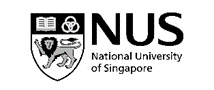
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MICROSOFT SURFACE: ACCELERATING DIGITAL TRANSFORMATION[[1]](#endnote-1)

[Sarah Lai-Yin Cheah](https://iveypubs.my.salesforce.com/003A000001lignB), and [Nigel Koon-Leong Toe](https://iveypubs.my.salesforce.com/0031J00001PxJno) wrote this case 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.

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Panos Panay was corporate vice-president of Devices, a division of Microsoft Corporation (Microsoft). By December 2017, his 14 years of experience had enabled him to orchestrate the development of the personal computing hardware business from concept to successful commercialization.[[2]](#endnote-2) The Devices division was able to generate growth, showing that the company had the potential to do well in the hardware market amidst an increasingly competitive landscape.[[3]](#endnote-3)

Since joining Microsoft in 2004, one of Panay’s key roles had been to oversee the strategic direction of its personal computing hardware business.[[4]](#endnote-4) The company’s multitude of products and services presented both opportunities and challenges for its future. The recent economic rise of China and other Asian countries has been a theme in garnering the growing attention of the company. In May 2017, Panay unveiled Microsoft’s new product, the Surface Pro, in Shanghai. The brand was becoming increasingly global, with China growing into the Surface line of devices’ second largest market.[[5]](#endnote-5) As the Asia Pacific team under Panay’s command began to chart its strategic course for the next few years, two key options were apparent at this crossroads. The first was to invest in further geographic expansion in Asia Pacific and strengthen Microsoft’s device presence by introducing new products. However, to do so, the company would have to be sure it could retain its competitive edge in the longer run as competition intensified in the hardware space. The second was to reposition and focus on other high-potential businesses in cloud solutions. Could Microsoft Asia Pacific forgo pursuing growth in its devices portfolio to focus on software services? The company had to choose an option for its strategic focus.

Headquartered in Washington State in the United States, Microsoft was a technology company that sold operating systems, productivity and service applications, business solutions, server management and software development tools, and video games. It designed and built devices such as personal computers (PCs), tablets, and gaming consoles, all of which could be integrated with its cloud offerings.[[6]](#endnote-6) Being one of the world’s largest and most innovative companies, Microsoft was a pioneer in both the operating systems of the 1970s and the cloud-based solutions of today. While the strategy of software-based offerings worked well with vendors and end consumers, people’s ever-evolving needs had transformed workplaces, everyday experiences, and the competitive landscape. New threats came from “ecosystem” businesses like Apple Inc. (Apple) that offered hardware and software that were interoperable, using cutting-edge technology and innovative cloud platforms.[[7]](#endnote-7) Besides external threats by incumbents, new start-ups and “unicorns”[[8]](#endnote-8) like Dropbox, Inc. and Cloudera, Inc. threatened to disrupt the industry with competitive pricing and comparable solutions. In this dynamic environment, Microsoft Asia Pacific had to react quickly to enhance its current situation and explore new revenue growth options.

ABOUT MICROSOFT

Founded by Bill Gates and Paul Allen in 1975, Microsoft had grown from a humble operating system provider into a multinational technology company.[[9]](#endnote-9) Often referred to as one of the world’s top software companies, Microsoft had been at the forefront of innovation for several decades and had transformed itself from a pure software company into a provider of devices, consulting, and other ancillary services.[[10]](#endnote-10) The company was best known for its software products, which included MS-DOS,[[11]](#endnote-11) Microsoft Windows, Internet Explorer, Microsoft Office, Microsoft Azure,[[12]](#endnote-12) and hardware devices like Surface and Xbox (see Exhibit 1).

The well-established organization was also one of the largest in the world. Microsoft conducted business in over 190 countries and had 114,000 employees.[[13]](#endnote-13) Its total revenue in 2016 amounted to US$85.3 billion,[[14]](#endnote-14) with a combined operating income of $20.2 billion. The company operated in a few main business segments: Productivity and Business Processes,[[15]](#endnote-15) Intelligent Cloud,[[16]](#endnote-16) and More Personal Computing,[[17]](#endnote-17) which generated revenues of $26.5 billion, $25.0 billion, and $40.5 billion, respectively (see Exhibit 2). Microsoft Office, server products, the Microsoft Windows operating system, and Surface, which were all key products, produced revenues of $23.6 billion, $19.2 billion, $8.1 billion, and $4.1 billion, respectively.[[18]](#endnote-18) Microsoft’s recent innovation was its cloud-related services. Being one of the only companies with hybrid, private, and public cloud-serving businesses, the firm was positioned to help clients migrate to the cloud and gain value through ancillary services such as intelligent first-party devices and machine learning.[[19]](#endnote-19)

Microsoft aimed to build a family of computing devices that would operate seamlessly across platforms to address consumer needs. As the world moved to a “mobile-first, cloud-first” era, Microsoft formed a worldview that was “centered on the mobility of experiences that, in turn, are orchestrated by the cloud.”[[20]](#endnote-20) Mobility helped reinvent productivity and processes in every critical aspect of consumers’ lives. This was done by integrating devices and productivity solutions.

In 2016, Microsoft announced that revenue from More Personal Computing had fallen 6.0 per cent year-on-year (YoY), reflecting weaker performances in Windows original equipment manufacturing (OEM)[[21]](#endnote-21) and phones.[[22]](#endnote-22) In contrast, within this segment, revenue for Surface had actually grown by $486 million or 13 per cent, YoY, due to successful new product releases such as the Surface Book (see Exhibit 3). In a rapidly transforming era where competitive threats came from both the hardware and software fronts, Microsoft stood at a precipice. On the company’s approach, Panay said, “The transformative moment started when we really got into how to create the software with the hardware instead of starting in two different places.”[[23]](#endnote-23) Microsoft sought to strengthen its foothold in the technology market by also providing customers with a complementary suite of productivity solutions.

TECHNOLOGICAL TRENDS AND COMPETITION

Cloud Computing

One technology that was becoming increasingly pervasive across the world was cloud computing, which referred to the practice of delivering computing services such as analytics, storage, data management, networking, software, and others through the Internet. This technology reduced the heavy capital expenses that had been required in the past for on-site data centres. Cloud computing reduced the costs of infrastructure set-up and maintenance while providing speed and scalability. Ultimately, productivity and performance were improved through regular updates, reduced network latency, and security. According to Gartner, Inc. (Gartner), a leading research and advisory firm, the entire cloud market was expected to grow from $209.2 billion in 2016 to $383.4 billion in 2020. Within it, the infrastructure as a service (IaaS)[[24]](#endnote-24) market would grow the fastest, from $25.3 billion in 2016 to $71.6 billion in 2020. Software as a service (SaaS)[[25]](#endnote-25) would experience growth from $38.6 billion to $75.7 billion across the same period, as it was still expected to be the second-largest cloud segment in 2020, behind cloud advertising. The adoption of cloud computing would become increasingly mainstream, spurring growth in the infrastructure service space.[[26]](#endnote-26)

Intensive technologies such as artificial intelligence and the Internet of things were projected to be the key drivers of increasing demand for cloud services, which provided the infrastructure necessary to facilitate these breakthroughs. Gartner also predicted that by 2021, over half of the global firms already using cloud computing in 2017 would migrate to an all-in cloud strategy.[[27]](#endnote-27) With the big promise of significant growth going forward, competition was expected to intensify among players in the industry.

Microsoft was the leading provider of cloud-based services, with Amazon.com, Inc. and International Business Machines Corporation (commonly known as IBM) ranked second and third, respectively.[[28]](#endnote-28) Other key players were Google LLC, Oracle Corporation, Salesforce.com, Inc., and SAP SE. Peers of Microsoft Azure, the company’s cloud-based platform, included Amazon Web Services, which led the IaaS space. However, Microsoft Azure was the leader across all three segments of the cloud—IaaS, PaaS,[[29]](#endnote-29) and SaaS (see Exhibit 4). Microsoft aimed to leverage its expertise and scale to help migrate clients to the cloud reliably and cost effectively. It could do so by offering its Microsoft SQL Server, Visual Studio, System Center, and Azure products through its combination of public, private, and hybrid clouds.

Personal Computing

Gartner ranked the top three vendors for enterprise desktops and notebooks as Dell Inc., HP Inc., and Lenovo Group Ltd. These vendors controlled a combined 58.4 per cent of the global revenue share in 2016.[[30]](#endnote-30) While traditional PCs and notebooks were fast commoditizing, the emergence of new technologies with hybrid form factors, such as detachables, threatened to disrupt the hardware industry on the back of a declining PC industry. In the fourth quarter of 2016, shipments of traditional desktops and notebooks declined by 1.5 per cent, YoY, according to International Data Corporation (IDC).[[31]](#endnote-31) Annual PC shipments declined YoY by 5.7 per cent in 2016 (see Exhibit 5).[[32]](#endnote-32)

Within the traditional PC market, the top five players were Lenovo Group Ltd., HP Inc., Dell Inc., AusTek Computer Inc., and Apple, respectively.[[33]](#endnote-33) Along with challenging macroeconomic conditions, the rise of smart phones had contributed to the decline in the market.[[34]](#endnote-34) As lifestyles became more hectic and consumers began to demand lightweight, high-powered devices, ultramobile premium devices such as Microsoft Surface had started to gain traction among end consumers and enterprise clients. Another key trend would be the ability to ensure seamless usage across different devices.[[35]](#endnote-35) For example, desktops should be able to share information easily with tablets or notebooks to ensure a seamless user experience. This was especially useful given the rising trend in remote working and collaborative workplaces, thereby changing the usage scenarios of a typical user. In the PC industry, players looked to defend market share by building on core competencies and tapping on their loyal user base.

However, instead of maintaining the status quo with competitive dynamics, Microsoft sought to revolutionize the way people worked with productivity devices by taking a first step into creating a device of its own in 2012.[[36]](#endnote-36) That year, Microsoft launched the Microsoft Surface Pro, its first two-in-one device, which could switch from a traditional laptop into a tablet. The firm then led subsequent innovations in exploring new form factors that attempted to meet the mobility and versatility needs of the modern lifestyle. This included adding detachable displays, digital inking, and biometric security features to some products. The firm then introduced new products such as the Surface Book, Surface Hub, Surface Laptop, and Surface Studio over the next few years.[[37]](#endnote-37)

OPEN INNOVATION AT MICROSOFT

Microsoft had started out as a purely software company, creating and selling the Microsoft Windows operating system and Microsoft Office productivity tools. However, due to changing trends in the world and the rise of the gaming industry, the company decided to make its first foray into hardware with the release of the Xbox in 2001[[38]](#endnote-38) and the Xbox 360 in 2005.[[39]](#endnote-39)

Subsequently, Microsoft innovated further in the software space with new versions of the operating system, such as Windows Vista, and development products, such as the Microsoft Visual Studio. In 2008, the firm launched its first version of Microsoft Azure, providing a cloud platform for its solutions and products.[[40]](#endnote-40) In 2011, Microsoft acquired Skype Technologies to enhance its real-time communications portfolio.[[41]](#endnote-41) In June 2012, the company launched the Surface Tablet PC, the first “personal computer created in-house by the firm.[[42]](#endnote-42) On the company’s business approach to innovation, Panay said that Microsoft was “going to keep pushing innovation . . . to keep investing, but [that it wanted] those investments to proliferate across to [its] partners as well,” adding, “it’s just a great opportunity for the PC market to continue to grow and give customers what they need.”[[43]](#endnote-43)

By then, Microsoft had ventured from software into creating hardware, and then moved toward integrated cloud-based offerings such as Office 365 and Xbox Live. These were all tools that could be used seamlessly with Surface and Xbox 360 products, delivered through a cloud layer. The company invested a total of $12.0 billion per year in 2015 and 2016, representing 13.0 per cent and 14.0 per cent of revenue, respectively.[[44]](#endnote-44) The commitment allowed the company to constantly produce product differentiation and decide which enhancements were the most vital. As a result, Microsoft had built up a strong portfolio of more than 60,000 global patents granted, with another 36,000 patents pending.[[45]](#endnote-45) Strategic research at the firm went beyond immediate product considerations; the firm funded research at both the corporate and the business-segment level to ensure it was capitalizing on long-term business opportunities. It also had a specialized research division, Microsoft Research, which worked closely with top universities to develop the frontiers of computer science.[[46]](#endnote-46)

In creating what was known as the Windows ecosystem, Microsoft had committed to designing and marketing better first-party devices.[[47]](#endnote-47) It spurred further innovation and generated more demand through creating more personal computing experiences for end users. The company’s ongoing investments in innovation helped to grow its ecosystem in order to improve the way people communicated, worked, played, and learned in the modern world. Its success thus far was due to its ability to nurture the right products and experiences for global users.[[48]](#endnote-48)

DESIGN INNOVATION—THE SPECIAL INGREDIENT

While Microsoft emphasized developing its businesses to thrive in the modern world, product innovation was the essence of its business success. At Microsoft, design innovation was a strategic imperative.[[49]](#endnote-49)

In the case of Surface, Microsoft created hardware that optimized daily tasks in the modern workplace.[[50]](#endnote-50) Traditionally, workers used desktop PCs, but doing so limited mobility and collaboration. For example, when workers left the office, they were often unable to bring their work with them, resulting in lost productivity or the need to be always bound to their desks. With the increasing prevalence of remote working, it became all the more important for hardware to facilitate collaboration and working outside of the office.[[51]](#endnote-51)

Microsoft had an internal multidisciplinary Surface team that worked on the creation of products for the future.[[52]](#endnote-52) The team understood problems, created original ideas, experimented with new form factors, and helped to bring new products to market. The company practised a form of design thinking called inclusive design, which referred to a method of drawing on the experiences and needs of humans across a diversity of perspectives. The principles of inclusive design and their relevant details were as follows:[[53]](#endnote-53)

* Recognize exclusion—“As designers, it’s our responsibility to know how our designs affect these interactions and create mismatches”
* Learn from diversity—“Inclusive design puts people in the center from the very start of the process . . . Human beings have amazing capabilities to adapt to different situations, and understanding those adaptations is the key to real insight”
* Solve for one, extend to many—“We all have abilities and limits to those abilities. Everyone experiences exclusion as they interact with our designs . . . Inclusive design works across a spectrum of related abilities, connecting different people in similar circumstances”

The concept of empathy was central to these principles. Observing how people adapted to the world helped Microsoft to understand and empathize with experiences from a multitude of perspectives. According to Panay:

A part of being product makers is listening to our customers and pushing ourselves to evolve and improve with every generation of devices we create. We’re forever seeking innovation, encouraging positive change. [It is] what we do, and what our customers do, but [we] can promise . . . one thing that will never change is our commitment to our customers and our dedication to ensuring [the] Surface experience only gets better.[[54]](#endnote-54)

Microsoft design teams went beyond traditional user-centred design as they understood the need to check, balance, and measure how their designs enabled inclusivity among users.[[55]](#endnote-55) That perspective allowed for greater access and the incorporation of empathy into the design of the product, helping to create a world that made lives better, regardless of any disability. Through focus group discussions and hundreds of research hours, Microsoft came to understand that the workplace of today—ranging from offices to on-site factory floors, cafés, and even parks—had changed significantly.[[56]](#endnote-56)

People were increasingly demanding devices that bridged their work life and personal life. As such, the Microsoft team sought to create a lightweight, high-performance, foldable, and detachable device. The team then moved to create numerous prototypes and worked relentlessly to improve the product. In one apt example of innovation design, over two years of development the team took inspiration from books and folios to pioneer a state-of-the-art hinge that mimicked a carpet rolling out when it was opened, to ensure more balanced weight distribution.[[57]](#endnote-57)

After much experimenting and collaboration, the team came up with laptop hardware that was both detachable and elegantly foldable—the Surface Book.[[58]](#endnote-58) The design process did not stop at just one product in the Surface suite; the suite expanded into a multitude of use cases and form factors that served a diversity of industries. Panay commented,

When you’re innovating and thinking about software and hardware together, and where the future of computing might be, and what the form factors might be, and how this world comes together, you’re always thinking about other things, for sure . . . Innovation doesn’t end with the last product you ship, it really starts there.[[59]](#endnote-59)

Microsoft understood that in order to truly compete against incumbent ecosystem competitors who had their own catalogue of tablets, laptops, and desktops, it had to innovate further and integrate solutions seamlessly so that both enterprise and retail customers would have had their needs met sufficiently (see Exhibit 6). Ngee Ann Polytechnic, a reputable higher learning institute in Singapore with over 14,800 full time students, was a client for Microsoft’s Surface products.[[60]](#endnote-60) Lecturers at the institute utilized the Surface Hub, a multi-touch digital whiteboard with conferencing and collaboration tools, to manipulate digital drawings on screen and easily illustrate teaching concepts to students. From the students’ point of view, looking at a digital screen instead of the usual physical whiteboard increased levels of engagement. They were able to learn via Skype for Business on the Surface Hub when interacting with overseas guest lecturers. There was also potential for collaboration between the cloud and devices, as the school was beginning to explore facial analysis tools with the Surface Hub’s wide-angle cameras.

THE INTELLIGENT CLOUD

Microsoft had been a pioneer in providing comprehensive cloud services globally. Its flagship cloud solution, Microsoft Azure, was a holistic suite of cloud services that enabled developers and information technology (IT) professionals to create, implement, and manage applications. This was made possible with a global network of data centres owned by Microsoft as the cloud service provider. Azure could automate, integrate, and improve business processes with the help of on-premise applications, SaaS, and application programming interfaces. Essentially, companies that used Azure could leverage application integration and complementary software such as Office 365, Azure Security Center, and Dynamics CRM (a customer relationship management software package).

Microsoft provided Azure and Microsoft SQL Server services to Fullerton Health, a corporate health care solution provider in Singapore, to build a single data platform that managed billions of medical records.[[61]](#endnote-61) Other than data management and storage, Azure allowed the client to create mobile applications that provided patients with personalized insights, cost estimations, and self-care recommendations.

On reviewing the platform’s effectiveness, Ted Minkinow, chief information officer of Fullerton Health, commented, “We also experienced increased productivity because we can spin up servers and shut them down when needed, without having to concern ourselves with the capacity limitations of our own hardware.”[[62]](#endnote-62)

Additionally, the client further leveraged cutting-edge technologies by using the machine learning capabilities of Azure and SQL Server to help physicians gain actionable insights in a personal way for their patients. In this way, doctors were able to build accurate predictive models that identified diseases before they became aggravated, thereby helping to improve the quality of patients’ lives. With the help of developer tools, automated data crunching, and the cloud, Fullerton Health was able to raise its efficiency and reduce costs not just for itself, but also for its customers.

Such partnerships could be mutually beneficial, as through them Microsoft gained the right knowledge and industry experience to improve its service offerings, while clients, on the other hand, could use the tools to drive digital transformation and better scale their business, ultimately crafting a competitive edge in their market.[[63]](#endnote-63) Migration towards the cloud was not a phenomenon exclusive to just one industry. In fact, Microsoft’s cloud services encompassed industries such as health and life sciences, retailers, government, financial services, and manufacturing. In the financial industry, for example, Azure could be deployed to help bankers redefine customer journeys, enhance risk management, and improve customer insights.[[64]](#endnote-64)

MICROSOFT ECOSYSTEM PARTNERSHIPS

The company made Surface suite products available to customers through a network of distributors and device resellers.[[65]](#endnote-65) Apart from pure hardware, distributors and resellers could also sell Microsoft software solutions. When dealing with end customers, resellers could offer multiple solutions that provided enhanced value-add. For business-to-business (B2B) sales, the option of bundling products together provided more comprehensive solutions to prospective clients.[[66]](#endnote-66)

Microsoft offered a few key services to its ecosystem partners.[[67]](#endnote-67) First, it could give advice whenever partners requested the assistance of Microsoft experts. For example, Microsoft technical consultants could provide pre-sales and deployment support for its partners.[[68]](#endnote-68) Second, Microsoft organized training courses to share knowledge and continuously upgrade both its ecosystem partners and its key clients. Events organized for members ranged from training on artificial intelligence and Office 365 to discussing the demands of the modern workplace.[[69]](#endnote-69) Microsoft partners could also access the firm’s partner university at little or no cost to learn about new products.[[70]](#endnote-70) Third, the firm offered marketing material and lead generation devices to help partners improve efficiencies in reaching potential customers.

Microsoft had benefited from playing an active role in managing its partner ecosystem through knowledge sharing and collaboration. Panay said, “I think of our partners as partners and not competitors at all. As we create the technology and are able to make those investments in innovation, we’re not keeping it to ourselves. We’re pushing it to our partners as fast as we can.”[[71]](#endnote-71)

THE FUTURE OF COMPUTING

Considering how the Asia Pacific region would change over the next few years due to digitalization and a burgeoning middle class,[[72]](#endnote-72) the choices to (1) invest more into selling cloud services and (2) introduce new products and gain more market share in the Surface business both carried immense potential. The Asia Pacific team considered the respective costs, benefits, and strategic importance of each option.

Intelligent Cloud

How could cloud technologies transform Asia? In Asia Pacific excluding Japan (APEJ), IDC predicted that the public cloud services market would surpass $10.0 billion in 2017.[[73]](#endnote-73) IaaS spending would grow 35.8 per cent YoY to $4.8 billion, surpassing SaaS spending for the first time. The key drivers of demand could be attributable to digital transformations that aimed to be agile and cost-effective. This included banking and finance industries that used cloud services for non-core functions. Within APEJ, the top three players were Amazon Web Services, Microsoft, and Alibaba Group Holding Limited, with a consolidated share of over half the market.[[74]](#endnote-74) Furthermore, the Singaporean government had committed SG$80 million[[75]](#endnote-75) towards the SMEs Go Digital Programme to help firms build digital capabilities including data and cybersecurity.[[76]](#endnote-76) This could possibly alleviate the current talent shortage[[77]](#endnote-77) of competent IT professionals in companies within the region. Only 30 per cent of companies in the country was estimated to have migrated to the cloud, indicating there was much more room for adoption to accelerate within the next three to 10 years.[[78]](#endnote-78)

With Microsoft’s leading position, it could invest further to gain a greater market share and acquire new clients for the growing business. Furthermore, in Singapore, 44 per cent of enterprise respondents were taking a cloud-first approach to IT, and that figure was projected to rise to 59 per cent in 2018.[[79]](#endnote-79) The Surface team had the technology and track record to help Singapore and other Asian enterprises migrate to the cloud successfully.[[80]](#endnote-80) However, this would require resources to be put into educating prospective clients and ramping up efforts in cybersecurity to tackle the typical concerns associated with digital transformation. Should the company engage enterprises directly, or focus more on collaborating with its ecosystem partner network to sell its cloud solutions?

Personal Computing

Turning attention to the future of personal computing devices, the PC market was facing a few structural changes driven by shifts in usage behaviours and user desires. According to IDC, traditional PC shipments in Singapore showed a slight decrease in 2017 of 2.1 per cent, YoY. The notebook PC category experienced shipment growth of 5.1 per cent, YoY, while desktop PC product categories declined 23.7 per cent, YoY.[[81]](#endnote-81) Demand was driven by commercial orders within the public sector. The demand patterns highlighted a key insight: end users saw less need to work on a large stationary device and rather preferred lightweight, high-performance solutions. From a broader perspective, IDC predicted that APEJ spending on IT services would surpass $95.0 billion by 2021, attributing the continued growth to numerous smart-city initiatives and digital transformations.[[82]](#endnote-82) The hardware market, which was able to facilitate the IT spending and upgrades, was likely to benefit greatly.

While the global PC market continued its slight decline, the smaller segment of hybrid, two-in-one, and detachable devices was growing.[[83]](#endnote-83) In the first half of 2017, market research company GfK SE reported that computers with new form factors had already generated sales amounting to $7.2 billion in Asia Pacific.[[84]](#endnote-84) Microsoft, being a very early mover in adapting to evolving needs, could stand to further cement its position by investing in new product distributions and marketing. While Microsoft was still a software company, it could certainly play a key role in growing its hardware share of the market by leveraging its current ecosystem partner network and marketing strategies.[[85]](#endnote-85) Previous projects such as the collaboration with Ngee Ann Polytechnic suggested that Surface had great potential to explore in terms of collaborating with other industry verticals such as finance and manufacturing. Furthermore, the high level of digital readiness among consumers in Singapore, for example, would facilitate product adoption. Likewise, Surface could capitalize on the burgeoning middle class in the fast growing APEJ region, which constituted about 60 per cent of the world population.[[86]](#endnote-86)

As the global devices market was predicted to expand by 2 per cent in 2018, driven by rapidly growing countries such as China,[[87]](#endnote-87) expanding the product family further across the region could help Microsoft’s hardware division gain increased traction among enterprises and retail customers alike. More products could be introduced, allowing Microsoft Asia Pacific to compete more effectively against traditional PC hardware ecosystem incumbents that boasted strong product portfolios. However, issues such as building up distribution channels, marketing budgets, and language customization had to be considered in the context of previously untapped markets and customer demographics.

LOOKING AHEAD: JANUARY 2018

Microsoft’s reach had grown beyond that of most companies in the world. With both the many opportunities and the many obstacles that lay ahead, should Microsoft leverage its core competency in technology and software to further invest in selling and improving cloud services in APEJ? This could be the company’s opportunity to grow its cloud market share in Asian cities aspiring towards full digital transformation. Or should Microsoft focus on bringing new products from the Surface family into the Asia Pacific region and increase the marketing and distribution of devices there? This could differentiate the company as a reliable hardware and complete solution provider to a growing consumer base.

EXHIBIT 1: MICROSOFT ORGANIZATIONAL STRUCTURE

|  |  |  |
| --- | --- | --- |
| **Microsoft Corporation** | | |
|  |  |  |
| Engineering Groups |  | Business Functions |
| Cloud and Enterprise Engineering Group |  | Business Development Group |
| Office Product Group |  | Corporate, External, and Legal Affairs |
| Windows and Devices Group |  | Corporate Strategy and Planning |
| Technology and Research |  | Finance Group |
|  |  | Global Sales, Marketing, and Operations |
|  |  | Human Resources Group |
|  |  | LinkedIn |
|  |  | Marketing Group |
|  |  | Worldwide Commercial Business |

Source: Created by the authors based on “Facts about Microsoft,” Microsoft, 2017, accessed April 20, 2018, <https://news.microsoft.com/facts-about-microsoft/#BusinessOrganization>.

EXHIBIT 2: MICROSOFT REVENUE AND OPERATING INCOME, BY SEGMENT, 2016

(US$ millions)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **2016** | **2015** | **2014** | **Percentage Change  2016 versus 2015** | **Percentage Change**  **2015 versus 2014** |
| **Revenue** | | | | | |
| Productivity and Business Processes | **$26,487** | $26,430 | $26,976 | 0% | −2% |
| Intelligent Cloud | **25,042** | 23,715 | 21,735 | 6% | 9% |
| More Personal Computing | **40,460** | 43,160 | 38,460 | −6% | 12% |
| Corporate and Other | **−6,669** | 275 | −338 | \* | \* |
| Total Revenue | **$85,320** | $93,580 | $86,833 | −9% | 8% |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **2016** | **2015** | **2014** | **Percentage Change  2016 versus 2015** | **Percentage Change 2015 versus 2014** |
| **Operating Income (Loss)** | | | | | |
| Productivity and Business Processes | **$12,461** | $13,359 | $14,173 | −7% | −6% |
| Intelligent Cloud | **9,358** | 9,871 | 8,446 | −5% | 17% |
| More Personal Computing | **6,142** | 4,667 | 5,605 | 32% | −17% |
| Corporate and Other | **−7,779** | −9,736 | −465 | \* | \* |
| Total Operating Income | **$20,182** | $18,161 | $27,759 | 11% | −35% |

Source: Created by the authors based on Microsoft Corporation, *Annual Report 2016*, Microsoft, 2017, accessed April 20, 2018, [www.microsoft.com/investor/reports/ar16/index.html](https://www.microsoft.com/investor/reports/ar16/index.html).

EXHIBIT 3: REVENUE CLASSIFIED BY SIGNIFICANT PRODUCT AND SERVICE OFFERINGS

(US$ Millions)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **2016** | **2015** | **2014** | **2013** | **2012** |
| Microsoft Office system | **$23,588** | $23,538 | $24,323 | $22,995 | $22,299 |
| Server products and tools | **19,177** | 18,612 | 17,055 | 15,408 | 14,232 |
| Xbox | **9,395** | 9,121 | 8,643 | 7,100 | 8,045 |
| Windows PC operating system | **8,104(a)** | 14,826 | 16,856 | 17,529 | 17,320 |
| Advertising | **6,098** | 4,557 | 4,016 | 3,387 | 3,181 |
| Consulting and product support services | **5,641** | 5,090 | 4,767 | 4,372 | 3,976 |
| Surface | **4,108** | 3,900 | 1,883 | 853 | 0 |
| Phone | **3,358** | 7,702 | 3,073 | 615 | 162 |
| Other | **5,851** | 6,234 | 6,217 | 5,590 | 4,508 |
| Total | **$85,320** | $93,580 | $86,833 | $77,849 | $73,723 |

Note: (a) Included a net $6.6 billion of revenue deferrals related to sales of Windows 10.

Source: Created by the authors based on Microsoft Corporation, *Annual Report 2016*, 2017, accessed April 20, 2018, www.microsoft.com/investor/reports/ar16/index.html; Microsoft Corporation, *Annual Report 2014*, 2015, accessed April 20, 2018, www.microsoft.com/investor/reports/ar14/index.html.

EXHIBIT 4: WORLDWIDE PUBLIC CLOUD SERVICES FORECAST (US$ MILLIONS)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | 2016 | 2017 | 2018 | 2019 | 2020 |
| Cloud Business Process Services (BPaaS) | 40,812 | 43,772 | 47,556 | 51,652 | 56,176 |
| Cloud Application Infrastructure Services (PaaS) | 7,169 | 8,851 | 10,616 | 12,580 | 14,798 |
| Cloud Application Services (SaaS) | 38,567 | 46,331 | 55,143 | 64,870 | 75,734 |
| Cloud Management and Security Services | 7,150 | 8,768 | 10,427 | 12,159 | 14,004 |
| Cloud System Infrastructure Services (IaaS) | 25,290 | 34,603 | 45,559 | 57,897 | 71,552 |
| Cloud Advertising | 90,257 | 104,516 | 118,520 | 133,566 | 151,091 |
| Total Market | **209,244** | **246,841** | **287,820** | **332,723** | **383,355** |

Note: BPaaS = business process as a service; PaaS = platform as a service; SaaS = software as a service; IaaS = infrastructure as a service.

Source: Created by the authors based on “Gartner Says Worldwide Public Cloud Services Market to Grow 18 Percent in 2017,” (press release), Gartner, February 22, 2017, accessed May 5, 2018, www.gartner.com/newsroom/id/3616417.

EXHIBIT 5: GARTNER FORECAST OF WORLDWIDE PC SHIPMENTS

Forecast Worldwide Shipments by Device Type (in Millions of Units)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Device Type** | **2016** | **2017** | **2018** | **2019** |
| Traditional PCs (Desktop and PCs) | 220 | 204 | 195 | 188 |
| Ultramobile Premium Devices | 50 | 59 | 70 | 81 |
| Total PC Market | 270 | 263 | 265 | 269 |

Note: PC = personal computer

Source: Created by the authors based on Dylan McGrath, “After Long Decline, PC Shipments Forecast to Rise in 2018,” EE Times, October 19, 2017, accessed May 4, 2018, www.eetimes.com/document.asp?doc\_id=1332472.

EXHIBIT 6: THE SURFACE FAMILY

| **Surface Model** | **Operating System** | **Launch Date** |
| --- | --- | --- |
| Surface RT | Windows RT | October 2012 |
| Surface Pro | Windows 8.0 | February 2013 |
| Surface 2 | Windows RT | October 2013 |
| Surface Pro 2 | Windows 8.1 | October 2013 |
| Surface Pro 3 | Windows 8.1 | June 2014 |
| Surface Pro 4 | Windows 10 | October 2015 |
| Surface Pro (Fifth Generation) | Windows 10 | June 2017 |
| Surface Hub | Windows 10 | June 2015 |
| Surface Book | Windows 10 | October 2015 |
| Surface Book 2 | Windows 10 | October 2017 |
| Surface Studio | Windows 10 | October 2016 |
| Surface Dial | Nil | October 2016 |
| Surface Laptop | Windows 10 | June 2017 |

Source: Created by the authors based on “Surface Pro 3 Brings Microsoft into the Enterprise Hardware Market,” Gartner, 2017, accessed April 17, 2018, www.gartner.com/document/2904317?ref=solrAll&refval=201619435&qid=a54191af4da07a6

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ENDNOTES

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13. “Microsoft IT Achieves Near-Real-Time Replication from SQL Server to the Cloud,” Microsoft, March 14, 2017, accessed September 10, 2018, <https://customers.microsoft.com/en-gb/story/microsoftcorporation>. [↑](#endnote-ref-13)
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