

Dyson's Innovation Management

Course Code

Student's Name

Institutional Affiliation

Date

Table of contents

1. Incremental or Radical Innovation?	3
2. Analysis of the Four Chosen Topics	4
2.1. Innovation & Technology and their diffusion.....	4
2.2. Dominant Design.....	4
2.3. Intellectual Property Rights.....	5
2.4. Open Innovation.....	5
3. Evaluation of the success of the innovation	6
4. Evaluation of likely short-term development	7
References:	9

1. Incremental or Radical Innovation?

Dyson Ltd is one of the leading British technology companies that offers cutting-edge, modern, and highly effective home and workplace devices, including hand dryers, vacuum cleaners, hairdryers, air purifiers, and heaters. Since 1991, the company has experienced incredible growth, and as a result, it is currently among the top players in the consumer discretionary products sector (Jones & Conway, 2004). According to Borbély (2008) and Buisson & Silberzahn (2019), perseverance and a dedication to a continuous research and development are the main factors that led to Dyson's early success. These elements are now an essential part of Dyson's company culture and business model, which has allowed Dyson to continue inventing, disrupting markets, and outperforming the competition. They manifest themselves as systematic and incremental innovation.

Dyson Ltd has exhibited radical and incremental innovations in several consumer items. For example, the company has shown these innovations in products like bagless vacuum cleaners, bladeless fans, and hair appliances. According to Tovey (2017), Dyson has consistently been able to think creatively and reorganize conventional assumptions about how products work in order to drastically boost the utility of regular home appliances. This is one of the most innovative types of innovation. In 2009, Dyson introduced their bladeless Air Multiplier fan, which draws air in through the bottom of the device and forces it through a circular construction (Tovey, 2017; Dyson Ltd., 2017). Similarly, with the vacuum cleaner, Dyson produced something utterly original out of the long-standing banality of the fan. The business has advanced the technology, making it substantially quieter through acoustical re-engineering.

The Dyson Ltd. case offers concrete examples of how design-led, technology-led, or cross-pollinating innovation might work in product development. Research shows that the evolution of innovations pollination has distinctive characteristics depending on the product type and the purpose of the company's earlier innovation experience (Buisson & Silberzahn, 2019). According to Borbély (2008) and Jones & Conway (2004), Design and technological innovation have played a significant role in the success of Dyson's famed bladeless fans and bagless vacuum cleaners; this cross-pollination is uncommon. Dyson turned a once-stagnant industry into a thriving market by providing disruptive innovation and constant improvements to household

cleaning goods. In addition to being the market leader, Dyson's goods fundamentally altered the industry's economics through its radical and incremental innovations.

2. Analysis of the Four Chosen Topics

2.1. Innovation & Technology and their diffusion

According to the innovation diffusion theory, new concepts, behaviors, or goods move through a community in a particular manner and rate (Tovey, 2017). The theory's key participants include innovators, early adopters, early and late majority, and laggards. Dyson is renowned for taking 15 years and 5,127 models before inventing a faultless vacuum cleaner that would earn the company a reputation as a household name (Dyson Ltd. 2017). Long R&D and prototype cycles continue to be essential to Dyson's production cycle and innovation. While Dyson Ltd was still succeeding with its main goods, it continued innovating to create new ones. One such item was the Dyson DC06, the company's first robotic vacuum cleaner, launched in 2005. According to Dyson (2019), this cutting-edge gadget could "learn" a room and clean it appropriately. The robotic vacuum cleaner was expected to change cleaning since it could distinguish between objects like furniture and walls and live things like people and pets with the help of its sensors and software. The robot vacuum cleaner was never able to become a commercial success and remained an internal project, so unfortunately, that plan has yet to materialize.

2.2. Dominant Design

According to Cherkasky (2004), the Dyson brand is well known for its futuristic-looking and ergonomic designs. Its airwrap is the same since it has the same cutting-edge appearance as all of the company's goods. Dyson Ltd gained from using significant R&D spending and an experimental approach to market ideas to generate unique and inventive products that have achieved market success. Due to the originality of the items, it was successful in providing household solutions and technologies that no other company supplied. Therefore, the company had an advantage due to being the first. All included accessories, including the barrels, pre-styling dryers, and brushes, have a unique coating that keeps the device from overheating (Bleher & Sinai, 2010). As a result, it burns both on the hands and in the hair, which is otherwise highly common when using traditional hair styling products and is avoided.

2.3. Intellectual Property Rights

Dyson Ltd. was able to legally protect its innovations and stop other manufacturers from copying their goods. Patents safeguard Dyson products, and numerous patents may cover one machine. The DC65 contains 37 patents that protect the company's products (Dyson, 2019). Utility patents safeguard a technology's or a product's operation. They provide a thorough explanation of the invention and one or more assertions about how unique and different it is from prior works. These tactics ultimately helped Dyson Ltd. take the lead in the UK market (Dyson, 2019). However, the hazards associated with market leadership must be recognized. Dyson Ltd invests a lot of money in R&D each year on discoveries whose market demand is frequently hard to predict because of their novelty. High risk is involved because of the high development expenses and the shortage of market research data. Dyson Ltd. has established long-term competitiveness due to the substantial profits the firm has made in recent years (Dyson, 2019). Due to its strong position in the market, Dyson Ltd. can skim rents, which enables it to make significant R&D investments that strengthen its market position.

2.4. Open Innovation

Dyson uses a creative approach to meet a variety of product engineering issues. It makes significant R&D investments to introduce a cutting-edge, high-quality product that it sells for a premium and patent-protects. In 2006, the Dyson Ltd introduced its Air blade, which dries hands fast and thoroughly in 10–12 seconds using 430 mph sheet of air rather than a huge area of warm air, avoiding the common issue associated with numerous hand dryers whereby germs and viruses are swept off the hands (Dyson Ltd. 2017). This technology can reduce a company's carbon footprint and offer cheap operating costs. These modern hand dryers have up to 80% lower operating costs than conventional hand dryers, with up to 98% fewer operating expenses than paper towels. They also emit about 80% less CO₂ (Dyson Ltd. 2017).

Dyson's engineers develop, test, and refine every aspect of them, even the subcomponents, to make sure the machines operate as effectively and efficiently for the longest time possible. The business invests in its facilities, constructing labs and testing facilities that increase its understanding and proficiency of the industries it is developing technologies for. It does a thorough structural study of each element utilizing a virtual simulator before prototyping gets started (Buisson & Silberzahn, 2019). Before creating a physical prototype, the engineers iterate using this program to perform modifications and see what works. They start a design and development process using the company's internal labs.

The company's experts conduct research projects in the microbiology laboratories to thoroughly comprehend what makes up household dirt so that the designers can comprehend how the intricate biological makeup of real dust comes into contact with the machinery and create the greatest dust-sucking devices (Buisson & Silberzahn, 2019). The engineers individually evaluate each component's sound level and quality using additional facilities, such as acoustic chambers, to ensure the machine's sound is balanced. However, the company spends monthly on dirt, dust, and carpet for testing to ensure that our prototypes are made to respond to components present in actual houses.

3. Evaluation of the success of the innovation

The invention is the first step of an ideal-typical innovation process (Buisson & Silberzahn, 2019; Dyson, 2017). For Dyson Ltd, R&D is the main source of new concepts and technologies, which explains why around one-third of all employees work in this field. The corporation spends more money on R&D than average than its rivals, emphasizing experimental research. The company announced that it has stepped up its development of automation and artificial intelligence.

Dyson Ltd frequently uses inventive combinations of already-used production elements when creating new goods, suggesting a technological transfer in which a technology created for a certain reason is usable in another productive context. For instance, James Dyson did not create the cyclone technique, but he did effectively introduce it to the home appliance market. A novel combination of pre-existing technologies led to the creation of the first bagless vacuum cleaner. The number of patents Dyson Ltd. holds can be used to gauge the company's originality because novelty is required for submitting a patent application. For more than 500 inventions, Dyson Ltd. has more than 3000 patents (Dyson, 2019).

The most successful illustration of how Dyson Ltd. turned an imprecise idea into a marketable product is the bagless vacuum cleaner. Innovation increased customer benefits by leading to consistent volumetric efficiency and eliminating extra costs for vacuum cleaner bags, allowing Dyson Ltd to gain a first-mover advantage with the help of its technical superiority (Dyson Ltd. 2017). Being the first to the market allows Dyson Ltd to defend itself against rivals in various ways. First, Dyson Ltd. has advanced further because of its technological advantage on the expertise curve. Second, a customer's long-established trust in the brand's quality is an extra

defense against rivals. Lastly, Dyson Ltd. successfully built up a sizable intellectual property portfolio, including patents and design rights, which shielded it from competitors' copying. With its technological advantage, Dyson Ltd. was able to transform an idea into a viable product and get a first competitive edge that sets it apart from rivals.

Diffusion, or the spread and uptake of an idea, is the third stage of the innovation process. With its first vacuum cleaner that it developed on its own, Dyson Ltd. entered the British market and, in 1993, took the top spot for vacuum sales in the country. Dyson Ltd. is the industry leader and has the biggest market share for vacuum cleaners in the UK. Therefore, Dyson Ltd. can be regarded as a company with unique products because its innovation process includes all ideal-typical stages.

4. Evaluation of possible short-term development

The tale of Dyson exemplifies the effectiveness of doing both. It demonstrates how constant innovation can help a start-up maintain its gains and how disruptive innovation can assist an entrepreneur in upending a mature market. Bleher & Sinai (2010) assert that Dyson's sustaining and disruptive innovations benefit others. For instance, the air technique that Dyson so cleverly used to create vacuums has been used once again to create commercial hand dryers and home fans. If history is any indication, the company will build on its initial ventures into the market with deftly crafted follow-up developments that would help it survive for years.

The company will likely develop new innovations and more investments in the next three years. By 2026, Dyson Company will have quadrupled the number of goods in its line-up and expanded into previously untapped markets. In 2022, Dyson Ltd unveiled a fresh £2.75 billion investment portfolio for novel innovations and solutions to support these goals over the next five years (Dyson Ltd. 2022). The investments will be concentrated in Singapore, the UK, and the Philippines. They are supported by plans to hire more scientists and engineers in software, robotics, and machine learning disciplines. Dyson Ltd will increase its research expenditures in robotics, next-generation motor technologies, intelligent products, advanced analytics, material science, and networking. It is a high goal for Dyson to commercialize its unique reliable battery technology, currently being created in the US, Japan, UK, and Singapore. By 2026, it promises energy systems that are perfectly safe, greener, more robust, and more efficient than present batteries.

References

- Bleher, P. M., & Sinai, Y. G. (2010). Critical indices for Dyson's asymptotically-hierarchical models. *Selecta: Volume II*, 129–161. https://doi.org/10.1007/978-1-4419-6205-8_9
- Borbély, E. (2008). *J. A. Schumpeter und die Innovations for schung*. Óbuda University. Retrieved March 20, 2023, from https://kgk.uni-obuda.hu/sites/default/files/33_BorbelyEmese.pdf
- Buisson, B., & Silberzahn, P. (2019). Blue Ocean or fast-second innovation? A four-breakthrough model to explain successful market domination. *Digital Disruptive Innovation*, 25–48. https://doi.org/10.1142/9781786347602_0002
- Cherkasky, T. (2004). Design style: Changing dominant design practice. *Design Issues*, 20(3), 25–39. <https://doi.org/10.1162/0747936041423226>
- Dyson Ltd. (2017) *Refine. Improve.* Refine. Improve. Retrieved March 20, 2023, from <http://www.dyson.com/community/aboutdyson.aspx>
- Dyson Ltd. (2017). *How cyclone technology works in a Dyson vacuum cleaner*. Dyson Ltd. Retrieved March 20, 2023, from https://www.dyson.at/medialibrary/Group/Carousels/SlideBackground/NonProductPages/All Markets/Allergy/Allergy_Benefit_2.ashx
- Dyson Ltd. (2022). *Jake Dyson reveals the next stage of Dyson's £2.75bn five-year investment plan – machines that use software and connectivity to self-improve*. Dyson vacuum cleaners, hair dryers and stylers, fans, humidifiers, hand dryers and lighting. Retrieved March 20, 2023, from <https://www.dyson.com/newsroom/news/corporate/Software-and-connectivity>
- Dyson. (2019, May 6). *Dyson on: Intellectual property-does protecting your ideas matter?* Medium. Retrieved March 20, 2023, from <https://medium.com/dyson/dyson-on-intellectual-property-does-protecting-your-ideas-matter-4dc661520a3d>

- Jones, O., & Conway, S. (2004). The international reach of entrepreneurial social networks: The case of James Dyson in the UK. *International entrepreneurship in small and medium size enterprises*. Edward Elgar, Cheltenham, *op. cit*, 87-106.
<https://doi.org/10.4337/9781845421557.00015>
- Svozil, K. (2023). Functional epistemology “nullifies” Dyson’s rebuttal of perturbation theory. *Axioms*, 12(1), 72. <https://doi.org/10.3390/axioms12010072>
- Tovey, A. (2017, September 14). *Sir James Dyson: 'make a clean break from Europe without an interim deal'*. The Telegraph. Retrieved March 20, 2023, from <https://www.telegraph.co.uk/business/2017/09/14/sir-james-dyson-make-clean-break-europe-without-interim-deal/>