APPLE WATCH
SETTING THE NEXT CONSUMER LIFESTYLE TREND
BY: KHOO HONG MENG
In September 2014, Apple unveiled its newest, highly anticipated wearable device, a USD 349 Apple Watch which was set to be released in early 2015. According to Apple’s CEO Tim Cook, “[It is] the most personal device we’ve ever created, allowing users to do things they never imagined” (Lockhart, 2014). It was billed as one of the bigger Apple product launches in recent history, even beating the iPad’s unveiling in 2010 (Above Avalon, 2015) and stealing the thunder from the 4.7-inch and 5.5-inch versions of iPhone 6 which debuted on the same day at Cupertino. The Apple Watch represented Apple’s newest product category since the iPad in 2010 and was believed to be the first genuine new product developed in the Tim Cook and Jonathan Ive era at Apple. Market expectations were high. According to Marina Koytcheva, director of Forecasting division at CCS Insight (2014), "The [wearable] market could be changed beyond recognition if … Apple decides to get into the game. History shows …that when Apple enters a market it can reshape the way people think about a product". The Apple Watch was deemed to be the next iPhone, a device that would be carried by many, every day. It quickly became one of the best-selling wearable devices, selling out in less than an hour when it went on sale in April 2015 (Woollaston, n.d.). After the fanfare waned, sales of the product slowed significantly. A report by market research firm Slice claimed that Apple’s watch sale fell from an average of 200,000 units per day to 20,000 units or fewer per day (O’Brien, 2015). In early May 2015, UBS analyst Steve Milunovich lowered his estimate for Apple Watch sales from 40 million to 31 million (Yarow, 2015). Apple Watch is clearly not performing to market expectation. There are product and marketing issues.

Product innovation at Apple

Apple has been ranked by Boston Consulting Group (2015) as the world’s most innovative company for 10 consecutive years. The company has been well known for its string of lifestyle changing innovations. Table 1 shows that Apple is perceived to introduce more innovative devices than other technologically innovative companies in the past decade.

Since 1976, under the leadership of its late founder Steve Jobs, Apple had been designing, developing, and selling consumer electronics, computer software, and online services that managed to garner a cult-like following of users. Some of the company’s more successful products include the Apple II, Macintosh personal computer (PC), iMac G3 desktop computer, iPod, iPhone, iPad, and Apple App Store (Halliday, 2011). Table 2 shows a list of Apple’s products.
Table 1: Top 10 gadgets of the decade\(^1\)

<table>
<thead>
<tr>
<th>Rank</th>
<th>ABC News(^2)</th>
<th>Paste Magazine(^3)</th>
<th>Complex Magazine(^4)</th>
<th>PCWorld(^5)</th>
<th>Digital Trends(^6)</th>
<th>The Telegraph(^7)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Apple iPod</td>
<td>Apple iPod</td>
<td>Apple iPhone</td>
<td>Sony Walkman TPS-L2 (1979)</td>
<td>Apple iPhone (2001)</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>GPS device</td>
<td>TiVo DVR</td>
<td>Amazon Kindle</td>
<td>Apple iPod</td>
<td>Google</td>
<td>Sky+ (2001)</td>
</tr>
<tr>
<td>7</td>
<td>USB flash drive</td>
<td>Apple iPhone</td>
<td>Microsoft Xbox 360</td>
<td>Atari Video Computer System (1977)</td>
<td>TiVo</td>
<td>Flip (2007)</td>
</tr>
<tr>
<td>8</td>
<td>Apple iPhone</td>
<td>Slingbox</td>
<td>Beats by Dr. Dre</td>
<td>Polaroid SX-70 Land Camera (1972)</td>
<td>Apple iPod</td>
<td>Asus Eee PC (2007)</td>
</tr>
</tbody>
</table>

\(^1\) Table created by author on 2 February 2016.
\(^2\) Heissner (2009)
\(^3\) (“The 20 Best Gadgets of the Decade,” 2009)
\(^4\) (“The 100 Best Gadgets of the Complex Decade,” 2012)
\(^5\) (Tyman, n.d.)
\(^6\) (Cassella, 2010)
\(^7\) (Beaumont, 2009)
Table 2: List of Apple’s products

<table>
<thead>
<tr>
<th>Name of Product</th>
<th>Year</th>
<th>Brief Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apple II</td>
<td>1977</td>
<td>Apple’s first mass produced personal computer (PC). Its compact design and availability in 16 colours, the first ever in the market then, had made it the fastest selling PC in 1979. The product was a success because of its user-friendly and expandability features.</td>
</tr>
<tr>
<td>Macintosh PC</td>
<td>1984</td>
<td>Well known for its compact and user-friendly features, the Macintosh was the first product designed for non-engineers, targeting the mass market.</td>
</tr>
<tr>
<td>iMac G3 desktop computer</td>
<td>1998</td>
<td>This was an all-in-one computer launched by Steve Jobs after his return to a declining company in his absence. The iMac was a consolidation of the company’s existing consumer desktop models housed in a unique, translucent, square-base pyramidal plastic casing that was available in various colours, such as blue, red, green, etc.</td>
</tr>
<tr>
<td>iPod</td>
<td>2001</td>
<td>The iPod, a digital music player, was a stylish MP3 player capable of storing 1,000 songs. The late Steve Jobs remarked at its launch in October 2001 that with a 10-hour battery life, &quot;[l]istening to music will never be the same again&quot; (Halliday, 2011). The iPod’s sleek and slim minimalist design, available in only two colours (i.e. black and white), revolutionised digital music.</td>
</tr>
<tr>
<td>iTunes</td>
<td>2001</td>
<td>iTune was a media management system comprising a media player, media library, radio broadcaster, and mobile device application for playing, downloading, and organizing digital audios and videos on Apple devices, such as iPod, iPad, PC, etc.</td>
</tr>
<tr>
<td>iPhone</td>
<td>2007</td>
<td>The iPhone was both a smartphone and iPod. The iPhone propelled the smartphone from a business gadget to pop culture (Pierce, 2015). According to Frommer (2009), iPhone has set the standard for smartphones and changed the consumption behaviour of mobile phones. Its design makes usage intuitive.</td>
</tr>
<tr>
<td>iPad</td>
<td>2010</td>
<td>iPad was a touch-screen tablet for interacting with multimedia such as newspapers, electronic books, photographs, videos, music, video games, and documents (with limited word processing) using iPhone apps. It functioned as a multimedia centre, web browser, message hub, organiser, and planner, and social media manager (Barett, n.d.).</td>
</tr>
<tr>
<td>iOS App Store</td>
<td>2011</td>
<td>The Apple App Store was a digital distribution platform for mobile apps developed and maintained by Apple. It housed more than 1.6 million apps (Statista, n.d.a), making it the second largest app store after Google Play in 2015, downloadable either for free or a fee.</td>
</tr>
</tbody>
</table>

The new products introduced by Apple in the past four decades shared a number of common tenets, namely, a conscious emphasis on the speed of new product introduction to market, lean R & D processes, exploitation of technological platforms, and systematic exploration of adjacent markets (Ringel, Taylor & Zablit, 2015).

On average, Apple introduced an improved version of a product or device every couple of years. Its product breakthrough is viewed as technologically and creatively far superior to existing products in the market in every decade. The ability to bring new innovative products to the market quickly has been a major source of competitive advantage for Apple. It has kept competition at bay and defined new standards for the industry. Breakthrough innovations differentiated Apple as a market leader, forcing its competitors into playing catch-up. For example, the iPhone was the first truly touch-
sensitive smartphone and it quickly became the new standard for smartphones with Samsung, LG, and Nokia adopting similar touch-screen feature in their smartphones later.

After Steve Jobs’ ouster in 1985, Apple had a decade long of botched product launches targeted at the general consumer, such as digital cameras, portable CD, audio players, and video consoles. Its partnership alliances with IBM and Motorola to create a new computing platform for Macintosh also failed to work out. In 1996, he returned as interim CEO of Apple, and the first thing he did was to restructure Apple and divest its manufacturing. By 2000s, almost all of Apple’s manufacturing was outsourced. Apple “believe[d that] the vast scale of overseas factories as well as the flexibility, diligence and industrial skills of foreign workers [had] so outpaced [its] American counterparts [such] that [the] “Made in the U.S.A” [label was] no longer a viable option for most Apple products” (Duhigg and Bradsher 2012). By focusing on R & D and keeping its processes lean, Apple was able to speed up the introduction of new products to markets. Lean R & D processes further facilitated flexibility and efficiency in operations and logistics planning.

It is believed that companies with technological platforms are more sustainable and therefore, they are attractive long-term investments (Trevlos, 2013). Apple was the first to establish successfully a technology platform for users through its iPod. Through the ecosystem iPlatform built around the iPod’s closed operating system and products, Apple was able to collect data on user consumption patterns and perform advanced analytics to improve marketing decision-making.

Apple had been an aggressive advocate of developing new products for adjacent markets. Apple was founded as a computer company but by the early 2000s, it had diversified into electronic devices such as digital music players and mobile phones. Apple chose its adjacencies carefully. The markets might be small but they showed promising growth potential that Apple could develop by leveraging its existing competencies. In implementing this strategy, Apple was contented to be a market follower. For instance, when Apple introduced its iPod in 2001, there were already well known MP3 brands such as RCA Lyra player by Radio Corporation of America and Creative Nomad by Creative Laboratory. Apple was also not the first to enter the smartphone market. In 2007, the key smartphone players were Blackberry and HTC. By entering a market late, Apple was able to learn from the experience of pioneers and made fewer costly mistakes (Kellogg Insight, 2013).

However, in most of the markets it entered, Apple was able to work its way into a leading market position by surfacing latent user demand. Many users were attracted to Apple’s products because of their stylish designs. Apple’s products come with consumer-appliance aesthetics, designed to be playful and friendly (Cruikshank, 2006). They are simple, easy to use, and easily integrated with other Apple products through its iOS platform system. Users can express their personalities overtly through Apple’s unique designs. To own an Apple product is to subscribe to a certain way of life. Through product design, Apple has succeeded in cajoling an exclusive usage identity to attract a huge following of loyal users.

Managing product development and design at Apple
Although Apple’s products have gained global recognition, its product development process remains shrouded in mystery (Panzariono, 2012). Tim Cook had, to a large extent, summed up the company’s attitude toward product development when he said, “I don’t want to let anybody know our magic
because I don’t want anybody copying it” (Lashinsky, 2012). Apple’s organization and management of product development have long (since Steve Job’s time) been intriguing and appear to defy well established management maxims of transparency, empowerment, and autonomy.

**Unconventional organizational structure to maintain the spirit of start-up**
Apple has about 115,000 employees all over the world (Yu, 2015). It has to be mindful not to allow the bureaucratic system of a large organization to hinder innovation. At Apple, “employees don’t need an organization chart to know who is powerful” (Lashinsky, 2012, p. 42). The executive team which comprises a small council of advisors to the CEO manages the company with the support of almost 100 vice presidents. However, corporate positions at Apple do not necessarily equate to power. To maintain the spirit of a start-up in product development, Apple focuses on boldly creating a few great products instead of making incremental improvements on numerous product variants.

Once the company decides to develop a specific new product, it defines the procedures, personnel, and responsibilities at each stage in the creation of the new product. The deadlines of milestones have to be agreed and communicated to all parties concerned. A start-up team is then formed with members selected based on their expertise. The team reports directly to the CEO, thus freeing it from the burden of seeking clearance from layers of hierarchies that are typical in a large organisation.

The executive team would meet every Monday to review the progress of all new products under development. According to the late Steve Jobs, “We look at every single product under development. I put out an agenda. Eighty per cent was the same as it was last week, and we just walk down it every single week” (Lashinsky, 2011, p. 19). In this way, key products issues would have taken no more than two weeks to be resolved.

**Product development that begins with design**
At Apple, product design took centre-stage. It is Apple’s belief that the first step to great product innovation is design. Headed by design talent Jonathan Ive, Apple’s team of designers, better known as industrial designers (IDs), created Apple’s new product in a highly secured design laboratory, which was accessible only by a small group of staff. Governed only by secrecy agreements, the role of the IDs was to “imagine objects that don’t exist and to guide the process that brings them to life” (Kahney, 2013, p.165).

The IDs enjoyed an elitist status (Fiegerman, 2012). They worked in a large open Industrial Design studio with little personal space but great privacy (Burrows, 2006). They maintained very little interaction with the rest of the staff in the company. They had management clout but no management responsibilities. Without any responsibilities on Apple’s profit and loss (P&L), the team was given a free hand to explore any possibilities without making compromises (Kinni, 2013). Without cost constraints in product design, they were free to explore a plethora of possibilities to create the ideal product.

As commented by Yves Behar, CEO of design consultancy Fuseproject, “Most companies make all their plans, all their marketing, all their positioning, and then they kind of hand it down to a
designer” (Lashinsky, 2012). Apple, on the other hand, reversed the entire process where every other department needed to conform to the designer’s vision.

**Dedicated focus on product packaging**

Many companies spend more effort and time in software development and hardware manufacturing. Apple, on the other hand, views product packaging with pedestal importance. Once a product was designed, Apple will devote a significant amount of time and resources to wrap it beautifully.

As explained by Jonathan Ivy, “Packaging can be theatre, it can create a story” (Isaacson, 2011, p. 208). Google executive Deep Nishar commented that Apple’s packaging had the ability to “evoke … that feeling of anticipation, that you are to see something beautiful, something great, something you had been reading about and hearing about, and watch Steve talk and demo” (Lashinsky, 2012, p.51). Apple’s packaging designer spent months in a secluded, out-of-bounds office with limited access to members involved in new product development. The designer continuously tries out numerous box prototypes obtained by permuting variables such as colour, size, type, and position of full-bleed sticker, instructions, and so forth. The aim is to test and optimise the subliminal feelings experienced by a user from the point of picking up the box for the first time after purchase, to opening and dislodging the new device from it.

**The use of models to present design ideas**

At Apple, models or mock-ups play a critical role in deciding the final design of the new product and the company spend millions of dollars on them. Design ideas are presented to the CEO in the form of mock-ups. For mock-ups to look as close as possible to the actual design, the design team frequently outsources its final designs to model shops with specialist equipment and skills. Most of Apple’s mock-ups are created by Fancy Models Corporation, a model-making company based in Fremont and run by Ching Yu, a model maker in Hong Kong (Kahney, 2013).

**The production of multiple versions of the first commercial batch**

Upon the completion of the design of the new product, control is handed over to the engineering program manager (EPM) and global supply manager (GSM) who would make joint decisions on the best course of action for the smooth production of the product. Their considerations include the procurement of materials, manufacture and assembly of components of the final product, and transportation of the final product to retail outlets all over the world. As Apple outsources its manufacturing to developing countries such as China, the executives spend most of their time overseas to monitor and coordinate the manufacturing and supply chain processes of Apple’s vendors.

Although all Apple’s vendors are bound by secrecy agreement, there is likelihood that new product designs might be leaked to the media or competitors by workers during production before the product launch date. To prevent this from happening, Apple would usually build a few versions of the final product so that none of its vendors would know which product design would actually be launched. Once a version of the product was produced, the EPM would take it back to Apple’s headquarters at Cupertino for examination and comment, and leave for China again to send the next design through the production process. The steps would be repeated until the launch date closed in.
This approach to product development and design tend to be expensive and inefficient but works well for Apple to achieve various product breakthroughs.

Like all Apple products, the development of Apple Watch was kept secret. Rumours were already circulating in 2011 that Apple had plans to enter the wearable market. Speculations flew regarding its name and design. Many suspected that it would be called iWatch (Stroud, n.d.) following the company’s series of i-labelled products which had, since the iMac in 1998, become an iconic representation of Apple’s innovativeness. In February 2013, The New York Times reported that the iWatch would run on iOS and have a rectangular glass face made of curved glass (Reuters, 2013). It would also have the capability of connecting with other Apple devices such as the iPhone and iPad. In March 2013, Bloomberg reported that the Apple planned to launch iWatch by end of 2013 (Burrows & Kharif, 2013). However, the Financial Times mentioned in July 2013 that it would be ready in late 2014 (Bradshaw, 2013). Apple finally put all market speculations to a rest when Tim Cook introduced the product as “the next chapter in Apple’s story” (CBS News, 2014) on 9 September 2014, calling it Apple Watch instead of iWatch. It had a flat rectangular face. Some models have sapphire crystal display (not Willow Glass from Corning).

Features of Apple Watch

Apple Watch was Apple’s first new product in four years. It was a smartwatch whose ability went beyond telling time. It was a piece of wearable technology that served a number of purposes. A user could use it to make phone calls, check caller ID, retrieve voicemail, send and receive messages, and access information. It was also a sports watch with fitness tracking features.

The actual product

Apple Watch was available in three collections, namely basic, sports, and limited edition; two sizes, namely, 38mm and 42mm; six different finishes, namely, stainless steel, space black stainless steel, silver aluminium, space grey silver aluminium, 18-carat yellow gold, and 18-carat rose gold; a range of 18 changeable straps; and nearly a dozen faces.

The basic style of the watch was known as Apple Watch — scratch-resistant steel case and sapphire crystal display. By February 2016, there were 20 models in this collection — a choice of either the standard stainless steel, or space black stainless steel in sizes of either 38mm, or 42mm, and completing with silicone, leather or metal straps.

Apple Watch Sport had an anodised aluminium case which came in either silver or space grey. The watch’s display was made of Ion-X glass which was more durable than sapphire crystal. There were a total of 16 models available in this collection in February 2016 which came in both sizes and different coloured silicone straps.

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8 The previous new product category was iPad in 2010
9 A manufacturing process of creating a harder glass surface by introducing other molecules into glass through ion exchange
Apple Watch Edition was wrapped in an 18-carat gold case, available in both yellow and rose gold colours. Like the standard Apple Watch, the display was crafted from sapphire crystal. In February 2016, the Apple Watch Edition came in eight models, with a variety of silicone and leather straps.

Apple Watch took on a gender-neutral, rounded rectangular design, with dimensions of 33.3 millimetres X 38.6 millimetres X 12.3 millimetres for the smaller watch and 35.9 millimetres X 42 millimetres X 12.46 millimetres for the larger one. It weighed 25 grams to 55 grams and 30 grams to 69 grams for the 39 millimetres and 42 millimetres-sized watch respectively, depending on the case material (with aluminium being the lightest and gold ones the heaviest). It had a digital crown on the top right edge of its display. The crown could be turned to scroll up and down or zoom in and out of items listed on the display. Users could choose from an assortment of 11 digital faces to display on the watch, ranging from classic, to analogue, digital, scenic, and cartoons.

The watch ran on battery which was rechargeable using a magnetic-charging cable. Charging was carried out simply by allowing the charger’s magnet to attach onto the back of the watch and then plugging the charging cable into a USB port. The watch also had a built-in speaker and microphone, but no headphone jack.

**The core product**

Apple Watch “delivers important information when and where you need it. Helps you easily perform everyday tasks in seconds. Instantly connects you to the people and things you care about most. All while keeping precise time” (Apple website, n.d.). Indeed, the Apple Watch was a feature-packed, compact wrist companion (Stein, 2015). The Apple Watch was “as much about individuality and customizability as it was about technology” (Benjamin, 2014). Other core level functions include time, communication, fitness, and information.

Apple Watch appealed to the consumer’s desire to be different, to be an individual. It has a beautiful form and is stylishly designed, and it caters to the user’s fashion sense and personality. As a gadget for self-expression, Apple Watch can be customised to suit the specific occasion or time by changing its face. Animated emojis (and there were 153 of them) can be added to messages to express the user’s mood in emails. In this way, Apple hopes to help users connect with others at a more personal level than simply sending text messages.

Apple Watch is a small computer with state-of-the-art technology donned on the wrist. Operated by an iOS system known as WatchOS, Apple Watch had to be activated by the iPhone. The WatchOS interface is presented as a home screen with circular app icons on the face of the watch (see Apple Watch image in Table 2). It can be navigated by tapping its touch-sensitive display or by turning its crown clockwise (or anti-clockwise). WatchOS supported Handoff\(^\text{10}\) and Apple Pay\(^\text{11}\) to send content from the watch to other iOS or OSX devices and make secured payments for transactions at places with contactless payment terminals respectively. It also acts as a viewfinder for iPhone’s camera and

\(^{10}\) Handoff is an Apple software that allows the user to switch between apps on Apple’s devices, namely Mac, iPad, and iPhone. For example, a user writing an email using Apple Watch enters a room and continues writing the same email on iPhone.

\(^{11}\) Apple Pay is mobile payment app that utilises Near Field Communication to initiate secure payments between contactless payment terminals and iPhone.
Siri\textsuperscript{12}. All Apple watches had 7GB storage and could store up to 2GB of music and 75MB of photographs. It has a built-in heart rate sensor powered by infrared, visible, and LED lights as well as photodiodes.

By flicking one’s wrist, Apple Watch can display time either in digital or analogue format. It can tell time to an accuracy of 50 milliseconds of the Coordinated Universal Time, a precision level that was unperceivable by the human eye.

The Apple Watch is developed to make communication more convenient. It can send out alerts on important messages and calls so the users do not have to constantly check the iPhone. Using voice command via Siri, messages can be sent, calls can be placed, directions can be obtained, and specific workout can be started easily.

Apple Watch is also a fitness companion. It can measure heart rate, duration of workout, distance covered, and calories burned. It could also track movements such as running, walking, and climbing. It is capable of detecting whether the user is standing, and it can send out reminders if it detects idleness.

Supported by WiFi and Bluetooth, Apple Watch is a portable information device that provides access to essential daily information such as news, weather updates, maps and directions, stock prices, as well as calendars and activity schedules.

\textit{The augmented product}

Apple Watch is augmented with a plethora choice of straps. Apple offers a full range of straps in a variety by colours, materials, and closure. A user could choose dark, pastel, or bright colours to match occasions or moods. A user can select silicone, leather, or metal straps to match the outfit. The straps are available in magnetic, buckle, or butterfly closures to suit the user’s preferences. The purchase of Apple Watch and Apple Watch Sport models is accompanied by a limited warranty of one-year hardware repair and up to 90 days of complimentary support. Users can extend the warranty coverage to two years by paying for AppleCare Plus\textsuperscript{13}.

For a summary of the features and prices of the three collections of Apple Watch, see Table 3 below.

\begin{table}[h]
\centering
\begin{tabular}{|l|l|l|l|}
\hline
Variables & Apple Watch & Apple Watch Sport & Apple Watch Limited \\
\hline
Functionality & Excellent & Excellent & Excellent \\
\hline
Display material & Hard & Very hard & Hard \\
\hline
Casing material & Heavy & Light & Heaviest \\
\hline
Size & Good & Good & Good \\
\hline
Variety of straps & Best & Good & Poor \\
\hline
Price (USD) & 349 onwards & 549 onwards & 10,000 onward \\
\hline
\end{tabular}
\end{table}

\textsuperscript{12} Siri is an intelligent software that enables Apple users to operate iPhone, iPad and iPod through voice command in natural languages.

\textsuperscript{13} In 2016, the fees were SGD 98 and SGD 118 for Apple Watch Sport and Apple Watch respectively.
**Competitors’ smartwatches**

Apple is not the first company to introduce a smartwatch. The first wristwatch with enhanced functionality beyond timekeeping is Pulsar NL C01, which was introduced in 1972 by Hamilton Watch Company. Pulsar has a programmable memory. Smartwatch first became a piece of wearable technology in 2000 when Professor of University of Toronto Dr Steve Mann showcased his prototype of a wristwatch computer that functioned via IBM’s Linux operating system. In 2009, Samsung welded phone and smartwatch technologies with its S9110 Watch Phone. Interests in smartwatch began to shore up since then. By 2013, 40 companies had launched smartwatches, selling approximately 3.1 million units worth USD 700 million globally (Smartwatch, n.d.a). The top four smartwatch companies in 2014 were Samsung, Lenovo, LG, and Pebble (Smartwatch, n.d.b). Table 4 shows a comparative analysis of key features and functions of the Apple Watch against other major smartwatches available in the market.
### Table 4: Comparative analysis of key smartwatches available in the market

<table>
<thead>
<tr>
<th>Brand</th>
<th>Apple Watch</th>
<th>Gear line</th>
<th>Moto 360</th>
<th>LG G Watch</th>
<th>Pebble Watch</th>
</tr>
</thead>
<tbody>
<tr>
<td>Company</td>
<td>Apple</td>
<td>Samsung</td>
<td>Lenovo/ Motorola</td>
<td>LG</td>
<td>Pebble</td>
</tr>
<tr>
<td>Sample design</td>
<td><img src="14" alt="Image" /></td>
<td><img src="15" alt="Image" /></td>
<td><img src="16" alt="Image" /></td>
<td><img src="17" alt="Image" /></td>
<td><img src="18" alt="Image" /></td>
</tr>
<tr>
<td>Operating system</td>
<td>WatchOS</td>
<td>Android 4.3 and Tizen (a Linux-based system developed by Samsung)</td>
<td>Android Wear</td>
<td>Android Wear</td>
<td>Pebble OS capable of communicating with iOS and Android</td>
</tr>
<tr>
<td>Size in mm</td>
<td>33.3x38.6x12.3 and 35.9x42x12.46</td>
<td>36-40x58-59x10-12.5 (depending on models)</td>
<td>42 and 46 diameter</td>
<td>37.9x46.5x9.95</td>
<td>52x36x11.5</td>
</tr>
<tr>
<td>Weight in grams</td>
<td>25-55 and 30-69</td>
<td>55 to 68</td>
<td>49</td>
<td>43</td>
<td>38 (for steel)</td>
</tr>
</tbody>
</table>
| Key functions  | • Touch-screen  
• Calls and alerts  
• Emails and text/visual messages with emojis  
• Digital crown for navigation  
• Mobile payment via Apple Pay  
• Siri assistance  
• Built-in accelerometer and gyroscope  
• Measurement of heart rate and movement  
• Apps from Apple App Store and third-party apps  
• Remote access to camera and photos  
• Bluetooth and WiFi  
• Built-in speaker and microphone  
• Music storage, access and control  
• 7GB storage, 512 MB RAM | • Calls and alerts  
• Emails and text messages  
• Built-in accelerometer and gyroscope  
• Measurement of heart rate and movement  
• Bluetooth and WiFi  
• Voice command  
• Built-in microphone and speaker  
• Built-in camera  
• Music storage, access and control  
• Remote TV access via infra-red sensor  
• 4GB storage, 512 MB RAM | • Touch-screen  
• Integrated with Google Now  
• Calls and alerts  
• Emails and text messages  
• Built-in accelerometer and gyroscope  
• Measurement of heart rate and movement  
• Bluetooth  
• Music access and control  
• Remote access to camera and photos  
• Wireless charging  
• 4GB storage, 512 MB RAM | • Always-on display  
• Integrated with Google Now  
• Calls and alerts  
• Emails and text messages  
• Built-in accelerometer and gyroscope  
• Measurement of heart rate and movement  
• Bluetooth  
• Apps from Pebble App Store  
• Voice command  
• Built-in microphone  
• Music access and control  
• Remote access to camera and photos  
• Music access and control  
• 128 KB RAM |
| Price (USD)19 | 349.00 to 17,000. 00 depending on models | 99.99 to 299.00 | 149.99 to 399.99 onwards | 99.99 to 229.99 | 79.99 to 149.99 |

From the comparative analysis presented in Table 4, Apple Watch has the unique features of Apple Pay and personalised messages which appeal to some consumers.

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14 (Joho345, 2015)  
15 (LärlisDambränbs, 2014)  
16 (Raysonho, 2014)  
17 (LGEPR, 2014)  
18 (Pebble Technology, n.d.)  
19 As of February 2016
Apple Pay is designed as a quick, easy, and convenient way to make secured payments. It is supposed to make transaction payments superfluous. Although users praised this feature, it is not widely available. Only 10 to 20 per cent of retailers in the United States have adopted it (Swanner, 2016). At places where Apple Pay was available, it worked flawlessly. According to one user, double tapping the crown brought up the default credit card which not only facilitated smooth payment but also kept the cashier excited (Boxall, 2015).

Messages can be personalised at three levels — emojis, heartbeats, or drawings. There are several new, animated emojis that are reserved specially for Apple Watch. Emoji in Apple Watch garnered mixed feedback. Emoji lovers felt that they were fun and offered a quick and handy way to give concise responses though not groundbreaking. Senior editor of The Verge Lauren Goode commented that “not everyone ... finds animated emojis thrilling” while co-executive editor of R/code Kara Swisher called them “creepy” (Newman, 2015). Users could also send their heartbeats or create their own drawings by touching the watch display. The interactivity provided a playful and fun experience for the user. Sending and receiving heartbeats from loved ones could be refreshing initially but lost its appeal after a while. In addition, “with such a small screen you don’t have much space, even if you can use multiple colors ... for drawing” (Miles, 2015).

Besides criticisms on the uniqueness in its technology, Apple Watch had marketing issues as well.

**Marketing to iPhone users**

Apple Watch’s capability could only be realised in the presence of an iPhone. In other words, the Apple Watch was designed for an iPhone user to wear. But who were the iPhone users and would they put an Apple Watch on their wrists?

Studies by Hixon (2014) and comScore (Mactech, n.d.) revealed that iPhone users were weighed significantly on the following demographic traits:

- Older, usually 24 years and above
- More educated, with graduate degree or higher
- More affluent with household income of USD 100,000 or higher
- More likely to have children
- More likely to be professionals and business people, less likely to be computing nerds
- More addicted to digital devices
- Usually spent on clothing, entertainment, and travel

In addition, a survey of 2,000 smartphone users by TalkTalk Mobile showed that iPhone users had the following personality traits:

- Tend to be image conscious, confident, ambitious, daring, bright, and flirty
- Believe that they were valued most by their bosses
- Are active on social media sites (Woollaston, 2013)
Apple Watch attempted to sell to iPhone users by clustering their demographic and personality traits into three profiles:

**The minimal elitist**
Users purchased Apple products because of its simplistic and yet elegant and expandable design. Deutschman (2000, p. 307-8) described Apple users as someone “austere, rarefied, minimalist, cold, refined: the understated taste of an aloof elitist”. Apple Watch appeared to be designed for this group of users in mind. Apple offered a quality design whose expandability came in the form of changeable straps rather than technology. According to Macworld reviews, Apple Watch was “beautifully designed and engineered with superb look and feel. It’s chunky, rounded body is faintly reminiscent of the original iPhone, yet ... modern-looking ...very satisfying to hold ... pleasingly comfortable on the wrist” (Haslam, 2016). However, this collection had more models than Apple Watch Sport which defied minimalism. It is not surprising that more users bought the Apple Watch Sport (Smith, 2015).

**The active sportsperson**
Apple Watch Sport collection is for the more active user, someone energetic who constantly moved around and engaged in physical work (Benjamin, 2014). There is no uniquely valued selling proposition that would clearly differentiate the sport and basic collection other than the fact that Apple Sport Watch was 5 grams to 14 grams lighter and had more resistant-to-scratch display. In terms of software and hardware technologies, there was no difference. Fitness measurement features available for this collection can also be found in other collections.

**The business fashionista**
Apple Watch Edition catered to the business professional, or at least, those who cared most about style and grace (Benjamin, 2014). Apple Edition could be an attempt of the company to position Apple as a fashion brand, a designer of fashionable wearables that could be worn everyday everywhere like jewellery.

Pogue (2015) remarked that Apple Watch was “half computer half jewelry”. The word “jewelry” connoted something precious, rare, expensive, exquisite and luxurious. This explains why the Company priced Apple Watch Limited above USD 10,000. However, can wearable be associated with jewellery? Can the image of wearable be consistent with luxury? Apple’s retail director Angela Ahrendts once told the *Harvard Business Review* when she was the CEO of Burberry, "In luxury, ubiquity will kill you – it means you're not really luxury anymore" (Segan, 2015). The simultaneous targeting of multiple-user segments might pose service problems for the company. Bitner (1992) espoused that the behaviour of one customer group could influence the satisfaction of another customer group in a service setting. Serving customers with significantly different service preferences could alienate one against the other. The service expectations of Apple Watch Edition and Apple Watch users are different. Apple Watch Edition users demand a higher level of service; they prefer more exclusive and personalised service in a classy setting. Will they like to be seen shopping for Apple Watch Edition amongst the minimal elitists? How would the minimal elitist feel when someone who asks for the Apple Watch Edition at an Apple Store enjoys a higher level of service?
Apple can also use premium pricing to manage value perception. Quality products are usually more expensive. Users are willing to pay more for better performance and unique design only if the price premium justifies the perceived value. Even if Apple users who have high income can afford it, will they purchase a piece of wearable technology at USD 10,000? Does the 18-carat gold case of Apple Watch Edition worth a price premium of almost USD 10,000? According to PricewaterhouseCoopers (2014), millennials do not want to pay too much for their wearable devices; they would rather be paid to use them. Research company NPD’s survey showed that the average wearable price paid by users was only USD 96 to USD 109 in 2015 (Weiss, 2016).

In September 2015, Apple announced its partnership with Hermès to launch a new collection of Apple Watch Hermès. Hermès would design exclusive straps and watch faces to accompany the Apple Watch. This collection would be priced from USD 1,100 to USD 1,500, depending on the size of the case and the style of the straps. Can this marketing initiative be an indication that Apple finally realised the inconsistency in its pricing strategy?

**Apple Watch launch**

The Apple Watch was officially unveiled on 10 September 2014 and generated more media hype and market interest than iPhone 6 which was launched on the same day. Market reactions were mixed. International Data Corporation (IDC) predicted that Apple Watch will lead a rapidly growing wearables market through at least 2019, selling up to 45.2 million pieces by 2019 (Pierini, 2015). On the other hand, CNBC (Graham, 2015) reported that a study by market research company Slice uncovered that Apple Watch sales in the United States fell by 90 per cent within six months of its release. When queried on Apple Watch sales in an interview with The Wall Street Journal, Tim Cook answered vaguely: “We shipped a lot the first quarter. And then last quarter we shipped even more. I can predict without hesitation that we’re going to ship even more this quarter” (O’Brien, 2015). One fact stood clearly. During Apple Watch’s release, long queues outside Apple Stores became a rare sight. The Apple Watch might not be breaking through to the consumer at all.

Can it be that Apple’s well of new product innovation has run dry?

What should Tim Cook do to turn the situation around?
End-of-Case Questions

**Question 1**
Discuss Apple's approaches in the management of new product development.

**Question 2**
What targeting strategy does Apple Watch use? Explain with illustrations.

**Question 3**
Using perceptual maps, discuss the positioning strategy of Apple Watch.

**Question 4**
What recommendations would you give Tim Cook to increase the sales of Apple Watch? Justify with reasons.
Appendix A
A chronological description of Apple's successful product launches

Apple II launched in 1977
The Apple II was Apple’s second generation PC and the company’s first mass-produced computer. Its compact design and availability in 16 colours, the first ever in the market then, had made it the fastest-selling PC, grossing USD 79 million in 1979. The product was a success because of its user-friendly and expandability features. It was available in a range of RAM, from 4K to 64K. Aggressive marketing was another reason for its widespread acceptance. For example, volume discounts and manufacturing arrangements to educational institutions were given to schools. Software developed especially for the Apple II, such as the VisiCalc spreadsheet, made it popular among business users and families.

Macintosh PC launched in 1984
Well known for its compact and user-friendly features, the Macintosh was the first PC built without using programming language. It was designed for non-engineers, targeting the mass market. Featuring an integral graphical user interface and mouse, the layman found it relatively easy to use. It was also the first product that was launched with much pomp. Apple showed the world that it was different from other technology company — it spent millions of dollars to showcase its product at the Super Bowl.

iMac G3 desktop computer launched in 1998
This was an all-in-one computer launched by Steve Jobs after he was invited back to Apple after the Company suffered a decade-long decline in his absence. He recruited design talent Jonathan Ive to design it. The iMac marked their synergistic collaboration in years to come and rebuilt the reputation of the company. The iMac was a consolidation of the company’s existing consumer desktop models housed in a unique, translucent, square-base pyramidal plastic casing that was available in various colours, such as blue, red, green, etc. Apple boldly replaced the floppy drive with CD-ROM drive and introduced USB ports. The iMac was a phenomenal success and sold almost 800,000 units in the first five months of its launch.

iPod launched in 2001
The iPod, a digital music player, was a stylish MP3 player capable of storing 1,000 songs. Steve Jobs remarked at its launch in October 2001 that the iPod’s a 10-hour battery life makes "[l]istening to music ... never ... the same again" (Halliday, 2011). It was the device that transformed Apple from a computer company into a mass-market electronics giant. Its sleek and slim minimalist design, available in only two colours (i.e. black and white), revolutionised digital music. It had a wheel that could be rotated physically to play selected music, just like a disc jockey spinning music records at a party or club. The white iPod earbuds could be noticed by people from afar, which publicised the product further. Very quickly, iPod became a street cult.
Tunes launched in 2001
The iTune is a media management system comprising a media player, media library, radio broadcaster, and mobile device application for playing, downloading, and organizing digital audios and videos on Apple devices such as iPod, iPad, PC, etc. The iTunes Stores was launched in 2003 with the aim of helping iPod users gain access to new music. The iTunes Stores popularised online music purchase and changed the music industry forever. In 2012, 1.4 billion digital singles were sold with iTunes taking 63 per cent of all digital music sales (Covet, 2013).

iPod launched in 2007
Steve Jobs unveiled Apple’s trump product after much market anticipation in 2007. The iPhone continued to charm technocrats and non-technocrats alike even after six generations — iPhone 6 in 2014. The iPhone is both a smartphone and iPod. The iPhone propelled the smartphone from a business gadget to pop culture (Pierce, 2015). According to Frommer (2009), iPhone set the standard for smartphones and changed the consumption behaviour of mobile phones. It was designed to make usage intuitive. It was the first truly touch-sensitive phone, allowing the user to zoom in and out of a Web page, picture, map, or photograph by simply pinching its screen. Users could go through a directory of items by swiping the phone screen, just like flipping a menu. It has a motion sensor which gives wider screen displays upon rotation. Users find it easy to browse, purchase, and install free and paid software programs, commonly known as apps. To encourage app developer to develop software for iPhone, Apple decided to take 30 per cent of all revenue generated from apps in its App Store, returning 70 per cent to the app developer. Apple’s mobile browser mobile Safari makes browsing of the Internet on the iPhone similar to using the PC and laptops.

iPad launched in 2010
The iPad is a touch-screen tablet for interacting with multimedia such as newspapers, electronic books, photographs, videos, music, video games, and documents (with limited word processing) using iPhone apps. It functions as a multimedia centre, web browser, message hub, organiser and planner, and social media manager (Barett, n.d.). The iPad is capable of performing sophisticated editing of videos and photos as well as sequencing, mixing, editing, and applying effects to audio files using apps from Apple’s App Store. The iPad can be set up to manage emails from various personal and business accounts. It has a built-in document viewer which facilitates the viewing of email attachments such as JPEG, GIF, TIFF, PDFs, PowerPoint, Excel, and Word files. Mobile professionals can download the calendar, productivity, map, travel, and language apps to schedule appointments, plan trips, track flights, hail taxis, and even communicate in foreign languages. Using iOS operating system, the iPad can be linked to Twitter and Facebook accounts, enabling the sharing of messages, pictures and videos. In other words, it is an adult toy. The device offers the user numerous ways to pass time and be engaged.

iOS App Store launched in 2011
The Apple App Store is a digital distribution platform for mobile apps developed and maintained by Apple. It houses more than 1.6 million apps, making it the second largest app store after Google Play in 2015, downloadable either for free or a fee (Statista, n.d.a). By July 2015, Apple announced that

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20 An operating system created and developed by Apple which powered the company’s mobile products such as iPad, iPod, and iPhone.
100 billion apps had been downloaded from its App Store (Statista, n.d.b). A plethora of best-in-class apps (Duffy, 2015) for games, business, education, lifestyle, and entertainment is available for free download on the iPhone in the App Store. However, users are also willing to pay for apps that solve inherent usage problem. For example, “Peace”, an app designed by Tumblr co-founder Marco Arment, which strips away advertisements, cookies, and scripts on websites viewed via Safari took the top position of the App Store's paid download list (Villapaz, 2015). Apple’s promotion of its own apps through the “Top Charts” section of its App Store has facilitated its popularity. By allowing apps like iMovie and those in its iWork\(^{21}\) suite to appear among the top 10 free apps on iPhone, Apple encourages iPhone users to download them thinking that they are prevalent (Perez, 2015). Furthermore, a lower cost levied on app developers regardless of their monetization model helps to push out more apps for Apple mobile users. Apple took a 30 per cent cut on all revenue generated through apps instead of the market norm of 50 per cent.

\(^{21}\) Refers to Apple Productivity Apps available in iOS and other platforms
References


LGEPR File:LG (June 26, 2014). 전자, 세계 스마트워치 시장 본격 공략- 14507399524.jpg [Image]. Retrieved March 15, 2016, from https://commons.wikimedia.org/wiki/File:LG%EC%A0%84%EC%9E%90_%EC%84%B8%EA%B3%84_%EC%8A%A4%EB%A7%88%ED%8A%B8%EC%9B%8C%EC%B9%98_%EC%8B%9C%EC%9E%A5_%EB%B3%B8%EA%B2%A9_%EA%B3%B5%EB%9E%B5_-_14507399524.jpg


Woollaston, V. (2013, July 31). What does your phone say about you? iPhone owners are vain, BlackBerry users earn more and Android owners drink the most. Mail Online. Retrieved from http://www.dailymail.co.uk/sciencetech/article-2381845/iPhone-owners-vain-BlackBerry-users-earn-Android-users-drink-most.html


About Nanyang Technopreneurship Case Centre

With funding from both the National Research Foundation of Singapore and Nanyang Technological University, the Nanyang Technopreneurship Case Centre (NTCC) was one of the initiatives of the Nanyang Technopreneurship Centre (NTC) to enhance the quality of entrepreneurship education through the case pedagogy. These are part of NTC’s efforts to foster, promote and nurture enterprising mind-sets, skills and knowledge in entrepreneurship education.

There is a plethora of business cases but a general paucity of cases highlighting the specific problems faced by technopreneurs in growing their ventures. NTCC adds value to Technopreneurship education by developing a pool of cases on technology-based local and international enterprises. Through the cases, NTCC hopes to share the experiences, success stories and challenges faced by entrepreneurs/intrapreneurs in growing their organisations and how they overcome their problems to sustain growth.

The theme of this first compendium is “innovation through technology”. It features Singapore-based and global companies confronting issues and challenges due to technological shifts in the industry and changing market and competitive dynamics; when introducing new products in the marketplace; and in using technology to drive organizational change.

Online versions of these cases are available for complimentary downloads at www.ntc.ntu.edu.sg/ntcc.

Teaching notes are also available to faculty members for use as reference, reading and/or teaching materials in various academic and professional programs. For further information, please contact Ms. Denise Lee (deniseleecw@ntu.edu.sg) and Mr. Wu Chong Chuan (wucc@ntu.edu.sg).

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