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SMARTPHONE INDUSTRY IN 2013: SAMSUNG'S DILEMMA[1]

Mehdi Hossein-Nejad wrote this case under the supervision of Professor W. Glenn Rowe solely to provide material for class discussion. The authors do not intend to illustrate either effective or ineffective handling of a managerial situation. The authors may have disguised certain names and other identifying information to protect confidentiality.

In April 2014, Samsung released its new high-tech flagship phone, the Galaxy S5. The new Android phone came after another successful year for the company. After becoming the leading global mobile phone manufacturer in 2012,[2] Samsung had maintained that lead in 2013 and sold more phones than rivals such as Nokia and Apple. Samsung was also a major player in the increasingly popular tablet computer market. The success of the Galaxy S3 and S4 had created a lot of expectations for the S5 device, but both Samsung and industry analysts were predicting that the new phone would help the company boost sales even further.

This success and the ever-changing landscape of the mobile computing and telecommunication industries had put Samsung in an interesting competitive position. Many industry watchers had labeled mobile telecommunications as one of the most competitive industries in recent years. In only five to six years, the industry had witnessed many shifts in market share and significant improvements in technology and product features. Given this volatility and the dynamic relationships between suppliers, manufacturers, technology providers, application (app) developers and operating systems, Samsung needed to think carefully about its next competitive steps. Specifically, it needed to think about one very important issue: Should it continue to work with Google's Android operating system (OS), or should it seriously consider an in-house software ecosystem?

THE SMARTPHONE INDUSTRY

While there was no "official" definition for what constituted a smartphone, it was safe to assume that any device with a phone and additional computing capabilities such as web browsing, email, basic word processing and the like could be placed in this category. The attention to smartphones stemmed from interest in personal data assistants (PDAs), which were very compact computers that allowed the user to carry around a computing device for basic functions. These devices did not include a phone, but in the mid to late 1990s, companies such as Nokia, IBM and HP experimented with putting the two functions together in one device.

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[1] This case has been written on the basis of published sources only. Consequently, the interpretation and perspectives presented in this case are not necessarily those of Samsung or any of its employees.

[2] Juliette Garside, "Samsung Shows the Confidence of the World's Leading Phone Maker," The Guardian, April 29, 2012, www.theguardian.com/technology/2012/apr/29/samsung-confidence-leading-phone-maker, accessed June 15, 2014.

This new concept did not get a lot of attention until the mid 2000s with the emergence of a few strong players. Microsoft offered its Windows Mobile platform with a number of its hardware partners and gained considerable market share. Nokia's new devices on its Symbian OS also became very popular, especially outside of the North American market. The major difference between the two platforms was that Nokia controlled both its OS and handsets while, in the other camp, Microsoft was a software company offering its Windows Mobile OS to a number of handset manufacturers.

Another player that emerged as a major force in the mid to late 2000s was Research in Motion (RIM, now Blackberry). Based in Canada, RIM manufactured a line of Blackberry handsets with its own Blackberry OS, which at the time was mostly targeted towards the business consumer. It gained enormous popularity with a variety of connectivity features that allowed users to check email and organize activities on the move. Blackberry rapidly increased its market share in North America and, subsequently, worldwide. Soon, the value of this technology was recognized by other industry players, and companies such as Apple, Samsung and LG started to introduce their own modern smartphones. These smartphones were fitted with more and more features and later became the top selling phones in North America and other parts of the world.

In 2007 and 2008, the industry experienced two events that changed the competitive landscape significantly and initiated a shift in the balance of power. The first was the introduction of the iPhone by Apple. Apple was known for its successful line of Macintosh computers and the iPod music device. Apple's iPhone quickly gained popularity with its trendy design, touchscreen display and easy to use operating system, the iOS. Apple sold 1.12 million iPhones in the first quarter of availability in the United States, while the total number of smartphones before Apple's entry into the space stood at only 715,000 in the country.[3]

The second major development was the introduction of the first phone based on an open source OS named Android. This OS was backed by the tech giant Google, which was looking to obtain a firm foothold in the increasingly important mobile sector. HTC Dream (known as the T-Mobile G1 in the United States) was the first phone to use this operating system.[4] Soon after, many other handset manufacturers such as Samsung, LG, Motorola and Huawei also adopted Android for their devices.

After the introduction of the iPhone and Android devices, the smartphone industry experienced an explosive growth that some industry observers called one of the fasted technology adoption rates (if not the fastest) in history.[5] At the end of 2013, just under one-third of mobile users in the world owned a smartphone, with the number being above 50 per cent for some of the developed economies including the United States and Canada.[6] The trend was expected to continue with emerging economies also experiencing rapid growth, which in 2013 led to sales of smartphones surpassing normal phones for the first time.[7] Data by Strategy Analytics indicated that in 2012, there were one billion smartphone users in the world, but it was expected that this number would reach two billion in 2015.[8] Many believed that the

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[3] Michael DeGusta, "Are Smart Phones Spreading Faster Than Any Technology in Human History?," MIT Technology Review, May 9, 2012, www.technologyreview.com/news/427787/are-smart-phones-spreading-faster-than-any-technology-in-human-history/, accessed June 15, 2014.

[4] Kent German, "A Brief History of Android Phones," CNET.com, August 2, 2011, www.cnet.com/news/a-brief-history-of-android-phones/, accessed June 15, 2014.

[5] Stephanie Mlot, "Smartphone Adoption Rate Fastest in Tech History," Pcmag.com, August 27, 2012, www.pcmag.com/article2/0,2817,2408960,00.asp, accessed June 15, 2014.

[6] "Smartphone Adoption Tips Past 50% in Major Markets Worldwide," eMarketer, May 29, 2013, www.emarketer.com/Article/Smartphone-Adoption-Tips-Past-50-Major-Markets-Worldwide/1009923, accessed June 15, 2014.

[7] Brian X. Chen, "Apple Is Set to Announce Two New iPhones," The New York Times, September 9, 2013.

[8] Kevin J. O'Brien, "Nokia's Low-priced Phone Targets Emerging Markets," International Herald Tribune, October 24, 2012.

surge of smartphones and tablet computers had been at the expense of personal computers (PCs), which had reached saturation point. In 2007, almost 95 per cent of all devices connected to the Internet were PCs operating on Microsoft's OS. This number dropped to 80 per cent in 2012, and analysts believed it would continue to drop rapidly.[9]

ECOSYSTEMS

The smartphone industry was often divided into categories based on the OS. In 2013, the main segments were devices working with Google's Android OS, Apple products with iOS, Blackberry with Blackberry OS (or Blackberry 10 for newer devices) and mobile devices operating on Microsoft Windows. Devices outside these ecosystems held a very small market share. The main handset manufacturers in the Android camp were Samsung, HTC, LG, Sony, Motorola (later acquired by Google), Huawei, Lenovo, ZTE and a number of other Chinese and international brands. Nokia was the major manufacturer of phones with Windows (Microsoft later acquired Nokia), but other manufacturers such as HTC and Samsung had produced phones for this OS as well.

More and more, these were viewed as ecosystems that included the hardware and OS and the increasingly important apps and services that interacted with them to offer a unique experience to the user. The consumer usually made a purchase decision based on the phone's features (technology), OS functions and the availability of apps and services for the particular ecosystem. In each of these aspects, industry rivals competed fiercely for dominance, and some unique competitive dynamics had emerged. The battle seemed to be in two parallel worlds. One was in the ecosystems that formed around each OS, and the second was the technology of the hardware.

Phone hardware was an important element in the competitive arena. The processing power, mobile data network generation and speed, memory, and battery life were important specifications. In addition to these, customers also looked for screen size and resolution, keypad (or lack of), camera picture and video quality, global positioning system (GPS), various sensors (e.g., movement, heart rate), connectivity to other devices and speaker quality. Design and build quality were also important aspects of product development. Smartphone manufacturers constantly worked to get their hands on the latest technology for their flagship phones so that they could differentiate themselves from competitors. This was particularly important for manufacturers that used the same OS as technology became the only differentiating aspect.

The smartphone manufacturers also competed on what they offered in their ecosystems. Each OS had a unique look, user interface, structure, embedded apps and security features (vital for business and enterprise customers). An extremely important feature was the app collection available for each OS. These apps essentially determined what users could do with their phones. Recent research suggested that smartphone users spent up to 80 per cent of the time on their devices using apps.[10] The endless list included games, readers, learning material, fitness tools, banking, news, media and shopping. Because of the importance of apps in the mobile ecosystem, OS developers encouraged app creators to offer products for their online stores. They may have offered incentives, but the biggest incentive was the size of the user base. The more users an ecosystem had, the more attractive it became for app developers.

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[9] *Matt Rosoff, "This is The Year Microsoft Fights Back," Cnn.com, January 19, 2012, http://edition.cnn.com/2012/01/19/tech/innovation/microsoft-business-insider/index.html, accessed June 15, 2014.*

[10] *Simon Khalaf, "Furry Five-year Report: It's an App World. The Web Just Lives In It," Flurry Analytics, April 3, 2013, www.flurry.com/bid/95723/Flurry-Five-Year-Report-It-s-an-App-World-The-Web-Just-Lives-in-It, accessed June 15, 2014.*

Apple developed and owned its own OS that included an online App Store with a very large content collection. In addition, it had iTunes for access to music and movies that worked perfectly with its OS (the iOS). With one Apple account, users had access to their collection of content on multiple Apple devices. Apple had an enormous collection of apps in its store, but so did its arch rival Android. In terms of revenues generated from apps, Apple still held a sizable (although shrinking) lead in 2013, according to a report by Distimo.[11] It was also attractive to app developers because it was more profitable and more importantly less fragmented since most Apple users updated to the latest version of the iOS while this percentage was much lower for Android users.[12]

Apple products were known for their design, quality and technology, and consumers were willing to pay a premium for them. Apple product launches usually received a lot of media hype, and buyers lined up for hours to get their hands on the latest products as soon as possible. For the past few years, Apple had released a new phone every year, except in 2013 when it released two new iPhones for the first time. The iPhone 5s was its new flagship phone, and a lower priced version called the 5c was also introduced. The 5c was approximately $100 cheaper and had specifications similar to the older iPhone 5. Although some financial and technology analysts were hoping for a lower priced phone by Apple to compete with a lower priced segment of Android phones, its CEO reaffirmed that Apple was not in the business of producing cheap products.[13]

Phone manufacturers such as Samsung, Sony, LG, HTC and Huawei used Google's Android OS, which offered access to apps through the Play Store. Google had an open source approach, which meant the manufacturers used the OS for free. They could and did make minor modifications and offered some services or features that were unique to each. For example, Sony had added its well-known Walkman media player to its Android phones. But unlike Apple, these handset manufacturers relied on Google for OS updates and some other services. Google, on the other hand, relied on traffic through its embedded services with the OS to generate advertising revenue. The OS had also given Google a very strong foothold in the rapidly growing mobile computing industry, something that rivals such as Microsoft were struggling to do.

Google's Android was the most widely used OS in 2013 with almost four out of every five smartphones in the world operating on its ecosystem (up from 69 per cent in 2012) with Apple's iOS second with a 15 per cent share of the market.[14] This was incredible growth given that it was only in 2011 that Android replaced Apple's iOS as the dominant OS in smartphones and portable devices such as tablet computers. But this massive market share was distributed among all the manufacturers that used Android. Each company had managed to capture some of this share, although in recent years Samsung had emerged as the clear frontrunner.

One other major difference between the Android camp and Apple was their collection of products. While Apple had insisted on only one or two phones each year that were in the higher end of the price scale, most Android phone makers usually offered multiple phones with different specifications, screen size, features

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[11] Jim Edwards, "The Unthinkable is Happening: Apple's Dominance in Apps is Slipping Away to Android," Business Insider, December 18, 2013, www.businessinsider.com/apple-android-market-share-asia-2013-12, accessed June 15, 2014.

[12] Dave Smith, "Apple's App Store Breaks Record, But Google Play Is Catching Up," Readwrite.com, January 8, 2014, http://readwrite.com/2014/01/08/app-store-sales-google-play-android, accessed June 15, 2014.

[13] Connie Guglielmo, "Tim Cook Says Apple Isn't Interested In 'Junk Part of Low-end Smartphone Market.'" Forbes.com, September 19, 2013, www.forbes.com/sites/connieguglielmo/2013/09/19/tim-cook-says-apple-isnt-interested-in-junk-part-of-low-end-smartphone-market/, accessed June 15, 2014.

[14] "Android and iOS Continue to Dominate the Worldwide Smartphone Market with Android Shipments Just Shy of 800 Million in 2013, According to IDC," IDC Press Release, February 12, 2014, www.idc.com/getdoc.jsp?containerId=prUS24676414, accessed June 15, 2014.

and, more importantly, price levels. This allowed them to capture a wider segment of the population with cheaper phones for emerging markets and those consumers who were price sensitive, mid-range phones with acceptable features and relatively low prices and the flagship high-end phones with the latest features and technologies for tech-savvy and more affluent market segments. The phones usually differed in the processor generation and speed, memory level, screen size and resolution, build quality and battery life.

Google had also extended the applications for its Android system by offering a home entertainment device (Chromecast) for TVs that allowed them to access applications such as YouTube and Netflix through the use of an existing wi-fi network. The device basically allowed users to control content on their TVs with their smartphone, tablet or laptop.[15] The Android system, because of its open source nature, had the potential to be applied as a control mechanism for a variety of devices, from TVs to thermostats and other home appliances.

Blackberry (formerly known as RIM) was another important player in the smartphone industry. Like Apple, Blackberry had developed its own OS, which allowed it to offer a tailored product for business customers. It also operated its own app store titled Blackberry App World. The company, based in Waterloo, Ontario, Canada, became extremely popular in the late 2000s, and users were so addicted to the device and its functions that the term Crackberry was used to describe it. At the height of its popularity, Blackberry had approximately 42 per cent of the market share in the United States.[16] The same success was repeated in Canada, the United Kingdom, Australia and Western Europe, but Blackberries were also extremely popular in a number of emerging economies in Asia and Latin America. Users loved the phone's features (including the iconic keypad) and services such as BBM messaging, but businesses particularly turned to Blackberry for its enterprise services and the data security it offered.

Blackberry's market position in North America and in most other global markets changed dramatically after its peak in 2010. Due to growing competition and the emergence of other powerful rivals (Android in particular), Blackberry's market share suffered dramatically as it slipped to third place after iPhone and Android. Its global market share fell to 4.5 per cent in 2012 and further down to 2 per cent in 2013. It also started losing market share in some emerging markets where it had been doing extremely well only a few years ago. For example, its share of the Indonesian market fell from 43 per cent in 2011 to only 14 per cent in 2013.[17] The number of apps offered on Blackberry App World was significantly lower than both iOS and Android, and as apps became increasingly important for general users, more and more users migrated to rivals.

Faced with growing competition and investor pressure, Blackberry introduced a new operating system called BB10 (Blackberry 10) and a new set of phones including the flagship Z10 and Q10 in 2013. The company also tried to encourage app developers to release versions for its App World. On the hardware front, it released the lower priced Q5 for emerging markets. But even though the new OS and phones received overall good reviews, the company failed to attract customers, and its market share slipped to fourth place at the end of 2013 after Android, iOS and Windows Phone.

The fourth and final major ecosystem in the smartphone industry worked on a modified Microsoft Windows platform called Windows Phone. Microsoft launched the first version (Windows Phone 7) in late 2010 to replace its old Windows Mobile OS. Analysts believed that Microsoft was slower than most rivals

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[15] According to Google website play.google.com/store/devices/details?id=chromecast, accessed June 15, 2014.

[16] Jeff Clabaugh, "Blackberry U.S. Market Share Falls to 5.4%, Google's Android remains on Top," Washington Business Journal, April 4, 2013, www.bizjournals.com/washington/news/2013/04/04/blackberry-us-market-share-falls-to.html, accessed June 15, 2014.

[17] Will Connors, "Blackberry Losing Traction in Developing Markets," The Wall Street Journal, February 21, 2014.

in responding to the smartphone growth explosion[18]. Although it did hold considerable market share at one point, that share diminished rapidly with the introduction of rival ecosystems in the late 2000s. Microsoft had lost valuable time as rivals were scrambling to gain market share in this highly dynamic industry.

In response to this new competitive landscape and the indisputable importance of the smartphone industry, Microsoft introduced a revamped OS (Windows 8) with compatible versions for PCs, tablets and smartphones. It also entered a close relationship with Nokia to introduce a new generation of Windows phones, a relationship that later led to the acquisition of Nokia by Microsoft in 2013. The move was also seen as a fresh start for Nokia, which was once the largest handset producer in the world but had lost ground to competitors. In 2012, the Finnish company attempted a re-energized entry into North America with its CEO at the time, Stephen Elop, promising to engage in fierce battle to re-enter the United States market starting with the introduction of the flagship Lumia 900 phone running on Windows.[19] While Nokia phones had received largely positive reviews,[20] Microsoft and Nokia held only around 3 per cent of the smartphone market share in the fourth quarter of 2013.[21] The shift to Microsoft's OS also meant that Nokia phased out phones running on its in-house Symbian OS.[22]

The Microsoft Windows platform also included an online app store, and while the number of apps grew, it was still far behind that of iOS and Android. The Windows Phone OS was available on Nokia phones and a limited number of phones from manufacturers such as Samsung and HTC.

Suppliers

Smartphones were made up of countless technological components that ranged from memory chips and processors to the screen and casing of the phone. Some of these components were widely available, especially when they became older technologies with low-tech components. Others, such as the microprocessor and display panel, were more high-tech and were available through only a limited number of suppliers. The majority of processors used in smartphones were based on the ARM architecture, which was known for its speed and, more importantly, power efficiency. In 2013, close to 90 per cent of smartphones and 30 per cent of mobile computing devices used ARM processors.[23] Qualcomm was by far the largest chip maker for this sector with 50 per cent market share in app processors and 86 per cent market share in LTE cell phone modems in 2013.[24] Other chip makers for the mobile sector included NVidia, Broadcom, Texas Instruments, MediaTek, STMicroelectronics, Samsung, Apple and Intel (different architecture).

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[18] Andrew Cave, "Former Microsoft CEO Steve Ballmer's Biggest Regret," Forbes.com, March 4, 2014, www.forbes.com/sites/andrewcave/2014/03/04/former-microsoft-ceo-steve-ballmer-my-biggest-regret/, accessed June 15, 2014.

[19] Mark Millian, "Windows Phone Backers Declare Mobile War," Cnn.com, January 10, 2012, http://edition.cnn.com/2012/01/10/tech/mobile/nokia-windows-phone/, accessed June 15, 2014.

[20] Rosoff, op.cit.

[21] "Android and iOS Continue to Dominate the Worldwide Smartphone Market with Android Shipments Just Shy of 800 Million in 2013, According to IDC," IDC Press Release, February 12, 2014, www.idc.com/getdoc.jsp?containerId=prUS24676414, accessed June 15, 2014.

[22] O'Brien, op.cit.

[23] Darcy Travlos, "ARM Holdings and Qualcomm: The Winners in Mobile," Fobes.com, February 28, 2013, www.forbes.com/sites/darcytravlos/2013/02/28/arm-holdings-and-qualcomm-the-winners-in-mobile/, accessed June 15, 2014.

[24] Ibid

Buyers

The need to communicate and stay connected was something that almost every single human being desired. This explained the explosive increase in the number of mobile and smartphone users around the world. Although demand was strong worldwide, the purchase mechanisms in each market were unique and relied on the social and economic environment of each country. In North America and parts of Europe, most consumers received their phones from their carriers (or their authorized dealers) when they signed up for a term wireless plan. Often, the price of the phone was incorporated in the monthly payments to the carriers for wireless services and was paid off by the end of their one-, two- or three-year contract. This subsidized approach was popular in these markets since it enabled consumers to buy more expensive phones with lower upfront costs since the price was incorporated into monthly payments. In some markets, the phones bought this way were usually locked to the respective carrier and would only work on that network unless unlocked at the end of the contract.

In the subsidized approach, wireless carriers usually bought the phones from the manufacturers in large quantities and sold them to customers in a handset and service bundle. Since there were a limited number of wireless carriers in each market, handset manufacturers often worked hard to get their phones available on networks. Each deal was unique, and companies usually negotiated on terms such as co-marketing, services and features available on the phone.[25] The story was different for more popular phones as the carriers wanted to include them in their portfolio to attract customers. Analysts believed that it was Apple that initiated the shift of power to handset makers by dictating the price and phone features to carriers.[26] While wireless carriers still carried exclusive phones, the more popular handsets were increasingly available on more than one (sometimes all) carriers. In these markets, some handset manufacturers also offered their phones at full price directly to consumers without a wireless plan, so they could use the phone on any network and with any plan. In addition to carriers and direct sales, companies also sold directly to corporate and government customers since they usually required large numbers of devices and even tailored services.

The story was different in other parts of the world including the very important emerging economies. Smartphone sales were growing rapidly in these markets including China and India. In fact, China surpassed the United States in 2012 to become the largest smartphone market.[27] But in most of these countries, the consumer had to pay full price for the phone since carrier-subsidized price schemes were not available. This, coupled with the general lower purchasing power in most of these markets, put pressure on handset manufacturers to lower prices. Depending on the country and the manufacturer, phones were sold through direct sales channels, authorized dealers or other distributors and retailers. This full-price model had created a unique dynamic in the industry, and most manufacturers responded with lower priced phones to capture market share. Some other manufacturers such as Huawei and ZTE that produced lower priced phones were doing great in markets such as China.[28] With the growth in emerging economies, the market for lower priced phones was expected to become more attractive and consequently more competitive.

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[25] *Jessica E. Vascellaro "Air War: A Fight Over What You Can Do On a Cell Phone; Handset Makers Push Free Features for Which Carriers Want to Charge," Wall Street Journal, June 14, 2007.*
[26] *Kevin Allison, Andrew Parker and Paul Taylor, "Winners and Losers as Apple Calls Shots on the iPhone," Financial Times, July 6, 2007.*
[27] *Eric Pfanner, "China Taps a Growing Phone Market," The New York Times, July 6, 2013.*
[28] *Chen, "Apple Is Set to Announce Two New iPhones," op.cit.*

Mergers and acquisitions

The mobile telecommunication industry had witnessed countless mergers and acquisitions in recent years. In this industry, technology and patents were extremely important, and access to cutting-edge technology was achieved quickly through the acquisition of another company or working closely with one. For example, Sony Corporation and Ericsson of Sweden had a joint venture from 2001 to 2012 that led to the introduction of many new phones under the Sony Ericsson brand with features and technologies from both companies (e.g., Walkman branded handsets and Cybershot camera phones).[29] Acquisitions happened on a regular basis, and technology giants such as Nokia, Apple and Samsung acquired smaller companies that had patents, products or technologies that fit in their arsenal. Patents were also extremely useful in the legal battles that became very common in this industry.

A number of high-profile acquisitions changed the competitive landscape of the smartphone industry. In 2011, Google officially announced that it had acquired Motorola Mobility Holdings, Inc. (Motorola) to mark its entrance into the handset manufacturing sector. The two companies hoped that the deal would help them innovate and offer better products to the consumer, but more importantly, it was an attempt to protect the Android OS in legal battles using Motorola's patent portfolio.[30] But in 2014, Google announced that it had sold the Motorola Mobility smartphone business to Chinese PC maker Lenovo. Motorola handsets failed to gain traction in the market, and the unit became a potential source of tension between Google and other Android device makers.[31] In a blog post, the co-founder and CEO of Google, Larry Page, pointed to the super competitive nature of the smartphone industry and indicated that Google wanted to focus all energy on the Android ecosystem.[32] Google also indicated that it was holding on to a large number of patents it had acquired from Motorola.[33]

A second high-profile event in the industry was the acquisition of Nokia's Device and Services business by software giant Microsoft. The move came after the two companies initially announced in 2011 that they would work together to introduce new phones based on Microsoft's new Windows OS.[34] But in 2013, Microsoft announced that it would substantially purchase Nokia's Device and Services division and license its patents for 5.44 billion Euros cash.[35] The move, which was labelled as Microsoft's last shot at a mobile future by some analysts,[36] was to bring expertise and technology from two companies together in order to increase Microsoft's market share in ecosystem battles.

Legal battles

The industry witnessed a large number of legal battles over technology, product features and design and licensing agreements. Almost every single major player in the industry was involved to some extent in

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[29] Sven Grundberg, "Sony Buys Ericsson Stake in Handset Joint Venture," The Wall Street Journal, October 28, 2011.
[30] "Facts About Google's Acquisition of Motorola," Google.com, www.google.com/press/motorola/, accessed June 15, 2014.
[31] Roger Cheng, "Google Sells Motorola Unit to Lenovo for $2.9B," Cnet.com, January 29, 2014, www.cnet.com/news/google-sells-motorola-unit-to-lenovo-for-2-9b/, accessed June 15, 2014.
[32] Larry Page, "Lenovo to Acquire Motorola Mobility," http://googleblog.blogspot.ca/2014/01/lenovo-to-acquire-motorola-mobility.html, accessed June 15, 2014.
[33] "Lenovo to Acquire Motorola Mobility from Google," company press release, January 20, 2014, https://investor.google.com/releases/2014/0129.html, accessed June 15, 2014.
[34] Rosoff, op.cit.
[35] "Microsoft to Acquire Nokia's Devices and Services Business, License Nokia's Patents and Mapping Services," company news release, September 3, 2013, www.microsoft.com/en-us/news/press/2013/sep13/09-02announcementpr.aspx, accessed June 15, 2014.
[36] Eric Reguly, "The Nokia Deal: Microsoft's Last Shot at a Mobile Future," The Globe and Mail, September 2, 2013, www.theglobeandmail.com/report-on-business/international-business/us-business/microsoft-buying-nokias-devices-and-services-business-in-72-billion-deal/article14078586/, accessed June 15, 2014.

these patent wars. In one of the most significant rulings, a jury ruled against Samsung and awarded Apple $1 billion for patent violations. The amount was later reduced to around $600 million, and the case was still going through appeals process in May 2014.[37] In fact, Apple and Samsung were involved in patent wars in numerous countries around the world with each scoring victories depending on the country and case.

In another famous case, Apple and HTC ended years of legal battle by agreeing to enter licensing agreements to gain rights to some of each other's patents.[38] Because of these patent wars and the potential losses that came from rulings in the form of fines or injunctions, companies looked to gather a large patent repertoire. Acquisitions of other companies that possessed technology or licensing agreements were two avenues towards this goal.

TABLET COMPUTERS

Although the idea of tablet computing with the ability to interact with an LCD screen went back many years, Apple revived the concept with the introduction of its iPad product in 2010. This newer and more compact concept of tablet computing allowed users to have access to most of their daily computing needs in addition to online connectivity through wi-fi and mobile networks. Consumers had shown great interest in the concept, and the growth was phenomenal. IDC had forecasted that tablet shipments in 2013 would be 58 per cent higher than the year before, and for the first time, shipments would surpass those of traditional portable PCs.[39] It was estimated that the iPad alone took approximately 10 per cent of market share away from PCs in only the first two years of its release.[40] This significant shift in consumer preference fuelled the development of tablets by other competitors.

The tablet computer industry was closely tied to smartphones, and most of the major players were competing in both industries. All the software ecosystems were present with Apple's iOS, Blackberry OS, Microsoft Windows and Google Android fighting fiercely for market share. Another similarity between the two industries was the different approaches companies had towards software and hardware development with Apple and Blackberry offering their OS exclusively on their own devices while Windows and Android were available on devices from various manufacturers.

Apple's line of iPad products was extremely popular, and according to research by Gartner, it sold more than 70 million units worldwide in 2013. This compared to approximately 61 million a year before. But its main rival Android increased sales from 53 million to a staggering 121 million in 2013 to overtake iOS for the first time.[41] In the Android group, data from IDC confirmed Samsung as the most successful with close to 20 per cent of global tablet market share in the fourth quarter of 2013 behind Apple's approximately 34 per cent.[42] In addition to some of its Android competitors in the smartphone segment, Samsung also competed with traditional PC makers such as Asus, Acer, Lenovo and Dell who also produced tablets that ran on Android. There were numerous smaller tablet manufacturers who produced tablets on the Android ecosystem.

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[37] Nick Wingfield and Brian X. Chen, "Patent Case Has Potential to Give Apple Upper Hand," The New York Times, August 9, 2013.
[38] Ian Sherr, "Apple, HTC Settle Patent Dispute, Sign Licensing Pact," The Wall Street Journal, November 11, 2012.
[39] "IDC Forecasts Worldwide Tablet Shipments to Surpass Portable PC Shipments in 2013, Total PC Shipments in 2015," IDC press release, May 28, 2013, www.idc.com/getdoc.jsp?containerId=prUS24129713, accessed June 15, 2014.
[40] Rosoff, op.cit.
[41] "Gartner Says Worldwide Tablet Sales Grew 68 Percent in 2013, With Android Capturing 62 Percent of the Market," Gartner press release, March 3, 2014, www.gartner.com/newsroom/id/2674215, accessed June 15, 2014.
[42] "A Strong Holiday Quarter for the Worldwide Tablet Market, But Signs of Slower Growth Are Clear, According to IDC," IDC press release, January 29, 2014, www.idc.com/getdoc.jsp?containerId=prUS24650614, accessed June 15, 2014.

Just like the smartphone revolution, Microsoft was very late entering the game[43] but had since introduced its own line of Surface tablets operating on Windows 8. Other manufacturers such as Dell also offered tablets that run on Microsoft Window's platform. According to IDC, Windows was forecasted to hold around 3.4 per cent of market share in 2013.[44] Blackberry also attempted an entry into the tablet space with its Playbook in 2011. However, the device could not compete with rivals, and the company did not keep up with the pace of the industry and did not develop new products. At one point, it took an almost half billion dollar loss due to unsold Playbooks.[45] In 2013, Blackberry's CEO at the time was quoted as saying that tablets were not a good business model and would be dead in five years.[46] Blackberry had not released a tablet on its new BB10 operating system.

Finally, Amazon had also entered this space with its line of Kindle Fire tablets. This was a leap from its original Kindle, which was marketed as an e-reader for books. The Kindle Fire had a full colour display and ran on a special version of Android, which was modified to include Amazon-specific features and services. One feature was Amazon's own app store instead of Google Play. Amazon had released a number of versions with high definition (HD) display and upgraded hardware. Its market share climbed above 7 per cent for the fourth quarter of 2013, according to data from IDC's worldwide tablet tracker.[47]

SAMSUNG

Samsung Electronics was part of the large South Korean Samsung Group of companies, which operated in heavy industries, chemicals, financial services and other sectors.[48] Samsung (meaning Three Stars in Korean) was founded in 1938 in Daegu, Korea as a trading company that sold Korean fish, vegetables and fruit to other parts of Asia.[49] It quickly expanded its scope to manufacturing, machinery and sales operations. In the next few decades, the company embarked on a massive diversified growth path to become an international conglomerate with many listed and unlisted subsidiaries and affiliate companies. In 2012, Samsung Group's total revenues were reported to be ₩302 trillion (approximately US$255 billion).[50]

Samsung's electronics business (Samsung Electronics, hereafter referred to as Samsung) was its publicly traded and highly diversified subsidiary, which operated in areas such as visual displays (including TVs), appliances, health and medical, mobile communications, LED, memory, etc. A full list of businesses is presented in Exhibit 1. Traded on the Seoul Stock Exchange, Samsung Electronics generated revenue close to US$180 billion in 2012, making it the world's largest technology company based on revenue.[51] From that amount, approximately US$100 billion was generated from its information technology (IT) and

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[43] *Jay Greene, "Late Windows 8 Tablets Botch Consumer Opportunity," Cnet.com, November 29, 2011, www.cnet.com/news/late-windows-8-tablets-botch-consumer-opportunity/, accessed June 15, 2014.*

[44] *"Worldwide Tablet Shipments Forecast to Slow to Single-Digit Growth Rates by 2017, According to IDC," IDC press release, December 3, 2013, www.idc.com/getdoc.jsp?containerId=prUS24461613, accessed June 15, 2014.*

[45] *Will Connors, "RIM Unveils New Playbook Software, Ramps Up Marketing," The Wall Street Journal Online, February 22, 2012, online.wsj.com/news/articles/SB10001424052970204909104577236852381216194, accessed June 15, 2014.*

[46] *Jay Yarow, "Blackberry CEO: Tablets Won't Be Around in Five Years," Business Insider, April 30, 2013, www.businessinsider.com/blackberry-ceo-tablets-wont-be-around-in-five-years-2013-4, accessed June 15, 2014.*

[47] *"A Strong Holiday Quarter for the Worldwide Tablet Market," op.cit.*

[48] *Company website, www.samsung.com/ca/aboutsamsung/samsung/affiliatedcompanies.html, accessed June 15, 2014.*

[49] *Company website, www.samsung.com/ca/aboutsamsung/samsung/history.html, accessed June 15, 2014.*

[50] *"Marking 300 Trillion Won in Revenue, 500 Trillion in Total Assets," Business Korea, September 23, 2013, www.businesskorea.co.kr/article/1505/samsung-group-marking-300-trillion-won-revenue-500-trillion-total-assets, accessed June 15, 2014.*

[51] *James Vincent, "Samsung Ranked as World's Largest Tech Company — Even Bigger than Apple," The Independent, July 9, 2013, www.independent.co.uk/life-style/gadgets-and-tech/samsung-ranked-as-worlds-largest-tech-company--even-bigger-than-apple-8697842.html, accessed June 15, 2014.*

Mobile Communications division, which included its mobile phone business.[52] Because of its massive revenues, the company had access to a lot of capital; as a result, large amounts of funds were directed toward research and development (R&D) and advertising. In 2012, it spent approximately 5.7 per cent of revenues, or $10.5 billion dollars, on R&D, which was a considerable amount by any standard in this industry.[53] Samsung had around 60,000 employees working in research centres in countries such as Russia, India, the United Kingdom, China and the United States (Silicon Valley).[54] It also had a marketing budget of $11.4 billion, which included advertisements, sales promotions and public relations.[55]

Compared to some of its rivals in the smartphone industry, Samsung was in a unique position. Due to its diversified nature, it produced many of the components needed for its smartphones and benefitted from related technologies in its multiple lines of business. In fact, Samsung supplied some of these components to rivals such as Apple. In microchips, it had moved beyond memory chips to the more complex processors and logic chips and also owned the foundries that produced them.[56] Samsung also manufactured high-tech display panels used in various electronic products including smartphones. Most other competitors usually relied on suppliers and manufacturers located mostly in Asia to supply a component or offer manufacturing capability to produce a component. Samsung did most of these in-house and was a rival to these manufacturers and suppliers.[57] In fact, the company had to spend a lot of money on advertising to shed the image that it was simply a manufacturer (approximately $3 billion in 2011).[58]

Samsung had a long history of producing mobile phones and had come a long way to become the world's leading mobile phone manufacturer. In 1999, Samsung mainly focused on the CDMA standard popular in the United States and Asia; with only 6.2 per cent of market share, it was in fourth place after Nokia, Motorola and Ericsson.[59] By the mid 2000s, Samsung was sitting comfortably in third place after Nokia and Motorola with its collection of phones at various price points. In 2007, Samsung finally overtook Motorola to claim the second spot after Nokia in mobile market share.[60] This was also the year Apple introduced its much anticipated iPhone and Blackberry was experiencing great growth and popularity worldwide. The shift towards smartphones and the emergence of new players marked a major shift in the competitive landscape of the industry. Samsung finally became the top mobile phone maker (including both smartphones and traditional handsets) in the first quarter of 2012 when it shipped more phones than its main rival, Nokia. This also meant an end to Nokia's 14-year reign as the world's biggest cell phone maker in terms of shipments.[61] The growing popularity of Android was an important factor in Samsung's rise to first place. According to data from Gartner, Samsung sold close to one-quarter (24.6 per cent) of all mobile phones worldwide in 2013. This was almost double the number sold by second place Nokia.[62]

In the smartphone segment (which outsold traditional phones for the first time in 2013), Samsung's main rival was Apple, and the fierce competition between them had manifested itself both in the actual devices

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[52] *Company Annual Report, 2012.*
[53] *Brian X. Chen, "Samsung vs. Apple: The Capital Spending Battlefield," The New York Times Blogs, February 11, 2013, http://bits.blogs.nytimes.com/2013/02/11/samsung-capex-advertising/, accessed June 15, 2014.*
[54] *Ibid.*
[55] *Ibid.*
[56] *Annie Huang, "Taiwan Tries to Shore Up Its Defenses Against Samsung," The International Herald Tribune, April 22, 2013.*
[57] *Ibid.*
[58] *"Samsung vs. Apple: The Capital Spending Battlefield," op.cit.*
[59] *Alan Cane, "Nokia Maintains Lead in Mobile Phone Market," The Financial Times, February 8, 2000.*
[60] *Paul Taylor, "Gloom over Motorola's Results," The Financial Times, July 19, 2007.*
[61] *Jun Yang and Mark Lee, "Samsung Ends Nokia's 14-year Run as Biggest Handset Maker," Bloomberg.com, April 27, 2012, www.bloomberg.com/news/2012-04-27/samsung-overtakes-nokia-as-world-s-biggest-phone-vendor.html, accessed June 15, 2014.*
[62] *"Gartner Says Annual Smartphone Sales Surpassed Sales of Feature Phones for the First Time in 2013," Gartner press release, February 13, 2014, www.gartner.com/newsroom/id/2665715, accessed June 15, 2014.*

and the court battles over patents. In 2013, Samsung sold the most smartphones with just over 31 per cent market share according to data from IDC. Apple was second with just over 15 per cent; Huawei, LG and Lenovo came next, but all had less than 5 per cent market share.[63] Samsung's product strategy was in contrast to its closest rival, Apple. Until 2013, each year Apple only released one new iPhone, which usually came with a new iOS introduced in the same year. In 2013, it broke tradition and released two new phones, the iPhone 5s and 5c. Although the 5c was a lower priced choice, it was still close to $600 without a carrier contract and fell in the high-end premium category.

Samsung and many other Android phone makers employed a different approach by releasing many phones at different price points. Samsung had the Galaxy S line and the Galaxy Note in the high-end premium segment. It usually introduced the Galaxy S phones in the first or second quarters of the year, well before Apple came out with its new phone. Its Galaxy Note phones, which had a significantly larger screen size of more than 5 inches (e.g., 5.7 inches for the Note 3), were usually released around the same time as the iPhone. The Galaxy Note 3 was released in September 2013 with the Galaxy S5 release date scheduled for April 2014. Samsung was known for adding the latest technology in its flagship phones with the S5 set to include features such as a 16 mega-pixel (mp) camera, water resistance, enhanced battery life, heart rate monitor, finger scanner, full HD display and more.[64] Samsung smartphones also worked with its newly released Galaxy Gear smartwatch that offered many of the functions of a smartphone on a device that resembled a wristwatch.

In addition to flagship phones, Samsung also offered smartphones in the low and mid-range price points for emerging markets or consumers who did not want all the features of a flagship phone. Devices such as Galaxy Gio, Galaxy Q, Galaxy Discover and Galaxy Ace fell in the low price range while smartphones such as the Galaxy S4 mini fell somewhere between the two price points. Samsung also had a large collection of tablet computers with screen sizes ranging from 7.0 inches to 10.1 inches in its Galaxy Tab series and even bigger on its Galaxy Pro tablets. The wide range of products at different price points allowed Samsung to capture market share worldwide with a phone for every budget.

Samsung and its main rival Apple also differed in their approach to manufacturing. While Apple had outsourced most of its manufacturing operations to vendors in Asia and other parts of the world, Samsung had remained a manufacturer. Because it had offered components and services to other technology giants including Apple, Samsung had gained a good understanding of the key success factors in the industry and what it took to design and manufacture a good product.[65] This knowledge and insight had been put to use in the development and marketing of new products.

RELATIONSHIP WITH GOOGLE

Samsung's relationship with Google was an interesting one. Many observers in the industry had been keeping an eye on the dynamics of this relationship, and while some had praised it as an example for complementary products adding value to each other, others had pointed to potential problems.[66] Smartphones produced by handset manufacturers like Samsung that use Google's Android OS are a revenue tool for Google. These phones had many of Google's services such as search, Gmail and YouTube pre-installed on them. The Android environment was designed in a way that the consumer was encouraged

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[63] "Worldwide Smartphone Shipments Top One Billion Units for the First Time, According to IDC," IDC press release, January 27, 2014, www.idc.com/getdoc.jsp?containerId=prUS24645514, accessed June 15, 2014.

[64] Company website, www.samsung.com/global/microsite/galaxys5/features.html, accessed June 15, 2014.

[65] Chen, "Samsung vs. Apple," op.cit.

[66] Amir Efrati, "Samsung Sparks Anxiety at Google," The Wall Street Journal Online, February 25, 2013, http://online.wsj.com/news/articles/SB10001424127887323699704578324220017879796, accessed June 15, 2014.

to use more and more of Google's services such as email, cloud storage and maps. These all created traffic, which translated to potential revenue for Google through ad placement. So, in a sense, Samsung's success in the smartphone industry over non-Android rivals such as Apple and Blackberry was good news for Google too.

By 2013 Samsung was selling approximately 40 per cent of all smartphones and more than 25 per cent of the tablets that used the Android OS. Samsung's rise to become the major hardware manufacturer for this ecosystem created an interesting dynamic in the relationship between the two companies. Alongside the apparent benefits of this market share increase, there were reports of worry. In one instance, media sources quoted Google employees saying that the rise of Samsung's market share above the current levels could become a threat,[67] although most other comments had mentioned the excellent working relationship between the two companies.

Samsung also relied on Google to develop a new version of the OS to take advantage of its cutting-edge hardware. In the past, Samsung had been left to wait for a new OS even though it had released a newer version of its phone. This led to a rare statement by an Apple executive pointing to the fact that the Galaxy S4 had to work with an older OS, which many industry observers viewed as a weakness.[68] Apple on the other hand did not have this problem since it developed both the hardware and software for its phones. Google's acquisition of Motorola also highlighted threats posed by potential shifting of priorities. Despite reassurances from Google executives, the move could have potentially put Google in direct competition with all current handset manufacturers using the Android ecosystem. If Google decided to give preferential treatment to Motorola or another handset that it chose, it could potentially hurt all other rivals. But in 2014, all that ended when Google decided to sell Motorola to Chinese-owned Lenovo and shift focus back to Android. Although the problem had gone away for now, the whole episode illustrated the delicate balance of power between handset manufacturers and Google.

In theory, Samsung could have demanded a bigger share of the revenues generated form advertising through its devices. It did have a few tools in its arsenal to force Google to comply. First and most extreme would be to drop Android as its operating system and invest a considerable amount of capital to develop its own operating system. This would allow it to become more like Apple and control both the hardware and OS aspects of its products. It would no longer rely on another company for part of the package.

Given Samsung's market share and its growing fan base, this was a possibility. Its close association with the open source Tizen operating system had also fuelled rumours that it was seriously contemplating this option, although managers had emphasized the company's focus on Android and signaled that the two systems would coexist.[69] The major negative would be the financial cost and limits on managerial/technical time, attention and capability. Samsung had focused most of its attention on developing the most advanced technology for its phones and outperforming rivals. The added time and attention needed to develop an OS would no doubt put a strain on its capital and cognitive resources. Android's widespread popularity was also an important factor against such a move.

The second option was to follow Amazon's footsteps when it came out with its Kindle Fire tablet. The Kindle Fire tablet was an Android based device, but Amazon had decided to disable the Play Store feature so users did not have access to Google's app store. To replace it, Amazon decided to open its own store

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[67] *Ibid.*

[68] *Connie Guglielmo, "Apple Marketing Chief Slams Android, Samsung's New Galaxy Smartphone," Forbes.com, March 13, 2013, www.forbes.com/sites/connieguglielmo/2013/03/13/apple-marketing-chief-slams-android-samsungs-new-galaxy-smartphone/, accessed June 15, 2014.*

[69] *Andrew Hoyle, "Android and Tizen Will Coexist, Samsung Insists," Cnet.com, November 18, 2013, www.cnet.com/news/android-and-tizen-will-coexist-samsung-insists/, accessed June 15, 2014.*

with a sizable collection of apps. Samsung might also see this as a viable model and through it control the features/services that will be available to its users. Although Samsung had a limited app store, it could decide to develop it more comprehensively and offer services that replaced Google's that were bundled with Android.

The third and final option was to change its operating system and adopt Microsoft or Blackberry OS as an alternative. Samsung already had one product with Microsoft Windows 8.1, and other handset manufacturers also had a very limited number of products on this ecosystem. But if Samsung was to shift its flagship devices from Android to Microsoft or Blackberry OS, it would cause a major shake-up in the industry. If this happened and others followed, Google would be losing a major revenue stream to a major rival (i.e., Microsoft), which could potentially eat into Google's share in the Internet search market. But this would not be an easy endeavour for Samsung. Android had gained a loyal fan base, and it would be naïve to think that these consumers would make the shift to another OS if Samsung decided to do so. Google had services such as maps and YouTube that were very popular and might not be available on other platforms. This would be another switching cost for consumers. Samsung was also getting Android for free — it might not get the same deal from other OS developers.

It seemed that success for Samsung had also revealed new challenges. It was now a major player in the global smartphone and tablet industry, and both rivals and collaborators were closely following its every move. Many were interested to see what the company would do next as it navigated through this extremely competitive landscape.

EXHIBIT 1: OVERVIEW OF SAMSUNG BUSINESSES

Consumer Electronics	IT and Mobile Communication	Device Solutions	Other Businesses
Visual Display Business	Mobile Communications Business	Memory Business	Energy Storage Systems
Digital Appliances Business	Network Business	System LSI Business	Li-ion Batteries
Printing Solutions Business	Digital Imaging Business	LED Business	Key Electronics Components
Health and Medical Equipment Business			Display (LCD, OLED)
			Electronic Materials
			Information and Communication Technologies Services

Source: Company Annual Report 2012 and company website, www.samsung.com/ca/aboutsamsung/samsung/affiliatedcompanies.html.