Relics of the Past?

Disruptive Innovation in the Telecom Industry

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About Saturna Capital

Saturna Capital, manager of the Amana, Saturna Sustainable, Sextant, and Idaho Tax-Exempt Funds, uses years of investment experience to aid investors in navigating today's volatile markets. Founded in 1989 by professionals with extensive experience, Saturna has helped individuals and institutions build wealth, earn income, and preserve capital.

We are long-term, values-based, and socially responsible investors. We view consideration of environmental, social, and governance (ESG) factors as essential in forming portfolios of high-quality companies that are better positioned to reduce risk and identify opportunities. We believe that companies proactively managing business risks related to ESG issues make better contributions to the global economy and are more resilient.

At Saturna, we believe in making your investment dollars work hard for you and that your interests always come first. Saturna strives to not only offer the best investment opportunities from mutual funds to IRAs, but to match those sound investments with superior customer service.

About Saturna Sdn. Bhd.

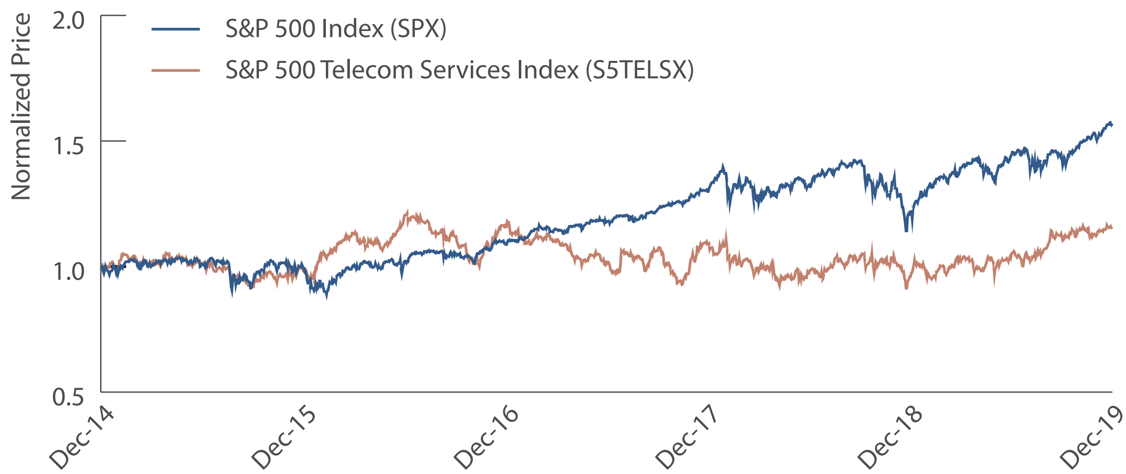
Saturna Sdn. Bhd. is the wholly-owned Malaysian subsidiary of Saturna Capital Corporation, resulting from the 2010 purchase by Saturna Capital of Alpha Asset Management located in Kuala Lumpur. Saturna Sdn Bhd holds an Islamic Fund Management Licence (IFML) with the Malaysian Securities Commission. Saturna is the first conventional asset manager to be converted to an Islamic asset manager.

**Water, water, every where,
Nor any drop to drink.**

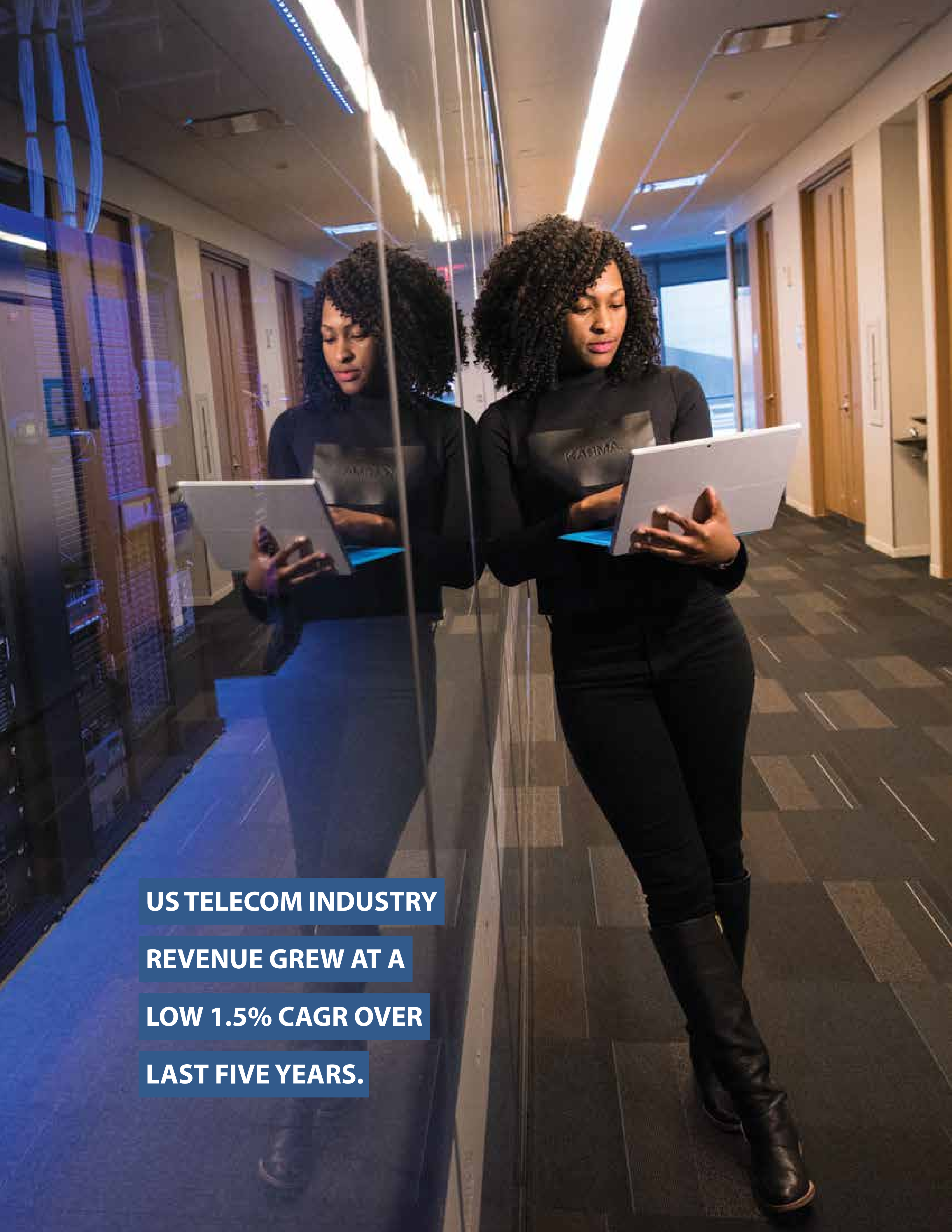
The Rime of the Ancient Mariner
S. T. Coleridge

The telecom industry has seen tremendous worldwide growth in recent years as consumers stream more content on their mobile phones, connect to myriad devices, and use an increasing number of applications and services. In 2010, there were 285 million wireless subscribers in the United States. That number grew to 400 million in 2017,[1] an annual growth rate of nearly 5%. Data traffic during that period increased almost a hundredfold to 30 trillion megabytes.[2] However, despite meaningful subscriber and data growth, US telecom industry revenue only grew from roughly $160 billion to around $179 billion during that period, a compound annual growth rate of 1.5%.[3] Average revenue per user fell from around $50 a month to $39 a month.[4] Similar trends hold globally, with traffic up exponentially and subscribers growing at a healthy clip, but industry revenues and profitability languishing. Unsurprisingly, those investing in the telecom sector have not fared as well as other investors, with the S&P Telecom Services Index providing a return of 15.80% over the past five years compared with a 56.92% total return for the S&P 500 Index.[5]

Relics of the Past? Telecoms Trail Broader Market Over Past 5 Years



As investors wonder why the industry has been unable to monetize substantial subscriber and data growth, and why the sector has routinely underperformed, we believe several factors explain the disconnect. First, competition continues to intensify across the globe, forcing telecom companies to reduce plan prices while providing greater amounts of data and related services. For example, T-Mobile took considerable US market share[6] in recent years by offering unlimited data plans at affordable prices. In India, Reliance Jio, owned by billionaire Mukesh Ambani and financed in-part by cash flow from his petrochemical businesses, increased its market share by 20% in less than two years, thanks to monthly plans as low as $3.[7] A similar trend transpired in Italy when French telecom Illiad successfully entered the Italian market through aggressive price cutting. Naturally, lower plan prices generally translate into lower revenues and profitability for the operators, and, by extension, muted share price performance.



US TELECOM INDUSTRY REVENUE GREW AT A LOW 1.5% CAGR OVER LAST FIVE YEARS.

Regulators have also played a crucial role in shaping the industry's direction. In China, for instance, the government regulates the tariffs telecom operators can charge consumers to keep mobile services affordable for the masses. In the Philippines and Singapore, new telecom licenses are being issued to breed more competition. Issuance of additional wireless spectrum is yet another lever governments have at their disposal to nurture or curtail industry growth. Telecom operators need spectrum for better network quality, speed, and reliability, and often spend exorbitant amounts on spectrum acquisitions. A case in point, a recent spectrum auction in Thailand went through nearly 200 rounds of bidding and lasted for 66 hours, with the winners paying a record price of $4.2 billion.[8] In addition to spectrum-related spending, telecom companies need to constantly undertake network upgrades to modernize their infrastructure and technology (from third-generation, or 3G, to 4G and, soon, to 5G) to remain competitive and relevant.

Investors have to be vigilant about constant change befalling the telecom industry. In recent years, over-the-top (OTT) providers like Facebook, Skype, and WeChat – which distribute media content directly to consumers through the Internet – have disrupted the traditional telecom landscape by offering free messaging, voice, video, and other services. The number of active monthly worldwide users of the Facebook-owned mobile messaging app WhatsApp grew from 250 million in June 2013 to 1.5 billion by the end of 2017.[9] Predictably, voice and SMS revenues have declined significantly for the incumbent operators across the globe.[10] In a recent Ernst & Young survey, when asked to name the top strategic challenges facing the telecom industry, three-fourths of survey participants underscored disruptive competition.[11] Other trends redefining the industry include the rising use of streaming services, voice-assisted technologies (e.g., Amazon Alexa or Apple Siri), the Internet-of-Things (IoT, e.g., connected homes, cars, and devices), big data, augmented/virtual reality (AR/VR), and artificial intelligence. A 2019 Deloitte study highlighted that 69% of US households now subscribe to paid video streaming services, with pay-TV penetration shrinking to 65%.[12] Deloitte also noted that penetration of voice-assisted speakers across homes saw a 140% increase from 2017 to 2018, rising to 36%.[13]

It is natural for investors to ask what is next for the industry. Currently, most service providers are focused on the development of next-generation 5G technology, already being rolled out commercially in select cities like Chicago, Seoul, Sydney, and London.[14] 5G is expected to deliver speeds up to 100x faster than the current 4G technologies (10 gigabytes/second vs. 100 megabytes/second), improve network quality (fewer dropped calls and better connections), and enable widespread use of the trends discussed above. With 5G, IoT applications will be able to collect, analyze, and interpret vast amounts of data from millions of devices and sensors, enabling more optimal monitoring and management of hospitals, police departments, homes, warehouses, and cars, among others. Likewise, with AR/VR applications, consumers will be able to survey a potential new home they are looking to purchase in New York from their living room in Shanghai, or watch and comment on a live, immersive Real Madrid game with a friend in São Paolo.

OVER-THE-TOP PROVIDERS LIKE NETFLIX AND FACEBOOK HAVE DISRUPTED THE TRADITIONAL TELECOM LANDSCAPE.

Going forward, telecom companies need to formulate strategies on how to best exploit these emerging trends and determine which investments could potentially deliver higher profitability and investor returns in the future. At the risk of stating the obvious, it is imperative that telecom companies devise business models that monetize the benefits of 5G and other investments. Telecom operators can't simply let the likes of Netflix, Alphabet, and others become industry titans on the back of infrastructure that they developed so diligently over the years; they need ways to tap into and leverage this infrastructure for themselves. Service providers also need to differentiate via specific, innovative product offerings to attract and retain customers.

To be successful, a telecom company may decide to develop its own media content, or at the very least, partner with a content provider to offer intriguing content. AT&T recently purchased Time Warner to gain access to valuable entertainment properties like TNT, TBS, HBO, and Warner Bros. Pictures, which owns the rights to DC Comics characters and has produced many successful movies including *Aquaman*, *Wonder Woman*, and *Justice League*. In Spain, Telefónica and Netflix have inked a global partnership that allows customers to watch the popular streaming service through Telefónica's content platform.

TELECOMS MUST ADOPT AN APPROACH THAT IS NIMBLE AND RECEPTIVE TO CHANGE – OR RISK BECOMING RELICS OF THE PAST.

Likewise, another telecom operator may opt to become a "smart home" facilitator, enabling customers to pay their utility bills, replenish their groceries via a voice-assisted device, or remotely monitor their children at home from work. Some telecom companies are beginning to venture out into mobile banking and related services. Notably, France's leading telecom operator Orange recently launched Orange Bank, which provides mobile banking services including payments, virtual advice, and account management. Orange leverages its telecom branch network to cross-sell banking services and has added roughly 250,000 banking customers in the first two years of operations.[15] Whatever business models the operators decide to adopt, they can't afford to be lax or merely reactive; they must embrace a proactive approach that is nimble and receptive to change. If they don't, they will become relics of the past, like WorldCom, Global Crossing, Reliance Communications, Oi Brazil, and many others.

SPOTLIGHT ON FUND OWNERSHIP OF SECURITIES MENTIONED

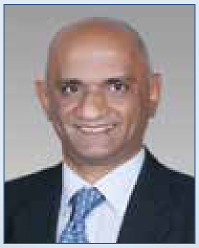
As of December 31, 2019, the Funds we manage owned the following amounts of securities mentioned in this article (as a percentage of total net assets):

	Alphabet	Amazon	Apple	AT&T	Facebook	Illiad
Amana Developing World						
Amana Growth			6.65%			
Amana Income						
Saturna Sustainable Bond			1.25%			
Saturna Sustainable Equity		1.26%	3.33%			
Sextant Bond Income			3.35%			
Sextant Core	0.78%		1.02%	1.00%		
Sextant Global High Income				2.92%		
Sextant Growth	4.56%	6.07%	6.31%			

	Microsoft	Netflix	Orange	Reliance Jio	Tencent Holdings	T-Mobile
Amana Developing World					4.75%	
Amana Growth						
Amana Income	5.06%					
Saturna Sustainable Bond	2.55%					
Saturna Sustainable Equity	2.57%					
Sextant Bond Income	3.28%					
Sextant Core	0.82%					
Sextant Global High Income		2.55%	1.81%			2.67%
Sextant Growth	6.41%					

Amana Participation, Idaho Tax-Exempt, Sextant International, and Sextant Short-Term Bond Funds did not own any of the securities mentioned.

About The Author



Zahid Siddique MBA
Portfolio Manager and Senior Equity Analyst

Zahid Siddique, Portfolio Manager and Senior Equity Analyst, joined Saturna Sdn Bhd in September 2015. He has over ten years of equity research, portfolio management, and business development experience. Prior to Saturna, Mr. Siddique was an associate portfolio manager and the head of industrials equity research at Gabelli Asset Management in New York. More recently, he was based in Dubai, where he focused on business development activities in the Middle East. Mr. Siddique holds a BA in Mathematics from Hamilton College and a BS and MBA from Columbia University. Outside of work, Mr. Siddique loves to travel with his wife and two children.

Footnotes

[1] *Number of Mobile Cellular Subscriptions in the United States from 2000 to 2018 (in millions), Statista, 2019. https://www.statista.com/statistics/186122/number-of-mobile-cellular-subscriptions-in-the-united-states-since-2000/*

[2] *Volume of the Wireless Data Traffic in the United States from 2010 to 2018 (in million gigabytes), Statista, 2019. https://www.statista.com/statistics/615419/wireless-data-traffic-in-the-us/*

[3] *Total Service Revenues of the Mobile Wireless Industry in the United States from 1985 to 2018 (in billion U.S. dollars), Statista, 2019. https://www.statista.com/statistics/185802/mobile-wirless-service-revenues-in-the-united-states-since-1985/*

[4] *Communications Marketplace Report, FCC Fact Sheet, November 21, 2018. https://docs.fcc.gov/public/attachments/DOC-355217A1.pdf*

[5] *Bloomberg S5TELSX vs. SPX for 5-year period as of December 31, 2019.*

[6] *Wireless Subscriptions Market Share by Carrier in the U.S. from 1st Quarter 2011 to 3rd Quarter 2019, Statista, 2019. https://www.statista.com/statistics/199359/market-share-of-wireless-carriers-in-the-us-by-subscriptions/*

[7] *Parbat, Kalyan. Reliance Jio Third-largest Telecom by Revenue Market Share, The Economic Times, June 12, 2018. https://economictimes.indiatimes.com/industry/telecom/telecom-news/reliance-jio-third-largest-telcom-by-revenue-market-share/articleshow/64550327.cms*

[8] *Waring, Joseph. Thailand's True, Jasmine win 4G Licenses for Record $4.2B, Mobile World Live, December 21, 2015. https://www.mobileworldlive.com/featured-content/home-banner/thailands-true-jasmine-win-4g-licences-for-record-4-2b/*

[9] *Number of Monthly Active WhatsApp Users Worldwide from April 2013 to Deccember 2017 (in millions), Statista, 2019. https://www.statista.com/statistics/260819/number-of-monthly-active-whatsapp-users/*

[10] *AT&T's Revenue from its Business Wireline Segment from 2017 to 2019 (in million U.S. dollars), Statista, 2019. https://www.statista.com/statistics/216663/total-revenue-of-atundt-by-business-segment/*

[11] *Digital Transformation for 2020 and Beyond: A Global Telecommunications Study, EY, 2017. https://www.ey.com/Publication/vwLUAssets/ey-digital-transformation-for-2020-and-beyond/%24FILE/ey-digital-transformation-for-2020-and-beyond.pdf*

[12] *Downs, K., Loucks, J., Watson, J., and Westcott, K. Digital Media Trends Survey, 13th Edition, Deloitte Insights, March 19, 2019. https://www2.deloitte.com/insights/us/en/industry/technology/digital-media-trends-consumption-habits-survey.html*

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A Few Words About Risk

The Amana Funds limit the securities they purchase to those consistent with Islamic and sustainable principles. The Saturna Sustainable Funds limit the securities they purchase to those consistent with sustainable principles. This limits opportunities and may affect performance. Fund share prices, yields, and total returns will change with market fluctuations as well as the fortunes of the countries, industries, and companies in which it invests. Foreign investing involves risks not normally associated with investing solely in US securities. These include fluctuations in currency exchange rates, less public information about securities, less governmental market supervision and the lack of uniform financial, social, and political standards. Foreign investing heightens the risk of confiscatory taxation, seizure or nationalization of assets, establishment of currency controls, or adverse political or social developments that affect investments.

While diversification does not guarantee against a loss in a declining market, it can help minimize the risk of the decline of a single market.

Footnotes *(continued)*

[13] *Ciampa, D., Littman, D., Loucks, J., Srivastava, S., Westcott, K., and Wilson, P. Build It and They Will Embrace It, Deloitte Insights. https://www2.deloitte.com/us/en/pages/technology-media-and-telecommunications/articles/global-mobile-consumer-survey-us-edition.html*

[14] *Asay, Nikki. Ookla's New 5G Map Tracks 5G Rollouts Across the Globe, Speedtest, May 14, 2019. https://www.speedtest.net/insights/blog/ookla-global-5g-map/*

[15] *Davies, Jamie. Orange Bank is on a Roll, Telecoms.com, February 27, 2019. http://telecoms.com/495886/orange-bank-is-on-a-roll/*

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