Mitigating Market Challenges in Telecommunications

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Introduction

The pandemic continues to rattle the world economy: it has disrupted demand and supply; increased raw material scarcity and cost; exacerbated silicon shortages; contributed to higher labor costs; and upended business models and established processes. Companies cite these factors for shortfalls in revenue price increases, inability to meet demand, and/or increases in operation expenses. Ford Motor and General Motors recently reported steep drops in third-quarter profit because of the unavailability of computer chips[1]; Intel Corp's chief executive said there are "inventory challenges and supply challenges" that are limiting customers' ability to shop for laptops and servers[2]; both Apple and Amazon pointed to the material impact from supply chain problems and tight labor markets.

These dislocations are creating havoc in the global ecosystem with pernicious effects for companies in most verticals, leading to demand supply imbalances, scarcity, and rising costs—even as a semblance of normalcy begins to emerge. What are the causes of these disturbances, and what can companies do to mitigate their impact on their operations and overall businesses?

Effect and Causes of Market Dislocations

Pandemic induced changes in demand patterns

The pandemic has forced many players in the supply chain to adopt mitigation strategies, which has led to a reduction in the availability of goods and services, while at the same time demand patterns have shifted. People working from home ordered more computers, bought more cars to avoid public transportation, and purchased exercise equipment. More generally, consumers bought more goods than services, for example, Americans typically spend twice on services rather than on goods, but due to the pandemic, spending on services went down while spending on goods increased[3]. This increased demand happened at the same time that factories were dealing with lockdowns and other pandemic mitigation imperatives.

1 https://www.wsj.com/articles/gm-profit-sinks-as-chip-shortage-takes-toll-11635336675?st=7djpxp0fe3ua11c&reflink=article_email_share

2 https://www.wsj.com/articles/chip-shortage-expected-to-weigh-on-intels-quarterly-results-11634814000?mod=Searchresults_pos4&page=1

3 https://www.businessinsider.com/americans-spending-goods-versus-experiences-supply-chain-crisis-2021-10

Figure 1. Spending on Goods and Services[4]

Now that demand is reverting to more typical patterns (or to new ones), inventories are depleted and raw material and labor are in short supply, resulting in higher cost and delays.

Digital acceleration leads to increased demand

Most industries had been on a digital transformation trajectory before the pandemic, but in recent months, the public health emergency has led to a digital acceleration on an unprecedented scale and scope in most industry verticals. In the words of Steve Hasker, president and CEO of Thomson Reuters Corp., "I think we've seen three to four years of progress in just three to four months, in terms of acceptance of what the new world needs to look like." This acceleration has substantially driven the demand for everything digital, upending business planning and forecasting across the supply chain.

Disruptions in labor markets

"The great resignation" or the "big quit" has become a common term over the past few months. In August 2021, 4.3 million Americans voluntarily left the workforce. People across many industries are resigning in mass and many are retiring early. Research indicates that resignations rates are greatest among mid-career employees and are highest in the tech and health-care sectors[5]. In tech, resignations increased by 4.5% during the pandemic[6], likely due to burnout caused by the extreme increase in demand.

4 https://www.businessinsider.com/americans-spending-goods-versus-experiences-supply-chain-crisis-2021-10

5 https://hbr.org/2021/09/who-is-driving-the-great-resignation

6 https://hbr.org/2021/09/who-is-driving-the-great-resignation

Demand growth

The telecommunication industry has faced unprecedented demand over the past few months, particularly as broadband has become the runtime of the world during the pandemic. In 3Q 2020, the US broadband industry alone added 1.5 million subscribers.

This demand is compounded by governments that want to improve broadband accessibility. The inequity of broadband access has driven the US government (and others) to allocate subsidies to extend broadband connectivity to underserved areas and people. One such program is the US Rural Opportunity Digital Fund, a $20.4 billion program to bring broadband to rural homes and small businesses, leading incumbent and entrant service providers to add connectivity and putting more pressure on an already stressed broadband ecosystem.

Globalization and geopolitical currents

Global manufacturers have recently focused on inexpensive manufacturing in distant locations, often leveraging low-cost labor combined with just-in-time production with an extremely efficient but rigid supply chain that allows little slack. The pandemic spotlighted the limitations of this model, which have led to bottlenecks, supply scarcity, and cost increases. The pendulum is swinging the other way: companies are moving manufacturing closer to home and relying less on outside contractors and suppliers.

The recent rise in nationalism and protectionism, a widening divide between China and the West, and ideological and political disconnections in companies and countries are exacerbating supply chain challenges and forcing companies to navigate treacherous political situations. Most industries, including telecommunications, are facing a perfect storm with growing demand and constrained supply.

Resulting Market Conditions

Market disruptions are causing an unprecedented rise in labor and material costs and altering the supply chain:

Year	Average Closing Price	Year Open	Year High	Year Low	Year Close	Annual % Change
2021	$4.2220	$3.5545	$4.7620	$3.5245	$4.3680	24.16%
2020	$2.8013	$2.8250	$3.6275	$2.1005	$3.5180	25.80%

Figure 2. Rising Copper Prices[7]

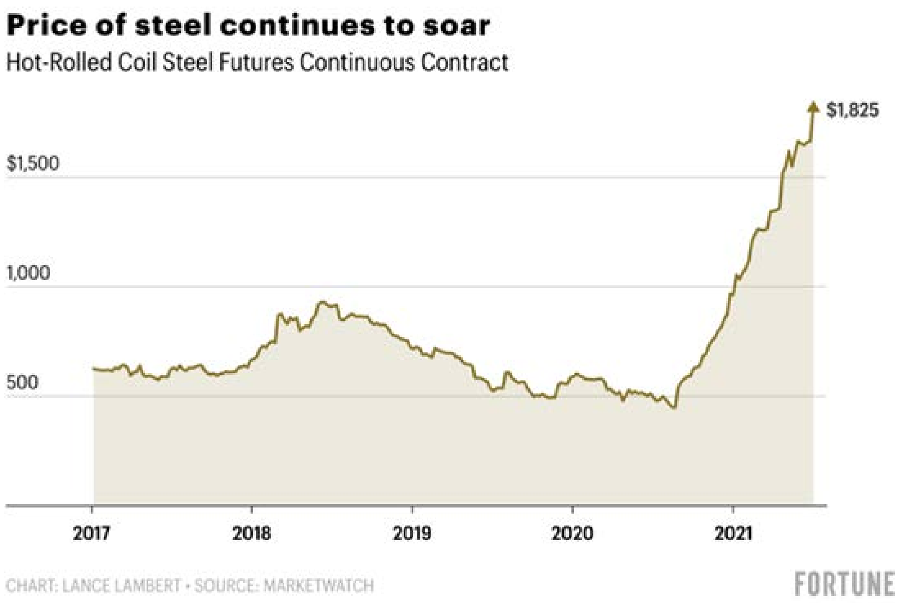

Figure 3. Trends in Steel Prices[8]

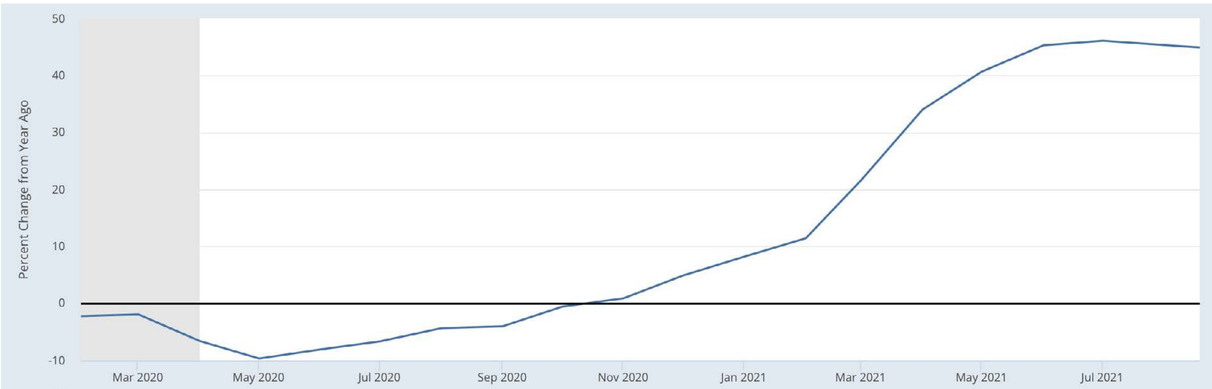

Figure 4. PPI Plastics and Resins[9]

7 https://www.macrotrends.net/1476/copper-prices-historical-chart-data

8 https://fortune.com/2021/07/08/steel-prices-2021-going-up-bubble/

9 https://fred.stlouisfed.org/series/PCU325211325211

Semiconductor prices are soaring as well:

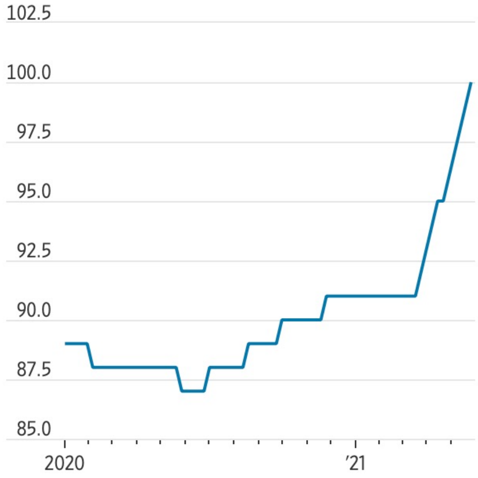

Figure 5. Price Index of Best-Selling Microcontrollers[10]

Shipping costs according to Bloomberg, citing George Griffiths[11], are greater with contract rates on a bellwether trade lane 25% to 50% higher than a year ago. The trucking industry estimates it is 80,000 drivers short of what it would need to move goods this year. To attract truckers, fleets are raising wages[12]. Furthermore, since 50% of cargo typically travels on passenger planes in normal times, the sudden decrease in flights during the pandemic significantly curtailed cargo shipments. Even now as travel begins to recover, the shipping industry is struggling with the detrimental effects of the slowdown.

Labor costs are soaring. According to the US Department of Labor, **US wages** increased 2.5% for the 12 months ending in September 2020[13] and 4.2% for the 12 months ending in September 2021.

10 https://www.wsj.com/articles/chip-shortages-are-starting-to-hit-consumers-higher-prices-are-likely-11624276801

11 https://www.bloomberg.com/news/articles/2021-04-12/higher-shipping-costs-are-here-to-stay-sparking-price-increases

12 https://www.wsj.com/articles/truck-driver-shortage-supply-chain-issues-logistics-11635950481

13 https://www.bls.gov/news.release/eci.nr0.htm

Figure 6. Trend in US Wages[14]

Until recently, the federal government and economists have characterized the inflationary environment as transitory. However, the sentiment among leading economists has been shifting, and they are beginning to see these trends persist into 2022[15].

Mitigation Strategies

Dealing with fluctuating input costs, particularly with commodities, is not new for companies. For example, airlines typically hedged against the rise of oil prices, which would impact their profits. Companies can buy future contracts for a commodity that would guarantee the price of that commodity for the duration of the hedge period. This strategy is not without risk. The pandemic exposed these risks; nobody could have foreseen or predict the massive dislocations. Airlines that locked into oil prices lost billions when the price dropped during the early months of the pandemic.

Although it is hard to be immune to market dynamics, telecommunication vendors and operators have some alternatives and strategies:

- **Examine internal processes** to identify areas for optimization and redesign internal processes for maximum efficacy and efficiency.

14 https://tradingeconomics.com/united-states/wage-growth

15 https://www.cbsnews.com/news/inflation-federal-reserve-transitory-economists-long-term/

- **Optimize buying raw materials,** for example, bulk buying, consolidating buying across departments.

- **Incorporate SKU rationalization:** Companies need to strike the right balance between operational complexity and satisfying customers' needs. This is even more complex in telecom because the industry is adding massive capacity; for example, the cable industry is rapidly increasing capacity and considering far-reaching changes to the access network, while maintaining some more traditional architectures.

- **Increase use of automation:** During the pandemic, the reliance on automation accelerated, and this trend is continuing as vendors and operators seek ways to rely less on human labor for repetitive tasks. Vendors are helping simplify deployments of access technologies by offering operators streamlined solutions with more automation. Network management is increasingly relying on closed-loop automation to improve reliability and reduce costs.

- **Expand use of modular solutions:** Until recently, telecom, and particularly cable operators, deployed relatively homogeneous technologies. No longer. Today, cable operators have many options from which to select as they add capacity and evolve their access networks, adding complexity (and cost) for vendors that are trying to satisfy the requirements of many operators. To mitigate this complexity and reduce cost, vendors are introducing modularized solutions that enable operators to leverage existing assets while incrementally adding capacity or upgrading their infrastructures.

- **Adjust pricing:** Market headwinds are affecting all players. Inflationary trends, initially considered transitory by some economists, are becoming more entrenched. In the Consumer Price Index for October 2021, the Bureau for Labor Statistics reported that "over the last 12 months, the all-items index increased 6.2 percent before seasonal adjustment"[16]. More economists are talking about systematic inflation. Therefore, vendors are not merely adjusting for a temporary increase in input costs, but for a long-term increase. Although they need to mitigate the impact of these disruptions, vendors also need to ensure the long-term sustainability, viability, and competitiveness of their companies and to continue to invest and innovate. Passing on the cost increases has become inevitable.

[16] https://www.bls.gov/news.release/pdf/cpi.pdf

Conclusion

Telecommunications is facing challenges caused by the pandemic and by major macroeconomic currents, which are causing production and shipping delays and high input costs. These challenges are happening precisely at a time when the market's need for telecommunication services and solutions is soaring, further compounding the complexity of the situation. The industry is dealing diligently and creatively with this situation; vendors are simultaneously pursuing several initiatives to alleviate the impact of these impediments on their customers and on the subscribers, while at the same time ensuring the near-term and long-term viability and competitiveness of their businesses.

About the Author

Liliane Ofrredo-Zreik (loffredo@acgcc.com, @offredo) is a principal analyst with ACG Research. Her areas of research include the cable service delivery infrastructure and the technologies and solutions that are powering the massive growth of digital health, particularly as it pertains to bringing care to the patient. Liliane is also interested in researching the confluence between technology and business, and how digital acceleration is powering a disruption across the business landscape.