Digital Camera – A profit destroying force in the camera industry

Kodak, the pioneer of film roll photography ruled the camera industry for a hundred years due to its innovations around photographic films. Prior to film roll, photography was a cumbersome process best left to experts. The process involved using glass plates coated with chemicals to get a picture exposure. However, film roll changed the industry forever. Kodak placed the film camera in the hands of consumers and made it simpler to take pictures. This led to a rapid increase in camera and film sales. Over time, Kodak pushed out most of the competitors from the industry and reached over 80% market share by 1970s.

A key driver of Kodak's profits was the film roll that provided it margins upwards of 60-70%. With a dominant market share and huge margins, Kodak was a cash machine. That is, until digital cameras emerged.

In early 1980s, Sony announced a digital camera that needed no film. When a radically new technology emerges in an industry, it could be a major threat as well as a major opportunity. Often it is hard to assess the implications of such radically different technologies early on. Smart companies keep on the look out for such technologies and react to them in a thoughtful manner. Kodak did what any smart company would do – it began learning the technology involved in a digital camera.

Although Sony's first camera wasn't technically a digital still camera, Kodak began to investigate the technology in earnest. Kodak invested billions of dollars over the next 10 years. Since the technology was new and underdeveloped, the consumer acceptance was low. This slow diffusion rate gave Kodak almost 20 years to be ready with its own camera.

Kodak did everything that you would expect a great company to do to respond to major technological changes in its industry. It spent billions of dollars on building technological capabilities, set up a R&D lab in Japan to learn microelectronics, created several digital products, and also created the imaging sensor that became the industry standard. It set up a separate division that focused entirely on digital products. Moreover, Kodak hired the ex-Motorola CEO Fisher to transform the company into a hardware company. In short, Kodak played to win in the digital imaging industry.

What was the result? By 2008, Kodak had merely 20% market share in the US digital camera industry. Its overall revenues declined from $20bn in 1992 to $12bn in 2008. Its profits declined from $1.2bn in 1992 to $400mm in 2008. You would agree that these results are disappointing.

Why did a large, established, and highly successful firm like Kodak see this miserable fate in spite of doing all the right things? The answer is it didn't know how to cope with a rogue innovation. In spite of doing all the right things, it failed to overcome the challenges that a rogue innovation poses for firms.

Why was digital camera a rogue innovation? Simply stated, it eliminated the need for film and thus got rid of a lucrative component of photographic equipment industry. Thus it threatened to destroy profits of incumbents such as Kodak.

How was Kodak's response to a rogue innovation wrong when it aggressively went after the new technology and invested heavily in it?