

# Innovation Lessons from Apple – Part 3

## Competing with Themselves

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With the release of the first iPod, Apple had an immediate hit on its hands. They repeated this with iPhone. What activities did they engage in on each of these products to ensure continued success? The primary method was to compete with themselves, and before their competitors did. Two key activities were continuous improvements and line extensions. This article continues the discussion from [Part 2 - Innovation Lessons from Apple – Obsessing on Customer Experience](#).

### **Innovation Activity #3 – Competing with Yourself**

When Apple entered the MP3 player market, it was already crowded with a number of companies, including Diamond Multimedia, Creative Labs, Samsung, Sony and Panasonic. Apple did not launch a product targeted directly at the existing leaders, but instead went around them with a novel offering targeted at a subset of the mainstream market (Mac-only). They used a similar tactic in creating the iPhone against existing smartphone players Nokia, Microsoft, RIM, and Palm and again redefined the category by offering something novel.

In between the iPod and the iPhone (a span of nearly 6 years), Apple did not rest on its laurels but put a full focused attack on the player market. To reinforce the initial success, they then continued to pound away with wave after wave of performance enhancements and small line extensions that overwhelmed the other market players. Once they had achieved market leadership, they shifted their sights to a different strategy - protecting their share.

The strategies employed by Apple on iPod are prime examples of how it should be done in the classic book *Marketing Warfare*<sup>1</sup>. This book likens marketing strategy to war strategy, as both are completely dependent on the competitor position and strengths. The initial maneuver of going around the marketing leaders is described as flanking. They then continued to focus in a narrow area until they achieved market leadership. Apple then shifted to a defensive position in blocking competitive moves through line extensions. A prime recommendation for market leaders in the book is to “Attack Yourself”, meaning you should be the one creating better products than your existing ones, and before your competition does. It appears Apple read the book.

### **Incremental Improvements**

Unlike consumer packaged goods, where a product can remain stable for literally decades (for example, soap and breakfast cereal), technology products need to continually evolve and improve to survive. This is driven from the frenetic rate of change of the underlying technical base, the semiconductor. As we are still under Moore’s Law for semiconductor improvements, this predicts that every 2 years the number of transistors in a given area doubles. The result is significant gains in hardware performance, size, power and cost on a regular (and predictable) basis.

This enabled Apple to plan specifically for fairly routine upgrades to the iPod that focused on key areas of the Kano Performance curve, namely capacity, size, battery life and cost. True to form, Apple introduced 5 Generations of the initial iPod Classic in the first 4 years and we are now towards the end of life of the 6<sup>th</sup> Generation at year 8. The following table illustrates the improvements that occurred in an incremental manner over the 6 generations.

Performance Attribute	1 <sup>st</sup> Gen iPod Classic	6 <sup>th</sup> Gen iPod Classic	Total Improvement	Improvement per Generation
Storage Capacity	5 Gbytes	120 Gbytes	24x larger	4-5x larger
Size (Volume)	7.6 in <sup>3</sup>	4.0 in <sup>3</sup>	55% smaller	10-15% smaller
Weight	6.5 oz	4.9 oz	25% lighter	4-5% lighter
Battery Life (Music)	10 Hours	36 Hours	3.6x longer	70-80% longer
Price	\$399	\$299	25% cheaper	4-5% cheaper

Note that the improvements per generation are modest in some areas, but over time add up. In addition to enhancing the original Performance attributes, Apple also evolved the screen to be larger and in color and modified the Click Wheel a few times, moving from mechanical to electronic.

From a feature enhancement perspective, Apple has also been very focused in keeping the iPod a simple to use portable media device. They only major software features added in 8 years to the basic iPod line were ability to watch videos, store photos and download a limited number of games. All of these strongly support the real benefit of the device - ENTERTAINMENT. Feature creep is highly under control at Apple.

### Line Extensions

The initial line extensions for the iPod were focused specifically on increasing market share. To achieve this required that the product would need to expand beyond just Mac users. In the 2<sup>nd</sup> Gen iPod, they enabled it to work with an existing Windows music store application, MusicMatch. Unfortunately, the device still had a Firewire port instead of USB for interfacing to the PC, so this was really a useless upgrade for the majority of PC owners. Finally, in the 3<sup>rd</sup> Gen introduction 18 months after the initial iPod, they added a USB connection and 6 months later also ported the iTunes application to Windows. This enabled the product for nearly all Windows users.

The most important feature introduced with the 3<sup>rd</sup> Gen, however, was not hardware or software but rather fulfillment of the original inventor's (Tony Fadell's) vision of a complete music business around the iPod. Apple launched the iTunes Store and never looked back. Within 1 year from the launch of the iTunes Store, Apple claimed 58% share of the US MP3 player market.

By this point, Apple was shifting directions, with the focus being on protecting from cheaper competitors. As famously discussed in *The Innovator's Dilemma*<sup>ii</sup>, it is exactly the continuous incremental innovation along the Performance curve that makes incumbent market leaders vulnerable to disruptive innovations.

As the incumbent improves performance, they overshoot the market need, leaving themselves open to competitors attacking low end customers who are happy with a simpler and cheaper solution. Eventually, the low end attacker moves up market to attract more and more of the incumbent's core market and winning with a better value proposition (providing adequate performance at a much lower price). Apple must have read this book too.

The original iPod was targeted at the high end of the market. It had market leading storage capacities, but also relatively high price. Given that there was a demonstrated market for lower priced and lower capacity players, the obvious move for Apple was to determine how it might play in this arena. The first foray into a blocking move from down under was the iPod Mini. It boasted 4GB of storage using a 1" microdrive, versus the 3<sup>rd</sup> Gen Classic which had 10-40GB of storage using a 1.8" drive.

The Mini was nearly half the size and weight and was priced 17% lower than the low end Classic, but 50% of the price of the high end version. Apple continued to do incremental improvements to the Mini, and eventually replaced the microdrive with Flash memory and renamed it the Nano. This enabled it to get even smaller, to about 1/3<sup>rd</sup> the size of the Classic. They have also maintained pricing over time at 50% of the top end Classic.

But Apple didn't stop there and introduced the iPod Shuffle in 2005, a year after the Mini. The iPod Shuffle was even more astonishing by being a player that was 30% the size of the Mini and 20% the weight. They achieved this by removing the physical LCD display while keeping a small version of the Click Wheel and having only basic player controls, much like the original Sony Walkman tape players. The storage capacity was 512MB and price was again 50% of the Mini. They also continued to do incremental innovations on the Shuffle to maintain the size and price positioning against the Nano.

Apple also extended the product line horizontally through the introduction of the iPod Touch, which is an iPhone without the phone. Like the iPhone in the smartphone market, the Touch has transformed the MP3 player market with the touch screen, wifi with browser & email, contacts & calendar and downloading of apps and games. In effect, this redefines the old PDA market previously dominated by the languishing Palm.

Figure 2 provides an historical look at how Apple performed incremental improvements and line extensions over the iPod/iPhone product lives.

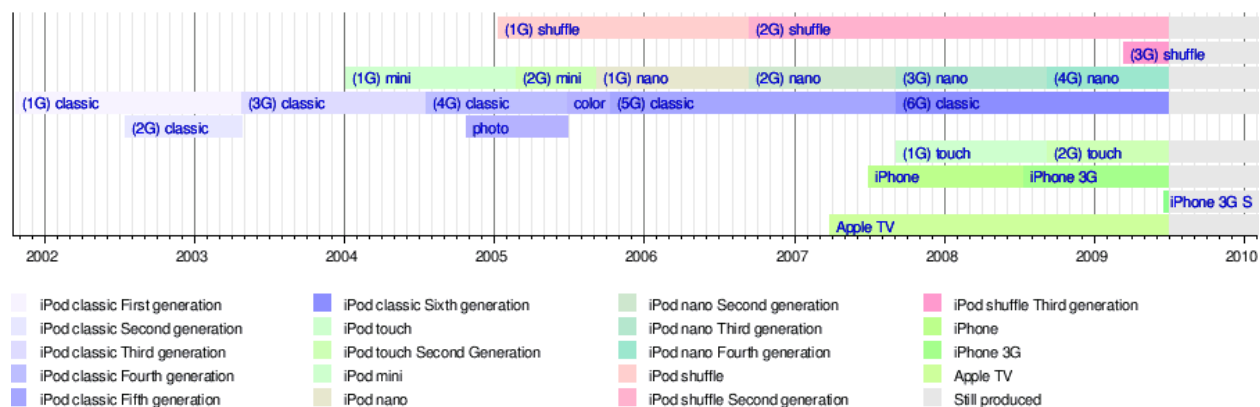


Figure 1 - iPod Evolution (Courtesy of Wikipedia)

Of note in the chart is the line extension called Apple TV. This product allows viewing your iPod/iPhone content on your TV, but more importantly allows rental and download of movies from the iTunes Store. This is not so much an extension of the iPod that makes it intriguing, but rather an extension of the iTunes Store. With TiVo hemorrhaging losses and the movie download market still sputtering, this looks like a 'guerilla attack' into that market. Apple

continues to downplay the product and calls it a 'hobby' even as sales ramp into the millions. Perfect 'guerilla' tactics!

### So Where Next?

Given what we've seen so far, what can we expect from Apple going forward? It's a pretty safe bet they are going to continue to do incremental innovation across all the product lines. For the iPod line, the Touch is having great success and now holds the top 2 bestseller spots of all MP3 players on Amazon. One likely direction is to take it up-market in capacity on par with the Classic, raising it from 32GB to 160GB and beyond. More intriguing is whether Apple tries to also go down market with a smaller and cheaper version, however they may be technology-limited for achieving a 50% reduction for now (as will be their competitors).

The iPhone presents a different challenge. While they are making great strides in the smartphone market, they are still a long way from market leadership. Apple is growing amazingly well and stealing share from incumbents Nokia and Samsung at a fast clip. RIM, however, is grabbing even more share and maintaining a comfortable lead on Apple. For Apple to really make strides against RIM, it will need to make headway into the corporate IT environment and this is not a strength for them at all. What they do have going for them is the likely pull from executives who bought the iPhone as consumers, but want to use it in the corporate environment. These customers will force IT to deal with it, so the only real question is how long will this take?

One major complication for Apple is not its product, but the iPhone business model... namely, it's exclusivity with AT&T in the US. This will be a drag on better performance by limiting the market opportunity, so they will likely also need to rely on very strong international sales to fuel its share growth. In the next year or two, this may be where we see Apple direct its major efforts.

### Summary

The third key innovation activity demonstrated by Apple is competing with itself by constantly improving and extending its products. By continuously improving along the Kano Performance curves for key attributes, Apple obsoletes their own products. They have created line extensions to support the adoption of their devices through the creation of the iTunes and Apps Stores. They are also paying attention to competitive threats, especially from down market, and have created line extensions focusing on price/performance to block these. In all cases, their innovation is driven by their competing with themselves instead of letting a competitor preempt them to a position.

This concludes our series on Innovation Lessons from Apple and #3 key activities to take away:

1. Finding market gaps
2. Obsessing on customer experience
3. Competing with yourself

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<sup>i</sup> Marketing Warfare, Al Ries & Jack Trout (Authors of Positioning), 1986 & 2006

<sup>ii</sup> The Innovator's Dilemma, Clayton Christensen (Also, The Innovator's Solution), 2003