

Disruptive Innovation

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The Internet's pace of adoption exceeded all other technologies that preceded it. Radio was in existence 38 years before 50 million around the world tuned in; television took about one third the time; 13 years to reach that same benchmark. Personal computers took sixteen years but once the Internet was opened to the general public, it was only 4 years before 50 million users accessed it.

What is a disruptive innovation? For many, a disruptive innovation is a technological product or service that eventually overturns the existing dominant technology or change the status quo in the market place. Some of the earlier disruptive innovations include the invention of the steam engines, automobiles that replaced horses for transportation, hydraulic excavators that replaced cable-operated excavators, and transistors replacing vacuum tubes. In the late 1990s, the emergence of digital photography and its continued improvements in image quality, improved power duration and portability have lead to the displacement of chemical-based photography. In recent years, the digital audio player which has capacity to store thousands of songs in good digital quality has also increasing pushed aside the compact disc that stores between 15-20 sounds.

Clayton M Christensen who first introduced the term "Disruptive Technology" in 1995 but subsequently replaces it with "Disruptive Innovation" because he recognized that very few technologies are intrinsically disruptive or sustaining in nature. In reality, it is the strategy or business model that technology enables that creates the disruptive impact. One of the classic examples that come to mind is the intense competitive between rivalry manufacturers that lead to the demise of the Betamax format.

Some Big Numbers

From small enterprises to banks and multi-corporations, everything these days, it seems, have embraced the catch phrase "Size matters". Small and big corporations alike are entering into mergers and acquisitions to create entities beyond organic growth. The fact that the internet provides a gateway to a global market further fuels these dreams into a frenzied state.

Automobile which was first invented around 1769 saw its population grew to over 800 million by the end of 2006. While this innovation has a much smaller base compared to the worldwide 1.1 billion Internet users, the car has created an automobile industry and generated numerous jobs and countless supporting industries that span from tyre manufacturers, petrol stations, grooming and car care shops to car accessories from leather seats, car hi-fi stereo equipment and more.

Television first broadcast in 1930 and introduced to the mass market in the 1950s reached a total of 1.5 billion TV sets last year. As we all know, TV changes our lives and homes. Many large-size TV monitors now take centre stage in our living room. Like the automobiles, TV transformed the mass media industries and created many new industries from MTV to music videos, to popular news broadcasters and the advertising industry. In the recent movie "Stay Free or Die Hard", we saw how the TV was used to broadcast false images of the destruction of the White House to generate panic amongst the US citizens in the show.

Credit card developed by John Biggins of the Flatbush National Bank of Brooklyn (New York) in 1946 has over a period of slightly over 60 years now found itself in the wallets of some 1.4 billion people around the world.

To quote more examples on big numbers, the telephone invented by Alexander Graham Bell in 1876 has an installed base of 1.3 billion around the world in end 2006. The Internet user base grew to over 1.1 billion people while there are now 2.7 billion mobile phone subscribers in the world – this is 3 times more than the number of automobiles!

Making Sense

What do all these numbers tell us? Does it mean that a technology that has the largest installed or user base spell success?

In Charles Darwin's theory of evolution, it is clear that it is not the strongest or the fittest of the species that survive, nor the most intelligent ones but the ones most responsive to change. Bacteria that exist for billions of years continue to evolve and respond to the dramatic and extreme changes in the environment to continue to flourish in the present world.

Likewise, a product or service that does not adapt to changes and demand from the market place will soon find itself being replaced by technology that fill the gaps.

If we were to take a closer examination of the various examples quoted earlier in the article, we will notice a common element - a single factor that leads to the rapid adoption of the particular technology.

Control and Choices

Let's take a look at automobiles. When it was first invented, it was meant to replace horses as the more convenient and efficient way to transport people around. However, the automobile has over the years transformed into something else – a symbol of power and prestige to those who own these luxury sedans. For even the average drivers and owners, the feeling of power and satisfaction when stepping on the accelerator or experiencing the torque from negotiating a tight corner are no different from our forefathers who once derived the same or high level of satisfaction and control when they tamed wild horses.

The TV set alone does not generate the economic dynamics that we see today. Similarly, a pair of telephones cannot generate the adoption we have now.

The Arpanet was developed by the US military for decades but when this technology was brought to the main stream around 1994; very rapidly as we all know, the Internet user base grew to over 1.1 billion people around the world.

How does this happen? Basically, people want choices and the ability to act on these choices. That's the reason why search engines, online auction, blogs and YouTube are so popular and used by millions around the world. Even the short messaging system (sms) which is a simple technology is used widely because it gives the recipients control over whether they want to reply the message or not or when to reply.

Looking Ahead

The mobile phone which already has a subscriber base of 2.7 billion is bigger in its reach than the automobiles, the radio, the TV, the credit card and even the Internet. In the next few years, it will make bigger changes simply because it combined the various functionalities of the fixed line telephone, radio, music player, camera, credit/charge card and the Internet. Most importantly, many of the smart mobile phones give the consumers greater control of what they want to hear, see, receive and act.

Business models or strategies that embrace the use of the mobile phone that focus on delivering choices and control to the consumers will create the disruptive impact. Place your bet.

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