories Regulation (CSDR) could enable the sharing of self-sovereign identities to vastly improve the matching of transaction details, reducing buy-in trades and their impact on liquidity in the market and enhancing post-trade efficiency.

## Telecommunications



Telco carriers are facing opportunities, pressures and threats from Covid-19 market dynamics.

Mobile network operators are seeing significant challenges from the collapse in international roaming, with forecasts estimating a 50% loss in roaming revenues (about \$25B) this year. The lockdown has also meant that mobile networks have seen significant falls in hardware sales as customers have stopped purchasing new devices

or upgrading. Further, network operators are under significant pressure from governments to support national Covid-19 responses through phone tracking, which also means carriers are having to consider how they handle and share sensitive customer data such as location and contacts.

However, with the Telco sector, there are multiple dimensions to the story. Network capacity is proving resilient to huge demand from video conferencing, cloud and data services. Additionally, new ways of remote working increase the enterprise demand for complex data services from carriers. On the other hand international roaming has been negatively impacted due to international lock downs and carriers face pressure to support governments with the provision of customer data, such as location data, while balancing privacy requirements.

## Opportunities for digital transformation:

- **Cross-carrier services:** Carriers want to provide their enterprise customers with complex data on demand services. They seek to leverage their federated network structure by connecting services across carriers and also other information and communications technology (ICT) service providers for customers.
- **5G networking:** Growing data demands from enterprise and retail customers is increasing the pressure on the deployment of 5G networks. The roll out of the required physical infrastructure introduces a challenge during lock down scenarios. Telecom companies are investing in standardization to support this and see [blockchain as a technical enabler](#).

# A new wave of change—the opportunity for software providers

The global pandemic has only served to bring some of the oldest business challenges—reconciliation, inter-company disputes, auditing and settlement to the fore. Each are challenges that digital transformation initiatives have been trying to solve for decades.

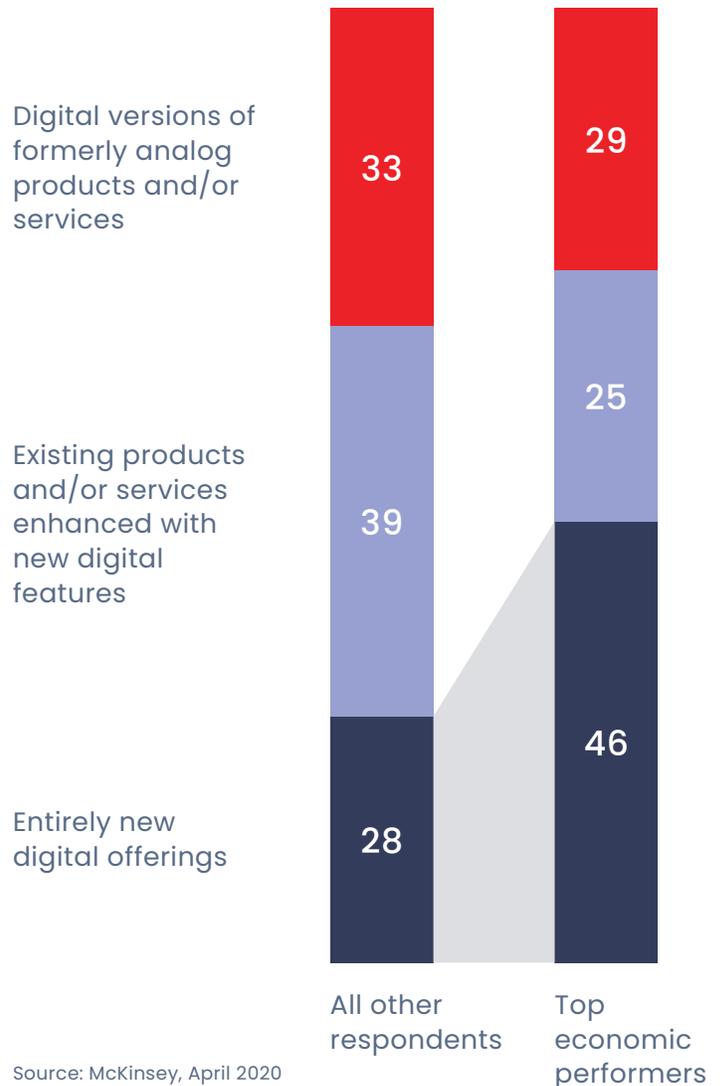
There is a window of opportunity for **software providers** in nearly every industry to modernize their current product offerings and deliver new solutions to meet the needs of their existing customers. In their recent paper, **Digital Strategy in a Time of Crisis**, McKinsey highlighted that the world’s top digital performers are those that have been able to either enhance their existing solutions with new digital offerings, or invent entirely new digital solutions to stay relevant and thrive in the future.

At its core, blockchain offers a single source of truth that new applications can harness. It enables businesses to transact directly, reducing transaction and record-keeping costs and streamlining business operations. R3’s enterprise blockchain platform, **Corda**, is already helping established vendors to modernize their solutions.

Additionally, a **new wave of vendors** has already built new businesses using the Corda platform that have delivered better ways of exchanging value across entire industry sectors.

Even with revised forecasts due to the current crisis, analyst house **IDC projects** corporate spending on blockchain technology to rise to over \$12bn by 2022. Those that can seize the opportunity now will be best placed to drive forward new collaborative solutions for customers—drastically improving how they do business today and paving the way for long-term success for the future.

**Organizations' digital offerings,**  
% share, by degree of newness





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## About R3

R3 is an enterprise blockchain software firm working with a broad ecosystem of more than 350 participants across multiple industries from both the private and public sectors to develop on Corda, its open-source blockchain platform, and Corda Enterprise, a commercial version of Corda for enterprise usage.

The Corda platform is already being used in industries from financial services to healthcare, shipping, insurance and more. It records, manages and executes institutions' financial agreements in perfect synchrony with their peers, creating a world of frictionless commerce. Learn more at [r3.com](https://r3.com) and [corda.net](https://corda.net).

### New York

11 West 42nd Street,  
8th Floor New York,  
NY 10036

### London

2 London Wall  
Place, London  
EC2Y 5AU

### Singapore

18 Robinson Road,  
Level 14-02,  
Singapore 048547

### São Paulo

Av. Angélica, 2529 -  
Bela Vista, 6th Floor  
São Paulo - SP,  
01227-200, Brazil

### Hong Kong

40-44 Bonham Strand,  
7F Sheung Wan,  
Hong Kong

### Dublin

50 Richmond St. South,  
Saint Kevin's, Dublin,  
D02 FK02