Microsoft's Surface line, will hardware products be the key for future success?

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Introduction

Microsoft, founded in 1975 by Bill Gates and Paul Allen, is a prominent player on the consumer electronics market. Although Microsoft had already brought music players, game consoles and many accessories to the market, a tablet and/or laptop had never been developed my Microsoft themselves (Limer, 2012). The Surface division is part of Microsofts' first initiative to integrate its Windows operating system with its own tablets/laptops (Sullivan, 2012). This was their first in-house developed computer which entered the tablet/laptop hardware market. Because having developed it themselves which was a clear shift from their traditional strategy, this report will focus upon the Surface line of products and assess the innovative behaviour Microsoft displays within the surface line. The report will aim to answer whether the Surface line of products has been a successful new line of products for Microsoft, discover what the underlying innovative foundations are for this product line, and conclude by suggesting ways in which Microsoft can improve their innovative performance within the Surface line of products.

Performance:

Microsoft corporation seems to be doing very well. The company stock price multiplied by 2.4 in the last five years, which is visible in figure 1 (Yahoo! Finance, 2016). Microsoft rose to power due to the immense success of the Windows operating system from the 1990's onwards (Hazlett, 2011).

Figure 1: Stock price of Microsoft corporation, including total worth at 25 November 2016. Source: Yahoo! Finance, 2016

The surface line of product seems successful as well. As figure 2 shows, the revenue has steadily risen through the years (Microsoft, 2013, Microsoft, 2014, Microsoft 2015, Microsoft 2016).

Figure 2: Surface revenue in millions of dollars: 2013-2016. Revenue amount retrieved from annual reports provided by Microsoft. (Microsoft, 2013; Microsoft, 2014; Microsoft, 2015; Microsoft 2016)

Although the market share of Microsoft Surface tablets seems to be low (Mintel, 2016), from a survey conducted in June 2016, it turned out that as high as 5% of households own a Microsoft Surface tablet. Also, according to market research done by Gap Intelligence (Somes, 2016) the 2-in-1 tablet computer seems on its way to dominating the tablet market when talking about in-store shelf space. In particular, the introduction of the Microsoft Surface Pro 3 in 2014 and Surface Book in 2015 seemed to have a positive influence, which can be seen in figure 3. Although Microsoft Windows seems to be the preferred pick by OEM's for 2-in-1 tablets, the growth of the Microsoft retail shelf share of tablets in the US does seem to be only steadily increasing (Somes, 2016).
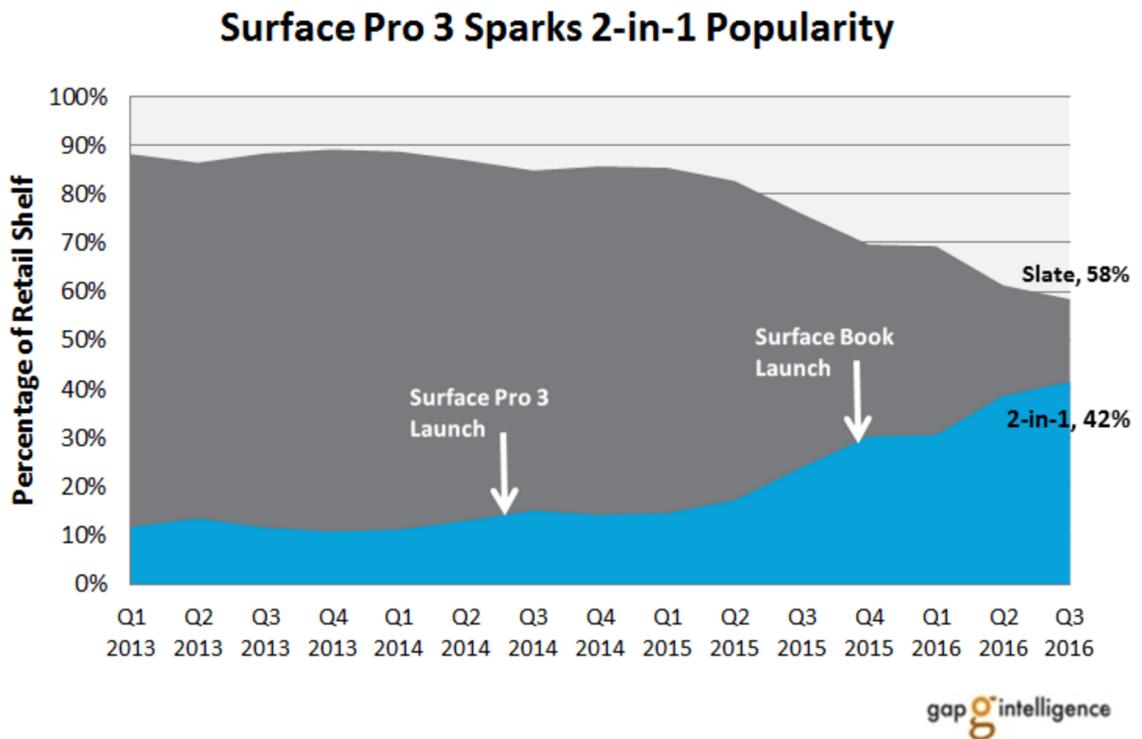

Figure 3: 2-in-1 retail shelf percentage. Source: Somes (2016)

Since the original introduction of the Surface RT tablet, there have been four additional products added to the Surface product family. These are the Surface Pro (2013), Surface Book (2015), Surface Studio (2016) and Surface Hub (2015) (Wikipedia, 2016a). The Surface RT tablet has been discontinued after two generations, while the Surface pro is at it's fourth

iteration. The Surface Book has been revised once since introduction, and the Surface Hub and Surface Studio are both still on sale.

The popularity of the Surface line of products has received traction in Q4 2016 (Callaham, 2016). Meanwhile, Apple, one of their biggest competitors, has seen their tablet sales decline (Spadafora, 2016). The sales of the Surface line of products has been very good (Mogg, 2016). Although with revenues of $926 million in Q1 2017, they have a long way to go against their main competitor Apple which earned $4225 million revenue from their iPad product family in the same fiscal year.

Strategy

Microsoft, with its 114,000 employees of which 37,000 in product research and development, seems to invest heavily in innovation (Microsoft, 2016). They spend around 9-11% of their revenue on research and development (Microsoft, 2016). With the rise of free operating systems such as Android and the accompanying decline in Windows operating system sales (Williams, 2011), Microsoft needed to find new ways to earn money. Creating the Surface line might be their chance to get Windows as the dominant operating system among laptops, tablets and other devices (Keizer, 2015, Dignan, 2014). This strategy is in synch with the overall "One" approach which is oriented towards Windows as a service with a strong focus on the cloud and an unified experience across devices. At first the surface line of products didn't get as much attention as expected by Microsoft. The first Surface, which ran a special kind of the Windows system designed for ARM-processors (Windows RT), was not successful. The Surface Pro which was released a half year after the first Surface did enjoy very good sales, and can be considered a huge success. The Surface pro 3 was introduced with the statement: "the tablet that can replace your laptop". This was a strong break from the former surface iterations. Former Surface products weren't marketed as an attempt to try and replace the laptop which the surface 3 clearly intended to do. Microsoft seemed to have identified the true competitive advantage the Surface tablet had in comparison to its rivals; to not only be a tablet but a fully-functional laptop as well.

It seems that the new strategy Microsoft is implementing for their Surface line of products is a direct result of their Innovation Management processes they use to guide

innovation. Explained in their "best practices for innovation" rapport (Kelley, 2013), this process has five sub-processes. These are envision, engage, evolve, evaluate and execute. A detailed explanation of every step in the process can be read in the rapport, and articles and interviews which focus on the birth of the first Surface products shows that they went through this process when creating the Surface line of products (Warren, 2013, Lardinois, 2013). It seems that Microsoft has identified its core strategies: Windows, creating software for hardware and a strong vision for the future of hardware (Tidd & Bessant, 2013)

With the introduction of the Surface line of products, Microsoft seems to be using both a red ocean and blue ocean strategy (Kim & Mauborgne, 2005). They want to conquest the market positions of the Apple iPad and the Android operating systems in the tablet market and take on market share in the laptop market, while also creating a whole new 2-in-1 market. Microsoft is trying to outperform the iPad and the Android operating system by bringing the full functionality of the Windows operating system and combining this with an optional keyboard for the Surface pro line of products, and a laptop hybrid for the Surface book line of products. With these competitive advantages, they lift buyer value and create new demand according to the blue ocean theory (Kim & Mauborgne, 2005). It seems they didn't reduce on certain aspects in comparison with their main competitors, so no factors have been reduced or eliminated.

Concerning the recent introduction of the Surface studio, they compete with the dominant Apple iMac in the all-in-one PC market. Microsoft wants to outperform the iMac by offering a higher resolution display, more input methods (touchscreen, Surface dial, Surface pen), a more versatile display, more recent introduction date (the last iMac revision was in 2015 (Bosman, 2015) and a big focus on creative users. Others argue that the Surface pro is a new device, which goes beyond the all-in-one and can potentially create a new market (Surface studio as the first digital drawing board (Howarth, 2016)). It may very well be that the Surface studio taps into new market space, accompanied by demand creation and the opportunity for high profitable growth (Kim & Mauborgne, 2005). With these competitive advantages, they lift buyer value and create new demand according to the blue ocean theory (Kim & Mauborgne, 2005). They eliminated the need for having all components embedded in the screen by adding a foot with all the components. By doing this, they created the possibility for the screen to be used as a drawing board, this has never been done before and might prove beneficial for the perceived customer

value of the product. Reviews of the Surface studio are overwhelmingly positive (Engadget, 2016, Warren, 2016b, Osborne, 2016, Acherman, 2016).

There was one failed product within the Surface line. With the introduction of the Surface RT tablet in 2012, and the updated version in 2013, Microsoft tried to bring the functionality of the Windows operating system to ARM-powered devices. ARM processors tend to be of lower cost to implement in comparison to more expensive x86 processors developed by Intel. This could reduce the price of the tablet, and also reduce the performance of the surface RT tablet. This can be considered as a blue-ocean strategy by Microsoft, by re-thinking the market norms of the tablet industry by introducing the windows operating system to low-cost tablets. The surface RT tablets didn't take off, mainly because there was no full functionality of programs which only ran on x86 processors developed by Intel. Because of this, the windows operating system couldn't be utilized to its full potential. This resulted in lowered sales of the Surface RT tablets. Results of this product failure were a $900 million hit on Surface RT in 2013 (Ingraham, 2013, Microsoft, 2013). This shows that Microsoft made a wrong analysis of what consumers really wanted from Windows tablets, which was full functionality of the Windows operating system. The Surface RT tablet was discontinued after its last revision in 2013.

In conclusion, the strategy used for the Surface line of products seems to pay off. The 2-in-1 Surface pro and Surface books seem to be climbing in popularity and the reception of the Surface studio seems very good. Although Microsoft took a hit with the Surface RT line, they discontinued this product and seem to be innovating in different directions which are paying off.

Organisational structure and culture

Microsoft had an image of a company which strangled innovation to keep the order of things the same under the leadership of Steve Ballmer, which was being supported by former employees (Eichenwald, 2012; Glassdoor, 2016). The internal culture and corporate structure unintendedly rewarded managers for strangling innovative ideas.

Before June 2013, Microsoft had a divisional structure. This means that the corporation is divided in several divisions, which are responsible for a specific line of goods and services. Each division had its own R&D program. Microsoft moved from a divisional structure to a functional

organisational structure in 2013 (Ballmer, 2013; Morschett, Schramm-Klein, Zentes, 2015). This meant changing the R&D from each division to corporate wide R&D. This functional structure it possible to look for a longer timespan which new technologies, and not only focus on one division of the company but look for all possible opportunities and threats. This can enable Microsoft to look into technological advancements which aren't directly relevant to any of their current businesses, but which may become an opportunity or threat in the future. The structure has been divided into four groups: Windows and Devices, Cloud and Enterprise, Office Product AI and Research (Bishop, 2016, Wikipedia, 2016b).

Microsoft seems to be using investments as a way to incorporate new knowledge into their company and have a stake in possible unicorns all over the world (Pasquier, 2014). They developed a program of investing and possibly acquiring new firms in 2016, to make them look at companies while they're in an earlier stage (Lunden, 2016). Furthermore, they develop in-house knowledge via their Microsoft Research division which was formed in 1991 (Wikipedia, 2016c). In addition, the learning culture at Microsoft seems to be very good, Microsoft provides employees with around 2000 trainings, of which many are at universities (Microsoft, 2016). There are other partnerships with universities as well (Microsoft Corporate blogs, 2013; University of Washington, 2013; Microsoft Student Partners, 2016), which are aimed at empowering students be innovative and entrepreneurial. Last but not least, Microsoft tends to buy companies to expand their services and other businesses, of which the biggest companies have been shown in table 1 (Morschett, Schramm-Klein, Zentes, 2015). Another company which is not in the table is but which is useful for the Surface line of products is their acquisition of the Perceptive Pixel company in 2012 (Foley, 2012).

Year	Company
1987	Forethought (computer software)
1997	Hotmail (web-based email service)
2000	Visio (drawing software)
2002	Navision (software programming)
2007	aQuantitave (digital marketing)
2008	Fast Search & Transfer (data search technologies)
2011	Skype (telecommunications)
2012	Yammer (social networking)
2013	Nokia mobile phones unit
2014	Parature (customer service software)

Table 1: List of acquisitions by Microsoft, not exhaustive. Source: Morschett, Schramm-Klein, Zentes, 2015.

Sources of innovation

The processes which Microsoft uses to scan for innovative ideas are to have the functional organisational structure which stops separate divisions from looking at short-term incremental innovation. Instead, the business unit looks for opportunities and threats for the long-term. In addition to that, fact that the Windows team and Surface team are under the same division likely resulted in the opportunity of a tablet with the functionality of the Windows operating system, combining the best from both. Contradicting IOS and Android, which ran on most tablets in 2012, the Windows operating system can enable the tablet to be used like a laptop. It seemed to be more oriented towards business users. Also, the current organisational structure has the development of hardware and the development of the Windows operating system. Because the teams developing hardware and software work together a lot (Warren, 2016a), which enabled the devices and Windows operating system to be more in synch.

Furthermore, it seems like Microsoft has looked closely at their rival Apple and adopted some processes and product characteristics. Firstly, Controlling the whole manufacturing, designing and distribution process for desktop operating system is a strategy which is used by Apple for most (if not all) of their products from 1984 (Dernbach, 2011). Microsoft adopted Apple's strategy concerning the Surface line of products. It is likely Microsoft did this with the aim of creating the best product possible by being fully in control, but they could've also chosen to let OEMs (original equipment manufacturers) create the products like for example Google did

with the Nexus line of products (Wikipedia, 2016d). In addition, it seems that the Surface which was first introduced had taken much inspiration from the iPad from Apple; It had a cover which protected the screen when needed, but had added value by having a touch-keyboard embedded in the surface of the cover (Sullivan, 2012).

Another source of innovation would be the creative freedom Microsoft developers get to create their products. In development of the Microsoft Surface it seemed like Microsoft set out with a plan; to make a pc on which you can draw and change the angle of the display. This meant they had to use some kind of mechanism to change the angle. In an interview, Microsoft revealed they had taken inspiration from desk lamps for the hinge (Warren, 2016a; Smith, 2016).

Last but not least, it seems that Microsoft gets inspiration from working together with other companies. In a December 2016 announcement, Microsoft revealed to the world their aspirations to run programs which are developed for x86 architecture, to work on ARM hardware (Humrick & Howse, 2016). This would mean that their Windows 10 operating system would be fully operational on ARM hardware, because x86 programs would work. The main criticism of the Surface RT line of products was that it wasn't possible to run x86 programs. If Microsoft had been able to create this partnership while in development of the first Surface tablet which ran on ARM, they could've avoided this problem.

Recommendations

The Surface brand exists since the introduction of its first product in 2012. In the meantime, the Surface line has released some very well-received products such as the Surface pro, Surface book and Surface studio. An obvious opportunity for Microsoft would be to further expand their product offerings into different markets. One device market they might venture into would be the smartphone industry with a Surface (phone?). Rumours about such a product are already very prevalent (Spence, 2016). Considering that Microsoft tends to release their Microsoft updates together with new hardware (Surface RT with Windows 8, Surface Studio with "Creator's update") it would make sense to release the new phone together with the Redstone update 3 puts more focus on mobile development. An opportunity might arise when Microsoft makes Continuum one of the main selling points of the device. Continuum is software

that Microsoft uses to get full laptop or desktop usability when connecting the phone to a screen with mouse and keyboard. When running the full Windows 10 operating system, the Surface phone would be far more productive than any IOS or Android devices, combined with an x86-capable processor, it could run all the x86 based application which also run on the Windows 10 operating system. Thereby, this would be the "productivity" oriented phone on the market, which might provide enough competitive advantage in comparison to IOS or Android devices to get significant market share. Also, such a strategy would have the potential to make laptops and desktops obsolete when intended to use for low-intensity workloads (a phone cannot house a processor and video chip capable of video-/photo editing.. yet).

A threat to the Surface devices Microsoft is currently offering would be the competition of other companies. The Surface line of products are competing with computer, tablet, and other hardware manufacturers, of which some may also be current or potential partners and customers of Microsoft (Microsoft annual report, 2013). These companies may copy the design which has been used in previous Surface devices (Warren, 2016a). This might be a problem when another company seeks to undercut Microsoft on price while keeping the same value for the customer. A move against this would be for Microsoft to keep innovating their products, to keep an distinctive advantage to having a Surface device instead of a copy. Another threat would be when companies don't want to have partnership with Microsoft anymore. This could mean the potential reach of the Windows operating system gets limited.

Although Microsoft learns a lot from looking at products and trends at other companies, it isn't common for them to work together with other companies to expand their (common) knowledge. Their recent partnership in December 2016 with Qualcomm indicates that this may change. But they may have missed an opportunity to do this earlier. Their Surface RT products failed because they couldn't work well on ARM-architecture, if they had worked together before the introduction of the Surface RT to get full x86 program functionality this product failure might have been avoided. It would be a recommendation for Microsoft to try to work together with companies to develop the best Surface products they possibly can, even if they don't have the knowledge in-house.

Considering Microsoft has a strong position and strategic focus on cloud services, they may want to expand the possibilities of their different services and products by letting teams of

their Cloud and Enterprise division work together with Surface teams. It may be possible to create devices which create new markets in accordance with the blue ocean approach. For example they could make a device which doesn't run any programs on the device itself, but runs Windows in the cloud itself over a fast internet connection. They could also let teams of their other division work together and try to create groundbreakingly innovative products together.

Having talked about most areas covered in the innovation audit (see figure4) (Tidd & Bessant, 2013), most recommendations have focused upon linkages and processes within the organization. Furthermore, learning at Microsoft seems to be good, as they train their personnel extensively and learn from past mistakes. Their Surface line of products seem to be in accordance with the overall strategy Microsoft uses. And with the change in organizational structure from a divisional to a functional structure seems to be helping as well.
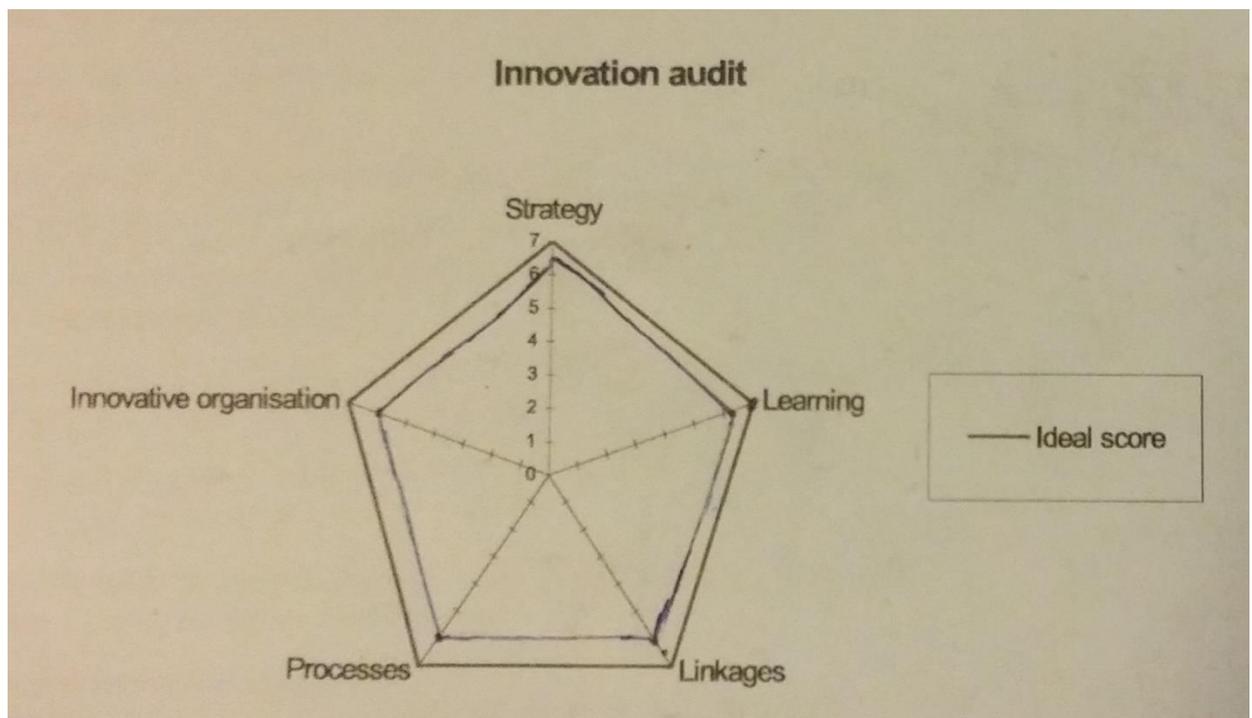

Figure 4: Innovation audit for the Microsoft Surface line (Tidd & Bessant, 2013)

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