

Case Example: James Dyson

Feted by the UK Government and with Honorary Doctorates from 11 UK universities, the designer, James Dyson, is a man who likes to make things work better. His first product, the Sea Truck, was first launched in 1970 while he was studying at the Royal College of Art. Subsequently it has netted sales in excess of \$500 million. Shortly after, in 1974 he designed the award-winning Ballbarrow, an “easy to steer” wheelbarrow that can get to places normally inaccessible to the more traditional wheelbarrow. In addition, there have been the Wheelboat, the Trolleyball and even the integral hose found on most upright vacuum cleaners. However, he is probably most famous for his revolutionary “bagless vacuum cleaner”.

Reputedly he got the idea when he noticed that the air filter in the Ballbarrow spray-finishing room in his factory in Malmesbury, Wiltshire, was constantly clogging with powder particles. He recognised that the problem was very similar to that which every household experiences, when its vacuum cleaner clogs with dust. So, having designed the solution to his industrial problem, a cyclone tower that removed the powder particles by exerting centrifugal forces 100,000 times greater than those exerted by gravity, he transferred the technology to the domestic vacuum cleaner. However, it took him 5 years and 5,127 prototypes before his invention, the “G Force”, won the 1991 International Design Fair prize in Japan and the first units were sold, initially at a price of \$2,000 each. Despite having developed a proven, disruptive or revolutionary technology, with a “killer” application, Dyson discovered that none of the leading manufacturers was interested in moving away from the traditional technology. Accordingly, in June 1993, using income from his Japanese licence, he established a research centre and manufacturing plant and started producing the Dyson Dual Cyclone vacuum cleaner. This was the first breakthrough in vacuum cleaner technology since its invention in 1901. The traditional bag was replaced by two cyclone chambers that cannot clog with dust. The outer chamber spins out the larger dust and dirt particles before the inner chamber accelerates the air so that the small, often health-threatening, particles are removed. In the first year of production, sales were in the order of £2.4 million. These rose in 1994 to £10 million and by February 1995 the “Dyson”, as it had become known, had become the fastest-selling vacuum cleaner in Britain, so that by 2000 the company was selling nearly £300 million worth of units a year and was claiming to have secured half of the British market by volume. By contrast, the previous brand leader, Hoover, had seen its market share drop to 10 per cent. In an attempt to regain market share, it had introduced its own bagless cleaner, the Triple Vortex, reportedly using technology first developed for oil wells to separate gas or sand from crude oil. Dyson saw this move as an infringement of his technology and sued Hoover for breach of patent. Hoover argued that Dyson’s technology was not innovative – that it involved nothing that was not already known inside the industry. The Court decided, however, that there was no evidence to suggest that a bagless cleaner had been considered previously and in October 2000 the judge ruled that Hoover had infringed the patent and ordered that it may not sell or manufacture any more of its Triple Vortex cleaners within the UK and should pay an advance of £200,000 towards Dyson’s costs. *“I am very pleased to see Hoover now found guilty of patent infringement”*, Dyson is reported to have said. *“Hoover showed no interest in the technology when we were looking for backers. Then they rubbished it when we brought out the bagless cleaner, insisting bags are best. Finally they came out with a blatant copy”*.

Hoover responded to the judgement by recalling all of its triple Vortex models from the dealers, and announcing that it intended to appeal and to launch a new cleaner (Vortex Power) that relied on a single cyclone mechanism and did not infringe Dyson's copyright. The recalled models would have the offending mechanism taken out and the new system would be installed. Dyson's QC, Peter Prescott, claimed that while the new machine did not infringe the patent, it profited from the reputation of the now banned Triple Vortex and this should not be allowed to happen. The judge reserved judgement on whether to bar Hoover from using the trade mark, Vortex, but in January 2001 ruled that Hoover could continue to use it. However, he also recognised that the company had gained commercial advantage over other competitors by infringing the patent and granted Dyson a six-month extension. In order to prevent Hoover from gaining unfair advantage. In October 2002, after losing its appeal against the judgement in the Court of Appeal, and having its request to appeal to the House of Lords turned down, Hoover agreed to pay Dyson £4million damages for infringing the patent and £2million in legal costs. *"I spent 20 years developing this technology and I am very pleased to see Hoover, who made a lot of false claims about their product, can't just rip off our designs and copy us"*, Dyson is reported to have said. *"It is wrong for companies to be able to come in and copy other people's inventions. This case shows that this can be stopped"*

While all this was going on, Dyson and his colleagues at Malmesbury were striving to maintain their competitive advantage by continuing to develop new innovations. Determined to create vacuum cleaners with even higher suction, they developed an entirely new cyclone system. By dividing the air into 8 smaller cyclones they developed a new product that gave 45 per cent more suction than the Dual Cyclone. At the same time, Dyson developed the DC06 robot cleaner that would not only make cleaning easier but would guide itself even more logically than a human being would. The end-product involved over 60,000 hours of research, 3 on-board computers and 50 sensory devices. Then, in November 2000, he launched the world's first two-drummed washing machine, the contrarotator. Dyson's engineers constantly re-examine products of all types, including the washing machine. They found that in the traditional automatic washing machine the fabric is not flexed all that much and that washing by hand gave better results than the single drum machine. So, Dyson developed a machine that would "even improve on hand washing". Reputedly, it took four years, a million man hours and £25 million to develop the machine, which comes with a built-in jack and trolley and a coin trap to capture buttons and loose change. However, the Consumers' Association magazine "Which?" branded his new £1200 Contrarotator washing machine as "poor value" and rival Electrolux beat him to market with a robotic vacuum cleaner.

Despite such setbacks, Dyson is one of the wealthiest men in Britain. His ideas have brought him a personal fortune of £600 million and an annual income in 2002 of something in the order of £6.145 million (made up of a salary of £490,000 and share dividends in Dyson Technology of £5.655 million).

Case Example Exercise

What lessons can be learned from this case example?