



Huawei and the Gulf Region: Market Opportunities Despite the Ongoing US-China Trade War

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ABSTRACT

This document discusses the Chinese telecommunications firm Huawei and its market opportunities in the Gulf Cooperation Council (GCC) are discussed in comparison to the recent sanctions taken against the firm by the US government and the ongoing US-China trade war. The analysis first offers some background information of the US-China trade war that has been rattling the global financial markets for months. This is followed by the examination of the sanctions taken against Huawei by the US government and the reasons for them. Into this milieu, potential market opportunities for Huawei are explored within the GCC and especially its leading member-state markets such as Saudi Arabia. The observation is made that despite the US sanctions, Huawei is certainly the leading telecommunications equipment provider internationally. These attributes of the firm's business case provide it with the commercial heft necessary in order to convince the GCC and its member-states that it is a safe harbor investment for their 5G network build-out. The recommendation is made that Huawei make price concessions to the GCC and its member states in order to convince them to offer exclusive 5G vendor contracts. This exclusivity in the market would stabilize Huawei's revenues over the long-term.

Keywords: Gulf Cooperation Council Market, US-China Trade War, 5G Technologies

JEL Classifications: M3, O3

1. INTRODUCTION

This paper discusses in some degree of depth the issue of Huawei and its market opportunities in the Gulf Region. Specifically at issue is what market opportunities Huawei has in the Gulf Region where the Gulf Region is characterized primarily by the Gulf Cooperation Council (GCC) market. The GCC comprised of six member states led by Saudi Arabia. Combined, these six member states constitute the largest and most advanced markets in the Middle East. Furthermore, they have taken a proactive approach to adopting 5G network technologies through offering market-based incentives, state supported grants and so on.

Additionally, the GCC as a body and some of its individual member states such as Saudi Arabia have also entered into major investment and development initiatives with China. China is Huawei's home market and while both the company and the

government continue to deny any formal relationship. The issue discussed regarding Huawei's expansion into these markets within the GCC is done so in light of its recent difficulties with the US government. The US government has implemented numerous sanctions against Huawei under the pretense that its executive leadership lacks the autonomy to operate independently of the Chinese government. This lack of perceived autonomy is largely due to its founder's close relationship with the Chinese military. Yet, despite these difficulties, this report delves into the unique features that make Huawei such a dominant competitor in the 5G industry and in the telecommunications industry in general.

2. THE US-CHINA TRADE WAR

Talks of a trade war between the US and China began in earnest as early as 2016 during the start of the US Presidential election cycle. In 2016 as Trump was competing with the other Republican

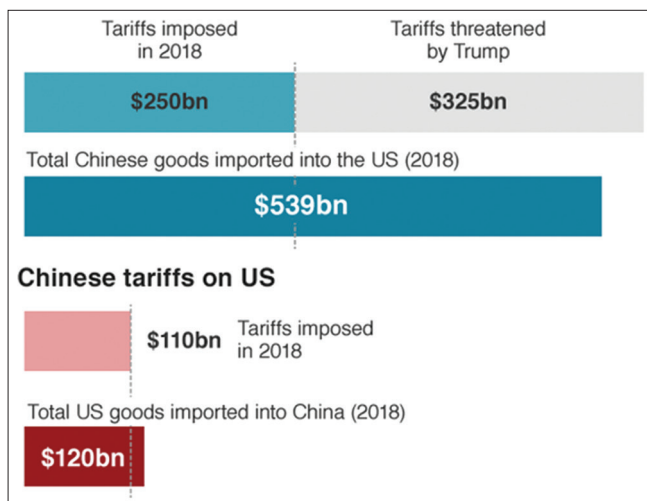
candidates for the Presidential nomination, one of his favorite issues was the imbalance in trade between the US and China where he viewed this imbalance as entirely being in China's favor. In Trump's view, China has long relied on its argument that it is a developing nation and thus merits various trade advantages both at home and abroad in order to gain economic parity. Following Trump's election to the US Presidency, he ordered the US Secretary of Commerce to begin an investigation into China's trade practices in which he and certain of his officials believe China has long been a currency manipulator as a means to bolster its export market.

In addition to currency manipulation, many entities in the West believe China's government shields its valuable industries from foreign competition as well. Ultimately Trump instituted three rounds of tariffs on Chinese goods imported into the US that combined were worth more than \$250 billion which amounted to a 25% tariff (Quick, 2019). Of course, China instituted its own round of tariffs on the US in retaliation. These Chinese tariffs are those covering approximately \$110 billion in US goods and services being imported into China. A brief snapshot of the character of the trade war and the way in which it has been limited to tariffs thus far can be seen below:

As the Figure 1 reveals, the established and threatened tariffs by the US essentially would cover virtually all goods imported into the US from China. Such an outcome only leaves a few options to the US side should the worst case scenario actually play out internationally which is a complete breakdown of formal trade relations with China.

Subsequently, trade talks were said to have been making progress as recently as December, 2018 and into the start of the new year. However, the trade talks that had seemed to be moving forward suddenly collapsed. The US side accused China of submitting trade proposals that reneged on previously agreed upon points and Trump order the US side to leave the negotiating table and implemented another \$200 billion in tariffs on Chinese made goods and has started the process of placing tariffs on another \$300 billion of Chinese products in

Figure 1: Framework of the US-China trade war (A Quick Review, 2019)



2019 (Quick, 2019). China is in the process of developing its own counter measures to these recent actions on the part of the US. Such counter measures are those up to and including potentially halting shipments of rare earth minerals to the US or to US companies which would significantly harm the US' major technology producing firms.

Into this environment of harsh trade activities, Chinese firms have become the focus of the US government. Following the imposition of trade tariffs, the US began targeting Chinese firms with economic sanctions. These are firms that it views as violating certain US laws aimed at preventing countries designated by the US as terrorist states from obtaining certain technologies. In 2018, Canada detained Ms. Meng Wanzhou, who is Huawei's Chief Financial Officer and the daughter of its founder and CEO Ren Zhengfei, on a warrant issued by the US claiming that Huawei had violated sanctions placed by the US against Iran (Bilefsky, 2019). The detention of Ms. Meng by Canada on behalf of the US legal system has proven corrosive China's foreign relationships with the West.

The main damage that has been inflicted is that between the Canadian-Chinese relationship and the US-China relationship. The US and China were already experiencing some abrasion prior to Ms. Meng's arrest in Canada so her detention only exacerbated an already difficult situation.

On the other hand, for the Chinese, their view is that Ms. Meng's detention as nothing more than an illegal extension of Trump's trade war with China. Furthermore, President Trump has already escalated the targeting of Huawei even more. Recently President Trump issued an executive order that allows the US executive branch to issue edicts that protect the nation's telecommunications industry from foreign interference. As such, it has placed Huawei on what is referred to as an "entity list" which prevents any US firms from engaging in any form of commerce with those listed firms (Paletta et al., 2019). Consequently, the US can now also target other Chinese firms as well which opens up an entirely new front in the ongoing trade war with China. It is difficult to envision an outcome to the trade war that is satisfactory to both sides albeit any negotiated outcome is almost certainly going to benefit the US side more than the Chinese side.

China has begun the process of exploring all of its potential options in this escalating trade war with the US. For its part, China views the US as negotiating in bad faith since it is simultaneously implementing tariffs while trying to negotiate a trade deal and is pursuing criminal charges against one of its leading technology firms, Huawei, and personally attempting to prosecute one of its top executives, Ms. Meng. China has several significant options in its arsenal of potential counters to the US tariffs. Specifically, China produces an estimated 70% of the global supply of rare earth minerals which consists of 17 rare minerals that are utilized in a wide range of technology products such as computers, smartphones, chips and so forth (The Guardian, 2019). Any imposition of limits placed on these rare earths being shipped to US companies or even a complete ban of them being sold to the West would significantly damage US technology companies.

These technology companies depend on these rare earth minerals for their technology products. Finally, China holds an enormous amount of US debt in the form of US Treasuries, some \$1.12 trillion by most accounts, and it has sold more of these treasury notes recently than it has in the last 2 and ½ years (Mackenzie, 2019). While many analysts believe China will avoid dumping these treasury holdings en masse, other believe that if it is pushed too far, China really has nothing to lose.

3. THE GCC AND THE SMARTPHONE SEGMENT

In terms of Huawei, it seems that the firm is largely a scapegoat for much of the US' aggression towards China's trade activities. As such, the firm has been focusing on establishing new markets or expanding existing ones in order to counter the loss of market share it is experiencing due to US sanctions. Still, irrespective of the ongoing trade disputes between the US and China, Huawei has enormous opportunities for sustainable growth in the Middle East. This is especially true in certain Middle Eastern markets such as the GCC. The GCC has a total of six-member states which are Saudi Arabia, The United Arab Emirates, Bahrain, Qatar, Kuwait, and Oman with an estimated combined gross domestic product of \$1,459 trillion (Nasir et al., 2019). These are some of wealthiest countries in the world on a per capita basis irrespective of their regional economic positions. Consequently, since Huawei has established itself as a major global competitor, it has significant upside throughout the Middle East but most especially in the GCC.

The smartphone market specifically is certainly a growth area in the GCC market for telecommunications companies like Huawei. Because the GCC does have such a high per capita GDP rate, its consumers can afford high-end smartphones while even the laborers that are primarily imported into the region from less developed markets such as Southeast Asia generate incomes that allow them to purchase mid to high-end smartphones. The data indicates that for the 1st quarter of 2019, smartphone shipments in the GCC surpassed 6 million units with individual member states such as Saudi Arabia exhibiting as much as a 3.6% increase in smartphone sales overall (Cherrayil, 2019). Furthermore, all of these smartphones are invariably utilized to access a host of internet and web-based applications that thrive in the 5G technology environment. This type of continued growth in demand throughout the GCC but certainly in individual member state markets like Saudi Arabia provides sustainability to Huawei. More importantly, this regional demand in the GCC also provides stability as it seeks to stimulate demand in other markets outside of North America as a means to offset market losses due to the US sanctions.

The fact is, that even during a downturn in the regional handset marketplace during 2018 when demand fell by double digits, Huawei was virtually the only success story. During this era, Huawei was the only major smartphone producer that grew its overall market share during this period (Bridge, 2019). Consequently, Huawei is deeply entrenched throughout the GCC as a viable and even fashionable alternative to major smartphone

brands and their products. The brands in reference include those produced by Apple and Samsung along with the range of premium products that they sell and market. While the firm's handsets do not rival the premium cachet that brands such as Apple or Samsung along with the products that they carry, Huawei does have certain other advantages. These include those such as its price-points combined with its quality products make its consumer products attractive and its enterprise products commercially viable.

Furthermore, Huawei has developed strong relationships with both Saudi Arabia and the UAE in the GCC. These two member-states are the two single largest markets in the GCC. These two individual countries within the GCC are so large that the company could even experience declines in the other member state markets but as long as these two markets remain strong, Huawei can absorb such declines. Saudi Arabia's individual GDP is \$683 billion while the UAE's is \$328 billion and combined these two markets account for an estimated 74% of the total smartphone sales in the GCC market and both markets expanded during the 1st quarter of 2019 (IDC, 2019). These types of sales in the GCC marketplace tend to offset some of the declines of Huawei's smartphone sales in other markets that are affected by the trade war between the US and China. Furthermore, Huawei's lower on average price-points for its handsets also ensures that the firm's products remain a viable alternative for consumers. Thus, from a cost perspective, even consumers in western markets that are subject to US trade and finance laws and regulations might consider Huawei products.

4. HUAWEI AND ITS BUSINESSES

While many in the west have not heard of or are only marginally aware of Huawei, it is actually one of the world's largest telecommunications firms. Huawei has several core lines of business that allow it to compete in different segments of the telecommunications industry. The company reported revenues of more than \$108 billion for 2018, maintains more than 188 thousand employees globally and it is currently the 2nd largest smartphone manufacturing firm globally (Huawei, 2018). This global footprint provides Huawei with the heft necessary to convince foreign markets that it can withstand US sanctions globally. While Huawei still trails Samsung internationally, its presence and dominance in the 5G network hardware market is uncontested. The company's founder and current CEO, Ren Zhengfei, recognized early on the importance of getting out in front of the newest network communications infrastructure technology.

Consequently, Huawei invested heavily in research and development (R&D) as a means to ensure it stays ahead of the technology curve. Therefore, it has established just over 20 R&D centers globally along with some \$13 billion in order to develop cutting edge 5G network technologies which has allowed it to be the primary supplier of 5G hardware to more than 1500 unique networks around the world (Huawei, 2018). Of course, it is Huawei's leading position in 5G technology and network infrastructure that has brought it to the attention of the US administration. Huawei has so much opportunity in the Middle East and in regional markets such as the GCC

because of the multiplicity of its lines of business. Presently, the company maintains three core businesses: (1) telecommunications equipment and networks, (2) enterprise business products and services and (3) consumer electronics including smartphones and laptops (Huawei, 2018). Combined, the company is well prepared to enter new markets but to also expand existing ones through its diversified brand portfolio.

5. 5G TECHNOLOGIES AND HARDWARE

The 5G technologies and hardware division within Huawei is its most lucrative and largest business. It is also the division that is receiving the brunt of the criticism from the US regarding the potential for backdoors into its networks. To be exact, this line of business is referred to as the Carrier Network Business Group and it consists of permanent networks, telecommunications carrier software services, networking energy management software and hardware and up until 2012 or so this division experienced 70% compound annual growth rates (Xia, 2017). In fact, Huawei's first 5G network was established in 2014 in the Isle of Man and it has since become the largest 5G technology vendor in the world. Additionally, since then its 5G technologies have become a cost-effective solution for many developing countries as well.

In terms of actual network characteristics, 5G makes reference to the most recent wireless technology platform. As such, 5G as a network platform is still in its relative infancy. Basically, 5G networks are wireless technology platforms characterized by faster data movement, lower latency parameters which make it more responsive and a higher capacity for connected devices at each node (Ford et al., 2017). Furthermore, due to the shift in air interface technology, 5G is not backwards compatible with prior wireless network technology platforms such as 4G. This lack of backwards compatibility is part of what makes 5G networks so reliable, fast and efficient. They do not have to engineer compatibility with legacy systems into the platform which would almost certainly slow it down. At the heart of the 5G technology platform is technology that consists of both traditional networking devices as well as newly emergent technologies. In general, 5G networks are described as having much faster data rates, lower latency in milliseconds, greater bandwidth on a per unit basis, increased connectivity handling many times more connected devices than 4G networks, an always on platform with near 100% uptime, energy efficiency and longer battery life for battery dependent hardware attached with the network (5G, 2016). A full description of each of these points is presented in Table 1 which offers more detailed description of each of these points.

The list of 5G networking equipment that Huawei sales and markets as part of its networking division includes more traditional switches and routers as well. These switches and routers are used to connect multiple devices together within the context of a single network in the case of the former and to connect multiple networks together in the case of the latter (Ford et al., 2017). Additionally, 5G technologies include newly developed modems, signal processors and cellular technologies as well. The typical network design and architecture for 5G resembles the diagram displayed in the following graphic:

As the Figure 2 above indicates, 5G networks are typically more granular than traditional cellular networks.

This granularity in the network architecture for 5G relates to the bandwidth that 5G occupies. 5G's core bandwidth involves millimeter wave bandwidth (24 GHz–100 GHz) which consists of much shorter wavelengths that can transmit data much faster than lower bandwidths but can only do so for shorter distances. The result is that while 5G is certainly cutting edge, it requires a greater number of towers and signal boosters to cover a network area. The complexity of 5G network technologies is what is contributing to the US government's fear that Huawei executives can order a backdoor into its systems on behalf of the Chinese government. Their point is that these backdoors can be so easily hidden that US security analysts could never locate them.

6. 5G IN THE GCC

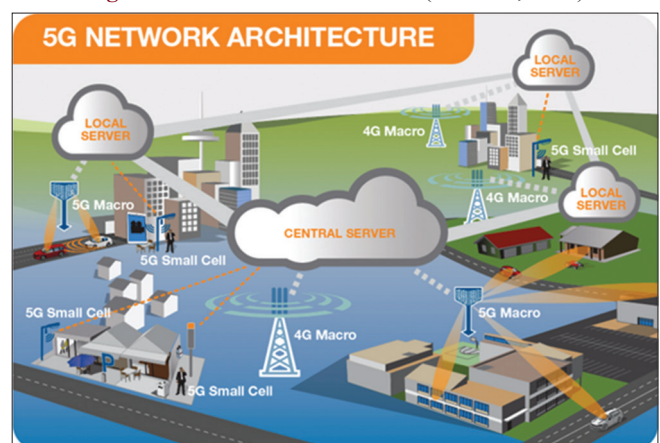
Many of the leading markets within the Middle East have taken a very proactive approach to 5G adoption. This is particularly true of

Table 1: Key features of 5G technology

Data rates	The average data rates for 5G are between 1 and 10 Gbps compared to 4G's typical 2-100 or so Mbps
Low latency rate	Reduced latency is one of the key features of 5G wherein latency for 5G is 1 ms for an end-to-end transmission while for 4G networks it is around 10 ms
Bandwidth per unit	5G networks produce at least 1000 times more bandwidth on a case-by-case basis
Connectivity	5G networks support from 10 to 100 times the number of overall connected devices per network
Always on	5G networks are expected to have a 100% coverage rate based on 99.99% uptime technically achievable in 4G but practically not accomplished
Energy conservation	5G networks are much more energy efficient by as much as 90% over previous technology standards
Battery life	Technology infrastructure that relies on battery support/backup can last as long as 10 years in 5G applications

(5G, 2016)

Figure 2: 5G network architecture (Nekovee, 2018)

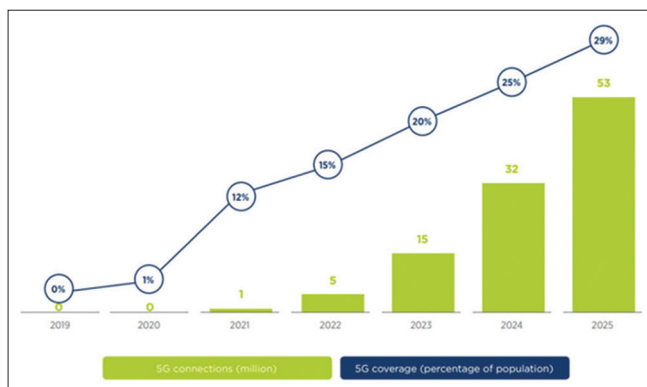


the GCC as a regional market and certainly true for Saudi Arabia as the region's most progressive country vis-à-vis technology adoption and rollout. By some estimates, it is believed that 5G network connectivity will account for as much as 16% of all mobile connections in the GCC by 2025 alone which, considering there are as many as 381 million unique subscribers throughout the region, this would account for some 60.1 million 5G subscribers (Mobile, 2018). It is clear that this is such a promising growth market that, for companies such as Huawei that specialize in 5G technologies, the Middle East should be the focus of their business strategy. Indeed, the growth evident in the Middle East is so sustainable that firms such as Huawei are willing to make price concessions up-front in order to gain entry into the market.

More to the point, the GCC and major area markets such as Saudi Arabia offer viable alternatives to the US market. Many Western markets, led by the US and Canada, are closed off to Huawei but its executives refuse to concede to the US government. Since Huawei is actively being shut out of North America, it has been attempting to reassure global investors that its core business strategy is sound. Furthermore, because China, Huawei's home market, has established very strong economic and investment relationships with both the GCC and Saudi Arabia in particular, it becomes more difficult for the US to force these regional entities into blacklisting the company. By most estimates, the cellular industry alone contributed some \$165 billion to the GCC's overall economy and this figure is expected to surpass \$200 billion by 2022 while in 2017, it accounted for more than 1 million unique jobs and contributed as much as \$17 billion to domestic infrastructure projects (Mobile, 2018). While not all of this financial activity is completely attributable to Huawei, it is certain that a sizable percentage of it is. The Figure 3 displayed below graphically illustrates just how widespread 5G networks are expected to be throughout the GCC and surrounding areas:

If, as this chart indicates, 5G network adoption surpasses 29% by 2025 alone, by projection then, it is likely to surpass 70% or more by 2030. This is because the speed of adoption increases exponentially as network infrastructure is put in place. Furthermore, in reference to Huawei, any negative actions on the part of the GCC or individual countries like Saudi Arabia against Huawei would act to depress further investment in the industry. Additionally, it would also almost certainly slow the adoption 5G across the region which no-one wants to be responsible for.

Figure 3: 5G network distribution in the GCC (Radcliffe, 2018)



7. WEATHERING US IMPOSED RESTRICTIONS

Huawei has already experienced some significant setbacks due to the US government's restrictions on its business. These setbacks interfere with its ability to service both consumer and enterprise segments of its customer base within the GCC. For instance, Google recently announced that Huawei would no longer receive scheduled updates to its Android operating system for smartphones while Microsoft has stopped marketing Huawei laptops as well as ceased its own updating of Huawei branded devices (Newcomb, 2019). It is effects such as these that make Huawei products and services a difficult proposition for global customers. It is critical for enterprise customers to ensure that they receive all of the most recent security updates and revisions for their technology platforms. Likewise, consumers demand up-to-date operating systems and all of the most recent apps which they will no longer have access to due to Huawei's inclusion on the banned company list by the US government.

In terms of specific market strategies within the GCC region, Huawei has already benefited from some of its previously established relationships. Saudi Arabia in particular has expressed little reservation in regards to utilizing Huawei 5G technology solutions. And, in fact, has embraced the firm's 5G technology platforms as its primary 5G network infrastructure within the country. The use of Huawei's 5G technologies is part of a larger joint investment policy initiative undertaken between Saudi Arabia and China as described below:

Saudi Arabia's main energy producer, also announced plans for a \$10 billion refining joint venture in Northeast China's Liaoning Province. Memorandums of understanding were signed for \$3 billion of projects involving smart cities, renewable energy, infrastructure technology, among other areas (Caixin, 2019).

As this passage notes, China has ensured that Middle Eastern regional markets like the GCC would have more difficulty in refusing to do business with Huawei. It should also be noted that the GCC and countries such as Saudi Arabia do not fully accept the US' assertion regarding the potential security threat of a backdoor in Huawei's 5G hardware and software.

However, what remains unclear in this context is how the US' placement of Huawei on its blacklist of companies will impact Huawei. The US companies that have done business with Huawei cannot do business with the firm once it is on the list. There is not a single scenario where Huawei is able to emerge from this current trade battle with the US unharmed. Many US companies currently operate in one capacity or another within the GCC and Saudi Arabia, in particular, given the US' close relationship with the Kingdom. Also, the US' placement of Huawei on this blacklist also restricts countries that have treaties with the US or that participate in economic and trade related pacts may not engage in certain activities with the firm either. A representative example would be the position that South Korea is currently in due to the US' targeting of Huawei for sanctions.

China is South Korea's largest trading partner, accounting for 26.8% of the country's exports in 2018, compared with 12% for the United States. Huawei alone bought \$10.7 billion worth of South Korean products accounting for 17% of the country's electronics parts exports to China (Arab News, 2019).

This type of geopolitical position is a problematic one for South Korea. It seems evident that Huawei is intent on exploiting the critical trade and investment relationships that China has established with the GCC and Saudi Arabia individually as a means to compensate for market losses due to the US' sanctions against the firm.

Likewise, Huawei has another key advantage in its strategic arsenal that it can use to leverage its position in the 5G industry. This is the 5G industry within the GCC and other regional markets that surround it. The very term 5G merely refers to a set of technology standards that meet specific criteria as developed and defined by the Third Generation Partnership Project (3GPP) which is a global group of telecommunications providers of which Huawei is a central member (De La Oliva et al., 2015). Whether Huawei's business profile is severely impacted by US sanctions or not, its position on the 3GPP panel is not under threat. This fact combined with the knowledge that because Huawei is the world's largest telecommunications equipment provider and a global leader in 5G technology development, means that it will continue to influence 5G standards of which it owns about 30% of the most critical 5G technology patents globally (Jaipragas, 2019). Consequently, whether Huawei loses market share globally or not, it is not destined to lose influence in the 5G field. This capacity to steer the direction for 5G industry standards is also providing it leverage in the GCC as well.

8. CONCLUSIONS AND RECOMMENDATIONS

The importance of 5G network technologies cannot be understated. This applies to virtually all markets and not just for the GCC and other Middle East markets. 5G technologies are vital considering the centrality that internet and web-based technologies have become to contemporary life and commercial applications. The sheer number of mobile devices within the GCC comprised of both smartphones and tablets as well as continued use of laptops as well as traditional desktop terminals has meant that the demand for fast, accurate and reliable networks has increased exponentially. This demand is, in part, due to the wide proliferation of web-based applications such as social networks like Facebook, Instagram and WeChat among many others, video on demand and streaming video applications, voice-over-IP (VOIP) applications, livestreaming of television programming, and, of course, the vast array of connected devices found within the Internet of Things (IoT) (Zhang, 2017). This incredibly large number of connected devices that are operating, increasingly, in an always on modality necessitates the adoption of 5G technology platforms. Viewed from this perspective then, Huawei's market leading position as a telecommunications hardware and software provider along with its global leadership

in 5G technologies is indispensable to the global adoption of the 5G standard.

Huawei has a multitude of different market opportunities within the GCC and particularly within Saudi Arabia. The company has an established global presence within the telecommunications industry and especially within the emerging 5G industry. It can leverage its position as the largest telecommunications firm as a means to demonstrate to the GCC and its member states that its size merits contracts despite the ongoing sanctions placed upon it by the US. The rationale is such that it can make the case that its size warrants investment because it has the scale to not only build out member state 5G networks but then to also link these regional 5G networks with established 5G networks in other markets (Park, 2019). Furthermore, the established economic and financial initiatives that China has established with Saudi Arabia and other GCC member states means that Huawei has the direct support of the Chinese government. The Chinese government is intent on ensuring that the US cannot put Huawei out of business as this would undermine, in its view, its national sovereignty. Another element in Huawei's business case that it can leverage in the GCC and surrounding region is its position as a 5G standards developer and technology patent holder. Because Huawei is so influential in the 5G standards arena, having it manage and setup a market's 5G network infrastructure is beneficial on several fronts.

Firstly, no other firm would be as familiar with 5G standards. Secondly, Huawei both sells and services its 5G network hardware and software making it a full-service vendor that can scale with the growth of a regional 5G network. It is these inherent competencies that make Huawei an attractive 5G vendor for the GCC and its member-states like Saudi Arabia. Therefore, moving forward, as a means to offset market losses due to the US sanctions but also as a way to monetize its market leadership in the industry, Huawei should push individual member-states in the GCC for provisional exclusivity while offering price concessions. Initial price concessions by Huawei might undermine its revenue growth but would bolster its market share. The data indicates that regionally and globally Huawei can anticipate a seven-fold increase in data traffic along with exponential growth in the number of connected devices which will allow it to recoup some of the price concessions it will give up initially (Fifth-Generation, 2019). Yet, over the long-term, such a strategy in the GCC preserves Huawei's position as a global leader in 5G technologies.

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