

# Dyson marketing analysis



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Dyson are currently the market follower in air treatment product, Dimplex Australia and De'Longhi Australia Pty Ltd are by far the dominant players cooling fans (Euromonitor, 2010) Dyson Ltd reported operating profits of \$190 million Pounds in 2009, which gross from 90 million Pounds in 2008 and turnover shot up by 23 per cent to £770m. An amount of \$42 million Pounds were spent on research and development cost in 2009 after the soaring financial results as well as international expansion. (Russell, 2010) The company increased its market share by 60% in late 2009 when the new Air Multiplier fan was introduced in Australia. (Arnott, 2010) In Australia it won 64% of market, by value. (Finch, 2010) Also, sales were increased further in the early months of 2010 as the result of new handheld vacuums launched. Since the company is an appliances manufacturer, it uses technological and functional aspect of the product to position them as a premium appliances manufacturing product to compete with competitors.(Euromonitor, 2010) Hence, Dyson are competing on a technological product based industry with its primary rival, Hoovers where they tried to imitate a Dyson's product and was filed a patent infringement. In addition, the company emphasize on design to differentiate their product with competitors by its aesthetic design. (Dyson, 2010)

## **2. 0 Dyson Air Multiplier (Functions, attributes and benefits)**

According to Dyson, as a general core functions of the Air Multiplier it generate air and produce an air flow just like a normal fan. However, what differentiates the Dyson's Air Multiplier fan and the conventional fan is that it

has no blades. Instead the Air Multiplier draws air in at the base through a mixed flow impellor as below.

### **Dyson's Air Multiplier Functions and Attributes**

A combination of the technologies used in jet engines where it accelerates air over a 16° airfoil-shaped ramp. While exiting the loop amplifier, the jet pulls air from behind the fan into the airflow. (Dyson, 2010)

At the same time, the surrounding air from the front and sides of the machine is forced into the air stream and exaggerates air 15 times, expelling 405 litres of cool, smooth and uninterrupted air every second. (Dyson, 2010)

The Dyson Air Multiplier is energy-efficient product that uses 98% less power than air conditioning using brushless motor. (Hickman, 2009)

Compared to normal fans, the blades are only wired to run at just two or three settings where it is not efficient to produce powerful airflow and it's not convenient to clean. Hence, without the blades means it's safe and simple to clean. A picture below shows how Dyson Air Multiplier works compare to a conventional fan.

Picture show a conventional fan spinning blades chops the air causing annoying buffeting

Picture showing Air Multiplier using airfoil technology without blades hence producing steady stream of smooth air

Dyson Air Multiplier fan is probably the biggest innovations in household fans since fan was created in 1882. This is because it eliminates the fan blades as

well as the buffering and turbulence which built on a normal electric fan. It also very hygienic where it is easily clean with just a cloth since it has no blades. (Dyson, 2010)

### **3. 0 Target Market Segmentation**

#### **3. 1 Illustration of brand position of Dyson.**

- High perceived
- quality and status
- Limited Service Extensive
- Less Personal personalised
- service
- Low perceived
- Quality and status

#### **Segment 1**

#### **Segment 2**

#### **Name of segment**

- Business
- Household use

#### **Geographic**

- Status
- Nationwide
- Nationwide
- Density
- Urban, Suburban

## **Demographic**

- Male and Female
- Aged 25-45
- Middle-high income, Designers
- Male and Female, Private use, Family use, New parents, Middle-high Income, High socioeconomic status, traditional and conventional family lifestyles

## **Behaviour**

- attitude towards brand consciousness
- Comfortable environment
- Convenience
- Customer Service
- Convenience
- Interest
- Safety

## **Usage and Benefits of Air Multiplier Fan**

- Businesses acquire Air multiplier fan to improve the environment in their workplaces (e. g office, hospitals, laboratories, etc).
- Private users utilise Dyson to improve their lifestyle comfortability, safety, high quality lifestyles.

## **Psychographic**

- To achieve comfort in the workplace and improvements in customer service and relations
- Trying to use modern technological equipment
- Help

- Satisfy people who are fashionable
- Sensitive to technology
- Keeping up with the new-to-the-world products.
- Basic needs(convenience)
- Esteem needs
- Safety needs

### **3. 2 Summary Of Target Market Chosen**

### **4. 0 Dyson's Air Multiplier Fan Development Process**

New product development is the creation of products with new or different characteristics that offer new or additional benefits to the customer.

(Crawford, 2008) It may be include modification of an existing product or development of new product.

#### **4. 1 Idea Generation and Opportunity Identification**

In an Interview, James Dyson mentioned that he hated the current fan model due to its unimproved attributes and features and they're hard to clean.

(Messina, 2009)Hence, the inspiration for the Air Multiplier came from the Dyson Airblade hand dryer launched in March 2008.(Vedris&Avenell, 2009)

This product works by generating a thin sheet of air moving at 400mph that scrapes water off the user's hand. As mentioned by Dyson SEA managing director, Ross Cameron " Traditional fans only chop at the air and it can get irritating and this is something people didn't realize until we brought it to their attention." (Dyson, 2010)

#### **4. 2 Concept Generation and Evaluations**

The idea behind Dyson Airblade was to produce a thin, high-speed sheet of air that drags surrounding air through the Dyson Air Multiplier fan, a process known as inducement. (Dyson, 2010) Hence, the airflow leaves the product and then drags along more flow, a process known as entrainment. The process eliminates the need for the blades of a common fan.

Dyson started with the thought of pressurized air engineering, forcing it through narrow aperture to create jets. However, it doesn't produce a powerful air to work in a fan. Hence, Dyson comes out with the concept of using Coanda effect (Dyson, 2009) Henri Coanda, defined Coanda Effect, as a stream of air at high velocity will attach to a curved surface rather than follow a straight line in its original direction. (Day, 2008) This stream will also entrain air from around it to increase the overall mass flow rate of the stream of air.

#### **4. 3 Concept Testing**

Dyson conduct their research by using Concept Screening Tests to the interviewees. (Dyson, 2009) The purpose they use this method is to plumb the depths and range of user attitudes and beliefs. A series of question like functional attributes and benefits of a fan provided to consumer were asked. Also, the purchase intent and likelihood of trial is measure as well. (Dyson, 2009) This is to generate ideas for the product and screen new product concepts so that unnecessary features can be avoid. Concept testing lays the foundation upon which benchmarking can be carried out in the future.

#### 4. 4 Sales Forecasting

One method of forecasting sales is using test market. Dyson introduced the Air Multiplier in Australia as the test market. They forecasted that it will be a great success due to the coming summer in Australia and the tendency of trying new product. (Vedris, 2009) By using ATAR model we are able to calculate the forecasted sale.

By using ATAR model, forecasted sales can be predicted

##### Awareness

Dyson launch a viral marketing in Youtube before the launch of Air Multiplier. Instead of focusing its high technology features, they show a balloon pass through the annular ring of Air Multiplier to show how cool will a bladeless fan can be. Results show high awareness as there were more than 1 million views in their video (Refer Appendix 8)

380k viewers / 1. 2 million viewer = 32%

##### Trial

Market Value of Air Treatment Product (fan) will be used as a benchmark to calculate trial of the product (Refer Appendix 2 )

$\$A1259\text{mil} + \$A1327.2\text{mil} = \$A2586.2\text{mil} / \$A1327.2\text{mil}$

= 1. 95%

##### Availability



Air Multiplier is available in most electrical retail store throughout the world and Dyson's online store. (Dyson, 2010 )

### Repeat Purchase

Since Dyson Air Multiplier only launched for a year, and with its durability claim by Dyson for its lifespan of 10 years, it is not likely a consumer will purchase until a long-term product line has made.

Market Share =  $A_w \times T \times A_v \times T$

x 32% Percent awareness after one year

x 1. 95% Percent of " aware" owners who will try product

x 70% Percent availability at retailers (Myers, David Jones, The Good Guys and Harvey Norman are will be available in every of these outlets in Australia)

x 0% Percent of triers who will buy a second unit

Forecasted sales = 4. 37%

The results were later show a 64% market value solely in Australia. (Finch, 2010)

### 4. 5 Dyson Air Multiplier Product Protocol

By carefully understand and researching the voice of customer (VOC) needs and want, Dyson has produced a list of functions and features before production to effectively cater for the market. (Dyson, 2010)

## **Features and functions**

### **Benefit**

Bladeless

Safer to operate especially to children

Reduces parts hence more energy efficient

No Buffeting

Uninterrupted stream of air that doesn't distract

Touch tilt technology ( Easy to Operate)

Adjust easily with a touch of the hand

Hygienic

Simple loop making it easy to clean

Oscillation control

A simple press of button, the Dyson Air Multiplier can oscillate through 90 degree.

Variable airflow

Air Speed can be precisely adjusted up or down

Powerful

Produce 15 more efficient than a common fan. Hence, fan does not need to be near to user

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After carefully analyze the customer's attributes, it is then converted into engineering characteristic.

#### **4. 6 Prototype Concept Design**

Dyson engineers used ANSYS FLUENT computational fluid dynamics (CFD) from ANSYS, Inc. to use as prototype testing instead of using physical prototype which saves costs.

The team uses CFD simulations to perfect the ramp angle. (ANSYS, 2010)Also, Dyson Engineers focused on other 3 major platforms which have the most impact on the fan performance:

the size of the gap in the annular ring

internal profile of the ring, which affects the flow of the air

the profile of the external ramp

Overall, Air Multiplier performance has improved and physical testing was used to validate the final design and results interrelated well with CFD analysis. Also, laser Doppler anemometry (LDA) also used to plot the airspeed and direction of the final design. Prototype testing will be conduct to ensure a quality control.

#### **4. 7 Product Prototype Design**

There are a team of 350 Dyson's engineers developed the Air Multiplier. In addition, there have been hundreds of prototypes tested to determine the ideal dimensions of the ramp angle, the width and the amplifier loop. (Vedris, 2009) The team start as models made from card and foam. Later they use

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SLS (Selected Laser Sintering) – a rapid prototyping technique that molds plastic or ceramic particles together to form a fully-working model. (Dyson, 2010)

A front view of the fan assembly comprises an annular nozzle and a device creating an air flow through the nozzle, the nozzle comprising an interior passage which includes a Coanda surface to provide an amplifying region utilizing the Coanda effect. (Refer Picture1 and 2) Hence, with the simple loop design an air current is generated and a cooling effect is created without requiring a blade. (Refer picture 3)

Picture1 Picture 2

The air current produced by the Air Multiplier is more linear with low turbulence and hence a user can feel the cooling effect even at a distance and the efficiency of the fan also increases. (Refer Picture 3) So, the user can place the Air Multiplier distance away from them and still be able to enjoy the cooling effect from Air Multiplier. Also, it results an entrainment of air surrounding the annular loop to maintain a smooth overall air.

Picture 3

The interior passage of the Air Multiplier is continuous. So it allows smooth air flow within the annular loop and this reduces the complexity of the fan assembly and manufacturing cost. (Refer picture 3)

#### **4. 8 Test Marketing**

A prototype was used to test on how the users react towards the product.

Dyson provide the prototype for a group of people to engage with the

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product without telling them what the product is. (Dyson, 2009) Dyson discovered that the focus group responds in a positive feedback saying they can feel the difference compare to conventional fan. (Refer Appendix 1)

Dyson launch Air Multiplier in Sydney, Australia as the first market to test the product. The reason they chose Australia because of the timing and the consumer willingness to try new technology. (Vedris, 2009) Hence, Choosing Australia as the test market location will enable Dyson to understand the market. The results were doubled as the demand for Air Multiplier from the retailers was increased. (Vedris, 2009)

#### **4. 9 Product Launch**

James Dyson, the owner of Dyson also flew to Sydney for the launch of the new Air Multiplier. (Vedris, 2009) The launch of Dyson Air Multiplier in Australia sets in most Eastern Australia retail store. (Avenell, 2009) In addition, with the hottest weather in November 2009 where consumers start to consider and purchase Dyson Air Multiplier. Air Multiplier is set to be launch in Japan and Germany after the successful growth in Australia. (Vedris, 2009)

One of the keys to the success of an innovative product has been shown to be in securing the attention of a socio-economic group who could be called “opinion leaders”. These people are shown to have a more elevated social standing than those around them and keen to explore new things. (Refer Appendix 6) These people are talkers and others will follow their advice and example. Dyson’s ability to communicate their product to these opinion leaders played an essential role in product launch. They have the influence

to persuade and educate the other users and eventually consider Air Multiplier.

## **5. 0 Marketing Mix Strategy**

### **5. 1 Product**

As a customer based product, Dyson aims to focus on customer needs by creating innovative products that meet these different needs. After successfully launching the vacuum cleaners, Dyson can see opportunities for the ‘ bladeless fan’ since customers are constantly looking for new and improved products and companies are always needed to fill this void (Prabhu 2008).

So far, the ‘ bladeless’ revolution is new to the market and the concept is unique, which is why the company has so much marketing potential due to the fact it is the market leader in the market (Datamonitor ‘ Dyson Ltd company profile’, 2009). Dyson showcased its Air Multiplier bladeless fan at the IFA trade show in Berlin to match their expected and intended positioning strategy (refer to Appendix 5).

The benefit and unique selling point of this tech is the lack of “ buffeting” (caused by a regular fan’s blades) is noticeable when it’s pointed out (Dennis 2009). The fan is safe to use and it has an international accreditation from UL, the trusted resource across the globe for product safety certification (Mason 2010). As a result of growth in the technology innovative industry (Jimenez 2010), Dyson’s product mix has been placed within the growth stage of the Product Life Cycle.

As Dyson continues to expand globally, it continues to build upon its mass market through its unique features along with the support of its strong brand image. Furthermore, Dyson has successfully protected its core product from potential substitutes; Dyson augmented product includes additional services that support the customer's needs such as 24×7 support around the world to differentiate its superior technology and a 2 year warranty (Dyson 2010). This strengthens the overall product model and firms Dyson's competitive position . The product is still pending for its patent but it is expected Dyson to be granted a patent for its Air Multiplier.

## **5. 2 Price**

This radical and innovative bladeless fan has been shown to be in securing the attention of the technology savvy people – the early adopter (Bulik 2010). They are keen to explore new things so are willing to pay a higher price for innovative products. Dyson's ability to communicate their product to these early adopters played an essential role in sensational sales (refer to Appendix 6).

Dyson's decision to price the products in a higher price bracket is based on the perceived value consumers associate with Dyson product mix. Setting the products at a high price reflects the high quality image Dyson wishes to portray through the product provided and the strategies implemented throughout the marketing mix. This justifies Dyson's decision to aim for a premium overall pricing strategy; using prestige pricing will enable Dyson to become more of an indulgent perspective to correlate with customer perceptions.

The company is now charging \$300 USD per fan and Dyson believes that the value obtained through the products and services provided will be of value to or above the prices charged (Kotler et al. 2006). According to the Homeworld Business' annual census, the portable fan industry had \$527 million in annual sales in 2009. Dyson's pricing strategy utilised the best interest of the company's projected sales targets and marketing objectives. However, Price does seem to be the main deterrent for buyers. Consumer Reports wrote simply in its review: 'the device is cool, but too pricey.' (Smith 2010).

Dyson has already differentiated them in the present market, and information technology can help them enhance on this. Surveys could be conducted by interviewing people how much they are willing to pay. Once this was established, the price could be set based on the consumer's perceived value of both products. Focusing on creating value for the consumer through the products and service is vital for justifying selling the products at a premium price and achieving a higher profit margin in the long term.

### **5. 3 Marketing communication**

Dyson has communicated benefits of the Air Multiplier bladeless fan to consumers through tailored ad campaigns, internet marketing, viral marketing, personal selling and social media channels. However, the company mainly used the role of the press to promote the fan (Beth 2010). This is because Journalists seemed to be the first to see the potential of a new invention and press coverage was therefore the best way of convincing the public. People are far more likely to believe someone who has tested something for themselves and it is assumed that a journalist has done that.

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Moreover, one of the notable features of Dyson's bladeless fan's success with press coverage was his personal involvement in giving interviews and to demonstrate how the fan actually works (refer to Appendix 7).

The company also make use of showcases to reach the niche market such as their engineers showing how inducement and entrainment works on the Air Multiplier fan. The video has reached more than 130, 000 people around the world to watch it (refer to Appendix 8). Also, Dyson's design has won numerous scientific awards such as ' GOOD DESIGN' and The World Architecture News Awards etc (Kendall 2010). All these awards enhance their products' credibility.

In order to reach customers globally and to show that they are a global based firm, Dyson made use of the internet to reach customers. They have an individual online websites in more than 60 countries, plus an international version. For instance, Dyson's website invites consumers to sign up so that they could receive regular updates of the products and the company which makes it more ' personal'. Campaign such as The James Dyson Award is being used. It is an international design award that celebrates, encourages and inspires the next generation of design engineers. (JamesDysonAward, 2010). All these campaigns have kept the brand's core equity intact and create positive publicity to the company and therefore can bring sales to the company and increase brand loyalty ( Miao 2004).

#### **5. 4 Distribution**

Dyson Air Multiplier has limited distribution, available only through the company website and in selected outlets so as to maintain the premium

positioning of the product. The shipping fee is free when customers order online. Dyson has a reliable supplier, Perrite has supplied product to Dyson since 1995. It is a very strong company with colour and development work carried out in Malaysia and at the UK laboratory, and local supply and support from Perrite Malaysia (Cork 2010). Therefore Dyson can readily meet the needs and reduce the chances of delays for consumer deliveries. Their distribution company is also dependable which specializes in moving fragile and sensitive technological goods. It also provides fast and direct link to distributors all over the world. Dyson have placed primary importance on developing a strong and consistent brand image, whereby portraying they are able to satisfy the customers' needs for their targeted market. This is accomplished via displaying prototypes of the fan in retailers. An exclusive/selective distribution approach will be adopted for the private purchases of the unit, for commercial use. The advantage of this approach is in keeping with the pricing strategy which aims to skim the private purchase market, sales reps will be able to lend advice and guide in training of product use as well as promoting the product while reserving the high esteem and prestigious, innovative brand image (Perreault, W. D, Jr. et al, 2008).

## **6. 0 Conclusion**

As a conclusion, Dyson Air Multiplier made success to the market throughout the world. The company shows a rise in their market share of 23% and a steady growth on revenue. Air Multiplier also shows marvellous results in Australia by having a market share of 64%. Consumer reacts positively on Air Multiplier on its radical innovation bringing convenience and safety to the people. Furthermore, choosing Australia as a test market proves its success

as the launch time is approaching to summer season where consumer needs fans.

In order to further its competitive advantage, the idea would be to enhance the product by reducing the noise level and to provide a silent air flow. By enhancing the fan features and ultimately redesigning it, the product will attract consumers and dominate market share.

Being in an innovative industry, they impact directly on market price. It is expected that price elasticity will be relatively low up to a certain threshold until buyers then opt for old-style bladed fans. Therefore, Dyson should reduce their selling price. Dyson can cut down the cost dramatically by the effective management of information system. Information technology is a powerful and efficient tool to reduce the documenting cost and can help in easy accessibility of information in various sections of the organization (Hansen et al., 1999).

In addition, it is recommended Dyson revised their distribution channel to create market opportunities and expand their market widely. From these studies, it is apparent that the Air Multiplier fan has had tremendous success per volume of sales and sales will continue to grow in the future

## **7.0 Appendix**

### **Appendix 1**

### **Appendix 2**

### **Appendix 3**

#### **Advantage of Using computational fluid dynamics (CFD)**

The advantage of using CFD is the CFD model can be created in one day and performance can be evaluated overnight. Also, it provides fluid flow velocity and the ability to visualize fluid flow throughout the solution domain which helps engineers to gain an understanding of the design.

### **Appendix 4**

#### **Background of the Invention (Under Product Design)**

Conventional fan was made as benchmark to the Air Multiplier. Firstly, conventional desk fans are often 30 cm in diameter and are usually free standing. (Refer Picture 1 ) The movement and circulation of the air creates a breeze, result a cooling effect as heat is dissipated through convection. (<http://www.patentstorm.us/patents/6183204/description.html>)The conventional fans have safety features such as the cage around the blades to protect user from injuring themselves. One disadvantage of the conventional fan is that the air flow produced is not felt uniformly due to variations across the blade surface. Another disadvantage is that user needs to place the fan close to them in order to have a cooling effect. Also, the shape and structure of a desk fan reduces the working area available and blockage of natural light from reaching the desk area.

Appendix 5 -Dyson's tradeshow.

Source: < infolink. com. au > viewed 20th October, 2010.

Appendix 6-Dyson's Air Multiplier bladeless fan mainly aim at technology savvy people i. e. early adopters.

Source: < technologizer. com> viewed 17th October, 2010.

Appendix 7-James Dyson giving interviews and to demonstrate how the fan actually works.

Souce: [http://www. youtube. com/watch? v= 0DFShQA50j8](http://www.youtube.com/watch?v=0DFShQA50j8) viewed 20th October, 2010.

Appendix 8- Showcase to show how inducement and entrainment works on the Air Multiplier fan. Adapted from [http://www. youtube. com/watch? v= 4WNCjkZ6d0w&feature= player\\_embedded](http://www.youtube.com/watch?v=4WNCjkZ6d0w&feature=player_embedded)