Using one specific multinational enterprise with which you are familiar, examine the ways in which it has used logistical and value chain strategies in it's overseas operations. Explain the reasoning behind the choices it has made. Suggest any changes it might make to it's logistical and value chain strategies over the next few years, explain your reasoning.

Section 1: Introduction

Dyson Limited is an appliances manufacturing company headquartered in Malmesbury, Wiltshire. The company was founded by inventor James Dyson in 1993 and remains a family business.

Dyson is an inventor and engineer who first moved into the vacuum cleaner market after becoming frustrated, in the late 1970's, with his Hoover's tendency to clog up and lose suction. Visiting a sawmill, he noted the system by which sawdust is extracted from the air by use of a cyclone. Reasoning that a similar system could be used to separate dust from air in a vacuum cleaner - thereby removing the need for vacuum bags and filters - he designed a cleaner that worked on this principal. (*@Issue: The Journal of Business and Design* 8(1)).

Dyson's initial design attracted no attention from any European or US-based vacuum manufacturer. He eventually licensed the design to Japanese firm Apex, Inc. where it was sold under the name G-Force. The product was successful and became a Japanese design icon during the 1980's.

Using royalties from sales of the G-Force, Dyson was able to begin manufacturing products under his own name in 1993.

The Value Chain

The value chain is a concept described by Michael Porter in his book Competitive Advantage, in 1985. It describes and categorises all value-adding activities which take place within a firm or industry, and helps to explain how the total added value of a chain of activities can be greater than the sum of the value added by each stage. It also helps to visualise the firm's conversion of inputs to outputs. (Porter, 1985).

The value chain within a firm typically separates business activities into Primary and Secondary (or Support) activities. Most value chains can also be broken down into three product life-cycle phases, from R&D (research and development) through manufacture and sales, and onto after-sales services.

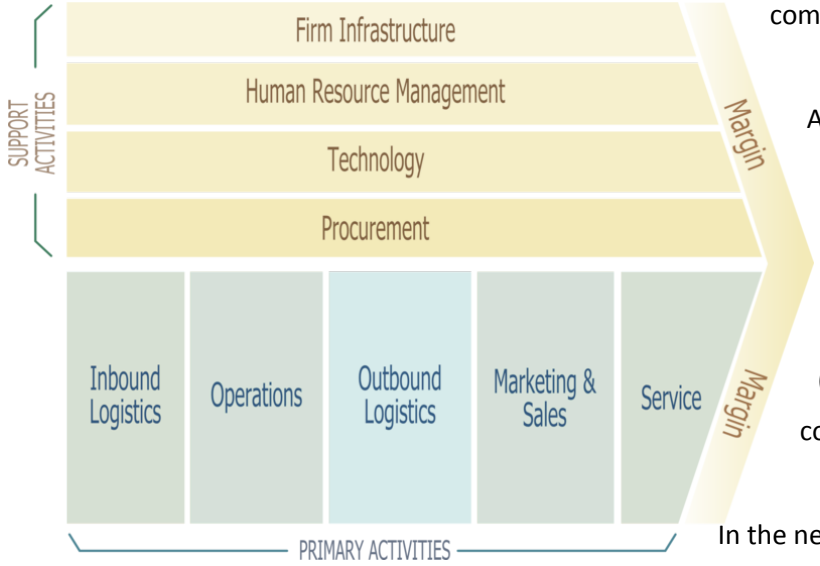
The wider value chain at industry level, also known as the value network or value system, expands to include interorganisational links and relationships that are necessary to create any product or service (Johnson, Scholes & Whittington, 2008). For example, a firm may outsource certain activities such as after-

sales support. This activity is no longer within the firm's internal value chain but it is an important part of the value network.

The Logistics / Supply Chain

The logistics chain is part of the value chain but is so important to any company which produces physical goods that it is necessary to consider it on it's own.

As a company grows, the size and structure of the logistics chain must grow and change to accommodate the needs of the business. A small company may not need to consider the logistics chain at all - their components arrive at their one premises by whatever method the supplier chooses, everything is assembled at one site, and then shipped out by a third-party service such as TNT or Royal Mail, or the company's own vehicles.



Source: D.P. Singh, adapted from *Competitive Advantage: Creating and Sustaining Superior Performance* by M.E. Porter, 1985.

A larger firm, particularly one that operates in many different countries such as Dyson (who currently perform R&D in the UK and USA, manufacture in Malaysia and Singapore, and sell in 45 countries across the world (dyson.com)), will need to have much more control over their logistics systems.

In the next section I will further expand on these points as well as examining Dyson's internationalisation strategies so far.

Section 2: Theoretical Framework

Core Theories of the Value Chain / Value Network

Whilst Porter has admitted failings in his original value chain concept, it is still very much in use today as companies seek to maximise the value added by each activity within a firm, and reduce the cost of any non-value-added or non-essential activity. (It is worth noting that some non-value-added activities could still be seen as essential, such as quality control, but these are, under Porter's model, considered secondary or support activities.)

Confusingly, the terms “horizontal” and “vertical” integration are used in different ways by different authors. Porter described
primary inputs as backwards integration, outputs as forward integration, and other activities within the company (such as complimentary and competitive products) as horizontal.

Elsewhere, vertical integration is used to refer to activities “owned” by the company whereas horizontal integration refers to those activities carried out by third parties (Wall, Minocha & Rees, 2010).

Additionally, the models of value chains and networks are increasingly becoming considered outdated. Pil and Holweg described in 2006 the concept of a value grid, which moves away from the value chain’s implication of an orderly progression of value-adding activities.

> “The grid approach allows firms to move beyond their industry lines to identify opportunities and threats. It pushes managers to understand the power balance between suppliers and manufacturers. The new pathways to value can be vertical (as firms explore opportunities upstream or downstream from the adjacent tiers in their value chain); horizontal (as firms identify opportunities from spanning similar tiers in multiple value chains); and even diagonal (as firms look more integratively across value chains and tiers for prospects to enhance performance and mitigate risk).” (Pil & Holweg, 2006).

Companies seeking to operate in an international environment with a dispersed value chain are constantly seeking new ways to reduce costs, increase efficiency and, ultimately, maximise the value added by each activity. A big part of this for a multinational enterprise, or MNE, is reviewing where to physically locate each function of the value chain or grid.

There are many factors to take into account when deciding how to arrange international operations, and these will vary from firm to firm. However, the first step for any company seeking to internationalise is to recognise the want or need to do so.

Hollensen (2004) identifies the main motives for beginning internationalisation - usually through direct export and other non-equity methods - as profit & growth goals, managerial urge, unique product, foriegn market opportunities/information, economies of scale, and tax benefits - these being proactive motives. Additionally, there are reactive motices: competitive pressures, saturation of the domestic market, overproduction, unsolicited foreign orders, and proximity (physical and psychological) to international customers. However there are often different motives for internationalisation. A company may already be selling it’s products successfully in a number of countries and territories, but still maintain all their manufacturing and support operations in their “home” country. In this case value chain analysis is much

more relevant - could the company reduce costs by relocating their manufacturing processes to a country with a lower relative unit labour cost (RULC) for example? If the MNE's main international market is located in one country, could more value be added by carrying out manufacturing in or close to that country? Hanjin Shipping Corporation (Smith, 2010) state that the cost of transporting a 40-foot container from Malaysia to the USA, for example, can cost up to US$750 less than if it originates in the UK.

A company must also consider factors that at first may not appear to affect the value chain, particularly when, having recognised the need to internationalise, deciding where to move operations to. Hofstede's dimensions (Hofstede, 1980 cited in Hollensen, 2004) are widely recognised as being particularly important. Whilst Hofstede's findings must be considered when seeking to improve the value chain they are of most use in the later stages of setting up a foreign location. (See s.3)

The Logistics Chain

Porter recognised the logistics element of the value chain as consisting essentially of two activities - inbound and outbound logistics. With more firms internationalising and often carrying out different production stages for the same product in different specialised locations, it is necessary to also consider internal logistics. A garment manufacturer, for example, may cut fabric in one location, print it in another, stitch it in a third location, package it in a fourth and then distribute to retailers from a fifth. These locations may be a mixture of subcontractors and company-owned factories. Management of internal logistics - moving the right products around from location to location at the right time - is essential. The actual process of moving the goods does not add value in itself, but the activity carried out at each location does.

Section 3: Analysis, Application of Theory to Evidence

Dyson's first move towards internationalisation was with the aforementioned licensing of the G-Force machine to Japan's Apex Inc. Using royalties from this arrangement Dyson was able to set up Dyson Ltd and being manufacturing appliances under his own name.
Dyson also licensed production of the original DC01 cleaner to American firm Fantom, under the Dyson brand, in it's infancy.
The company's headquarters in Malmesbury became the basis for Dyson's operation in R&D, together with their factory where all appliances were produced, including the expanded range which by the late 1990's included washing machines.
Facing a cost-cutting market where competitors were able to constantly reduce costs - mostly by manufacturing outside the UK - Dyson was facing increased costs from increases in the UK in labour costs (the minimum wage was introduced in 1999 (National Minimum Wage Act 1998); land prices, tax and other overheads.

In 2002, Dyson Limited opened a company-owned factory in Malaysia to manufacture it's vacuum cleaners. Production of washing machines moved there in 2006. (Wall, Minocha & Rees, 2010).

Drivers for internationalisation

Before deciding to undertake such a dramatic shift of an important section of the value chain, Dyson would have initially recognised the need to do so before considering the possible places to relocate.
Drivers for internationalisation are many and in no way common to every organisation. However the following immediately seem relevant to Dyson's situation:

- Cost drivers: favourable logistics. Dyson purchase components from a number of suppliers and sub-contractors situated in a rough "cluster" arrangement around South-East Asia and the Far East. A factorey in this area - or at least an inbound logistics hub - would greatly reduce freight charges for those suppliers allowing Dyson to benefit from lower purchase prices.
- Market drivers: global customers. Dyson's sales base had been spreading into many different countries. With the increasing prevalence of the internet and growing ease of communication, the company was able to start selling world-wide online instead of solely through third-part retailers. All finished goods were at this time being shipped from the UK, and the associated costs and taxes were not always conducive to profitability. (Dyson.com)
- Government drivers: host government policies. James Dyson has stated publicly in the past that the first time he considered moving production abroad, was a direct result of the local council in Malmesbury refusing a planning application to extend his existing factory. His attitude was that if production must move in order to expand, then why should it remain in the UK at all?

Why Malaysia, and Method of Entry

At the turn of the century, most companies manufacturing in the Far East did so in China - more specifically in Taiwan. Indeed, many of Dyson's existing suppliers of components were situated in Taiwan. Locating their factory in the same country would have made a lot of sense for Dyson Ltd with regards to proximity of the suppliers, and the growing ease of distribution from China to other parts of the world - particularly the USA, which at this time was a rapidly expanding market for Dyson.

However, the only realistic method of entry to China for all but the largest global corporations is via either subcontracting or joint venture. James Dyson had already clearly stated that he did not want to subcontract production as this would give him and the company less control over processes and quality - as a premium brand it is important for this to be maintained. The reasons behind Dyson's avoidance of the joint venture

route are not particularly well known, but a report on their own website regarding the successful 1980's "Ballbarrow" wheelbarrow gives us an insight.

> When James invented the Ballbarrow, he assigned the patent to a company to manufacture and market it. At first James had a controlling interest, but as turnover grew the company needed more investment to fund its cashflow and James was not in a position to provide funding.
>
> His business partners introduced more cash in return for shares and soon James found he was a minority shareholder. Against his wishes, the majority shareholders decided to sell his invention. There was nothing James could do about it, except learn from his mistake. (Dyson.com)

This story also helps explain Dyson's decision for Foreign Direct Investment rather than a joint equity company, by building a fully-owned factory. This also suggests a good reason for choosing Malaysia over other Far East countries - the country has one of the most open attitudes to fdi in the region, and does not demand that foreign companies set up joint ventures with local firms or with the state. (Boulton et al, 1997).

This and other factors would be recognised by Dyson Ltd performing a detailed PESTLE analysis on a number of optional locations before deciding on the best place to locate their new factory. As part of the value chain analysis, the company must consider any and all factors which would have an effect or impact on the value-adding capabilities of the new plant. Some of these factors would also affect the wider value chain within the company: for example, the country chosen may have abundant low-cost labour, but if it had a high corporation tax rate then Dyson may want to look elsewhere, or consider transfer pricing so as not to show a profit in the high-tax area.

Ultimately, after performing PESTLE and SWOT analyses, Dyson's decision may have been based on a combination of the following factors:

- Malaysia is the third largest economy in Southeast Asia, with a high growth rate.
- Technological and manufacturing industries make up a large proportion of the country's secondary sector. (Central Bank of Malaysia).
- An extensive system of ports, located along the Strait of Malacca, allows relatively cheap and easy access to neighbouring countries, where a lot of Dyson's component suppliers are located; and many extant shipping routes exist to facilitate easy export of finished goods.
- The population of Malaysia has a high proportion of fluent or conversant English speakers, removing a major barrier for an English company.

Research and Development

Obviously, a single shift of production will not only affect the value chain in and of itself. Dyson Ltd have stated repeatedly that they are committed to a much higher level of R&D than that of their competitors, who typically spend only 2% of profits on R&D. (Arnott, 2010). By saving money on the manufacturing process, Dyson was able to increase the amount spent on R&D at it's Wiltshire headquarters. In turn, this has increased the rate at which new concepts - such as the Airblade hand dryer and bladeless fan - are brought to market, which further increases sales and profit inflows into the company, which enables more spending on R&D - and so on, ad infinitum.

This also ties in with Porter's (1985, 1990) sources of competitive advantage.

In terms of national competitive advantage, Malaysia's position in the early part of the 21st century was that of excellence in manufacturing. Additionally, Government policies at that time and taxation / tarriff rates for manufacturing businesses were kept artificially low by the state. Meanwhile, the United Kingdom has a growing culture of moving away from traditional manufacturing towards scientific, technological and innovative research and development - a trend that continues today.

In corporate competitive advantage, Dyson have a very clear advantage over their rivals: James Dyson himself. Not only does the company invest heavily in their own R&D, but also into technological design and innovation in the wider community - those with a slightly cynical viewpoint would certainly say that this further increases potential sales as goodwill towards the company expands. However, without Mr Dyson, it is likely that the company's rate of invention and innovation would slow or even stall, as he remains instrumental in the running of the R&D function.

Hofstede

Hofstede's dimensions play some part when choosing a country to enter, however, they are more important when the destination has been chosen and the company needs to decide upon a method of management for the new facility.

Dimension	Explanation	UK Score	Malaysia Score
Power Distance	The "degree of inequality between people in physical and educational terms". In a high power distance society, power is concentrated among a few people in a rather autocratic fashion. Conversely a low score indicates that power is more distributed and people are seen as more equal.	30	94

Dimension	Explanation	UK Score	Malaysia Score
Uncertainty Avoidance	High uncertainty avoidance indicates that this society feels most comfortable following set rules and procedures. It also indicates a high degree of risk aversion. Low uncertainty avoidance suggests that the society does not require a clear "roadmap" to move forward confidently into the future.	32	31
Individualism	A high individualism score indicates that people in this society like to act as individuals rather than groups or teams. They look to fulfil their own goals first above those of the wider group or company. Lower individualism scores are indicative of a collectivist society, where members and managers seek to achieve the group's goals as a priority and inprove the wellbeing of all those in the group overall.	85	21
Masculinity	A high masculinity score shows that so-called "masculine" values (such as achievement, money, success, high performance) are valued over "feminine" values such as quality of life, service, and environmental concerns.	61	45
Long-term orientation or time perspective	A high score in this dimension shows that the organisation is long-term-orientated. This dimension is not included in the 1980 study and Malaysia has no long-term orientation score.	20	n/a

Source: scores: geert-hofstede.com; Explanations: Hollensen, 2004.

Analysis of the first three dimensions in particular indicates that Malaysia is a highly collectivist society, with a large power distance. In order to foster good labour relations, Dyson should consider adopting a polycentric approach for management of the new facility. This approach involves recruiting host country nationals for key positions within the firm's operations in that country (Wall, Minocha & Rees, 2010). This approach helps avoid cultural differences between management and staff, particularly where the host country has a high tendancy toward collectivism which an individualistic manager may struggle to understand.

Good labour relations are vital to the efficiency of any office or factory, and by ensuring that overseas facilities are managed in the most appropriate way, Dyson can further increase the value added by that subsidiary of the business.

Section 4: Conclusions & Recommendations

Dyson Ltd have clearly made vast improvements to their value chain in the last ten years. The first major step was relocating production to Malaysia - first of vacuum cleaners, followed in 2006 by washing machines. All Dyson's products are now manufactured in the soon-to-expand Senai, Malaysia plant and a similar plant in Singapore.

The reductions in cost brought about both by the efficient manufacturing processes employed in Malaysia as opposed to the old UK factory and a much shorter inbound logistics chain have allowed Dyson to invest more money in R&D than any of their competitors, which in recent years has enabled them to develop the newer Root 8 cyclone cleaners, Airblade hand dryers and bladeless fans (Arnott, 2010).

Careful analysis of factors such as Competitive Advantage (Porter) and Hofstede's Dimensions have allowed Dyson to ensure that the maximum value was added by each new international venture as it expanded across the globe during the first ten years of the 21st century.

In the last five to ten years, Dyson has been able to use capital released by moving production to Malaysia and other similar value and logistic chain improvements to become an established brand in the USA, never a mean feat for a non-American company. Dyson is currently seeking to open a new design centre in Malaysia to draw on growing expertise from that region of the world (Musa, 2009).

As Dyson expands into emerging markets - such as China and India with their rapidly-growing middle classes (Dyson has always positioned itself as a premium brand), it should focus it's attentions on partly regionalising the design and development processes, for two main reasons. Firstly, the company will be ideally positioned to research and understand what is wanted and demanded by consumers in each new territory. Secondly, countries like China and India have rapidly increasing numbers of university graduates in the fields of technology and design, and it will be these graduates who will ultimately take the company forward into these emerging markets.

Dyson must also continually review the position of each part of the value chain. Whilst it is not practical to relocate a factory on a regular basis, it is likely that as Malaysia's economy matures, the benefits to the value chain which prompted Dyson's move there may diminish in relation to some other country.

By consistently and competently reviewing all the factors that affect each section of the value and logistics chain, Dyson will be able to ensure that they continue to maximise their added value in the future.

2,981 words

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