INVESTING AMIDST A REVOLUTION

Elizabeth Henderson, CFA | Principal and Director of Corporate Credit

It is clear that the pace of change in the telecom and cable/media ecosystem is accelerating.

But company and investor views vary in terms of what the future holds, how quickly we will get there and how companies should be positioned. We attended a number of events over the past few weeks with company management, rating agencies and Wall Street analysts to learn more.

In this report, we explore the issues facing companies today (convergence, digitalization and changing consumer preferences) and present our investment opinions with these topics in mind.

CONVERGENCE

Convergence has been taking place in the telecommunications, media, and technology industries for decades. Our mobile phones now serve as our personal computers. Phone companies are not only offering voice and text messaging services, but video and broadband as well. The ability to offer services traditionally offered over a fixed network (high speed broadband, video) over a mobile network is the focus of convergence today. In the U.S., the wireless carriers (i.e., AT&T and Verizon) believe there will be a transition from fixed to mobile, and 5G technology will enable a proliferation of use cases beyond video and voice (transportation, smart cities, healthcare). Verizon's (VZ) CEO, Lowell McAdam, believes in the fourth Industrial Revolution. He's not the only one. At the India Mobile Congress event this week, the CEO of Reliance (who operates one of India's largest 4G networks) said that "mobile internet and cloud computing are the foundational technologies of the fourth Industrial revolution. Data is the new oil."

This has long term implications for the domestic cable industry.

Earlier this year, rumors were swirling about the potential for M&A in the industry. One example was the acquisition of a cable company (namely Charter) by Verizon to enhance its fiber network, as fiber is needed to deploy 5G technology. This month, McAdam publicly acknowledged Verizon has moved on from the idea of acquiring a cable company. They do not believe the fiber infrastructure is there to support 5G. This is a critical issue that we believe will negatively affect cable company values, as there is a misunderstanding that cable networks can support 5G. Coax is not the same as deep fiber (hundreds of fiber strands in conduit), and Crown Castle shares this view. As we listened to the CEOs from the various domestic cable companies, it was not clear how they will retain their competitive advantages and value propositions once the fixed to mobile convergence materializes.

DIGITALIZATION

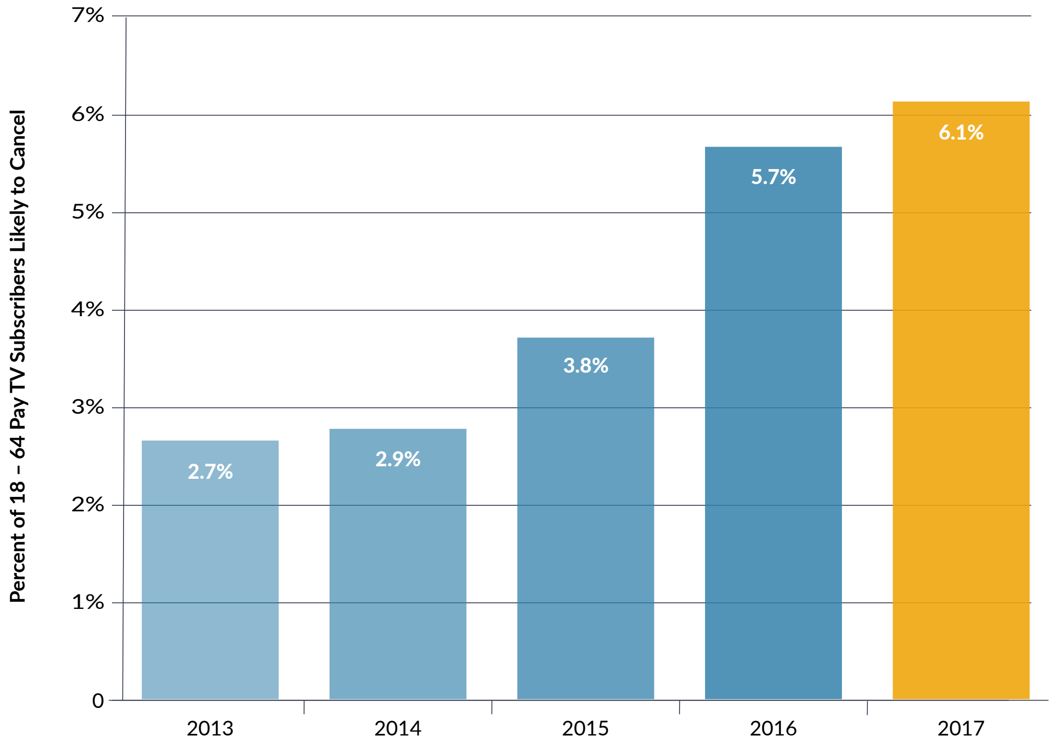
Companies like Google, Facebook and Netflix have done an excellent job of establishing a direct connection with the consumer. Using the data they collect on their users ("big data") and new technologies that analyze the data ("artificial intelligence or AI"), companies can find ways to generate revenue and reduce costs.

From a revenue perspective, wireless carriers like AT&T and Orange see opportunities in regards to their media businesses and/or advertising. For example, AT&T could potentially help HBO decide what type of program to produce and how to market it using the data they collect. Or, they can use it to help advertisers best leverage their investment. Effectively, the pricing model changes for video. It's not just the monthly fee collected from customers for the subscription to the content, it's also the information they collect that can be monetized directly or indirectly. From a cost perspective, there is a lot of optimism around big data and AI. This is viewed as a main source of value by companies like Verizon and Vodafone. Video delivered to consumers over the internet ("over the top or OTT") is cheaper to manage versus a traditional cable offering. Moreover, with big data and AI, carriers can automate customer service and network processes. CEOs talked about chat bots being used to replace call center staff. These processes have also helped carriers increase their targeted marketing such as offering promotions or upselling to certain customers based on their behavior versus broad promotions.

Consumer Preferences

As shown in Figure 1, the desire to "cut the cable cord" is increasing. Consumers believe cable/satellite is too expensive and the satisfaction with OTT substitutes has increased.

Figure 1: Percent of pay TV subscribers extremely likely to cancel pay TV service in the next 12 months, and will not switch to another pay TV service



- 11% of 25-34 year-old Pay TV Subscribers say they are very likely to cut
- 10% of Millennial Pay TV Subscribers say they are very likely to cut
- 12% of Live Sports Enthusiasts who are Pay TV Subscribers say they are very likely to cut

Source: Goldman Sachs, "Cord Cutting, Digital Video, SVOD, OTT and Livestreaming"

Content companies realize the model is changing and that they need to go direct to the consumer in order to maintain distribution. They also must establish a direct relationship with the consumer (see big data/advertising issues above) to preserve their advertising revenues. There are two main issues at play here. One, is the technology that is needed to offer this service. Disney bought 75% of BAMTech from Major League Baseball (MLB). BAMTech powers streaming services for networks like MLB and HBO. MLB believes all media outlets will distribute direct to the consumer. However, will the networks get access to the "big data" or will that be property of BAMTech?

The second issue is price discovery. The Discovery Network, in its bid for Scripps Networks, talked about launching a "general entertainment" package. What can they charge consumers to maintain favorable economics for their business? Twenty dollars per month is likely too expensive to generate meaningful interest. In a recent TiVO survey, it was clear that the average consumer does not place a high value on individual networks. This has implications for expensive networks like ESPN as well. To date, cable networks have relied on the cable monopoly to set prices. Some networks are better positioned than others given their ratings/customer demand and affiliate fees. A company like Viacom has been charging a premium versus other entertainment networks yet its content is not as popular.

Figure 2: Top 20 Channels Among US Respondents

Q2 2017

Top 20 Channels Among U.S. Respondents	Popularity Among U.S. Reponents	Price Per Channel
ABC	66.8%	$1.46
CBS	62.4%	$1.25
FOX	57.5%	$1.33
Discovery Channel	55.2%	$1.40
NBC	54.4%	$1.22
History	50.7%	$1.46
FX	48.3%	$1.48
A&E	47.4%	$1.44
TNT	46.8%	$1.34
TBS	46.5%	$1.26
HBO	45.1%	$2.96
AMC	43.3%	$1.43
Food Network	42.4%	$1.58
USA Network	42.3%	$1.37
ESPN	41.9%	$1.85
PBS	39.5%	$1.20
Syfy	39.4%	$1.40
Comedy Central	39.2%	$1.47
Lifetime	37.3%	$1.51
Animal Planet	37.1%	$1.56
		Total: $29.97

Source: TiVO

INVESTMENT IDEAS

Picks

We believe a direct connection with the consumer is key, and that the ecosystem today will change.

We prefer the wireless (T, VZ, RCICN, TCN, TELEFO, DT) and tower companies (AMT, CCI), as they are best positioned to leverage their networks. We also believe the advertising agencies (OMC, WPP) will continue to serve a role in directing companies on their marketing strategies. Lastly, we are investing in technology companies that will continue to benefit from this growth (e.g., ADI, AMAT, XLNX, MSFT, TXN).

Pans

We are avoiding cable companies (COXENT, CHTR), which we believe will have to make strategic decisions as their competitive advantage changes. We prefer the wireless carriers and technology companies that will benefit from the investment in cloud and mobile technology. We are also avoiding the media networks (VIA, DISCA/SNI); as we believe their revenues will be under pressure as the advertising model changes and the cable companies can no longer pay higher affiliate fees. They need to take costs out of their businesses to preserve margins, and that is difficult to do when companies are being pressured to offer more and better content if they want to go direct to consumers and maintain their brand. Lastly, we are avoiding technology companies with hardware that is being replaced with (or affected by) software, public cloud services as well as the consolidation in the semiconductor industry (e.g., STX, HPQ, HPE, AVT, ARW, IBM).

Elizabeth Henderson, CFA , *is a Principal and the Director of Corporate Credit at AAM with 19 years of investment experience. Prior to joining AAM, Elizabeth was a Director at Fitch Ratings with responsibility for following public and private telecommunications and media companies. Prior to joining Fitch, Elizabeth was a Private Placement Investment Analyst and Public Credit Analyst at Lincoln Investment Management. Elizabeth graduated with Honors and Distinction from Indiana University with a BS in Finance and earned an MBA in Finance, Analytical Consulting, and Marketing from Northwestern University's Kellogg School of Management.*