



Strategic Management (LCMB7003)

Strategic Analysis of Dell Technologies



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Word count: 5,955 words

Submission Date: 1 September 2023

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Introduction

This report is set to analyse the internal and external environment of Dell Technologies Inc., through different models and frameworks, which would give a clear understanding of the company's strategic management and how it gains competitive advantage, growth and sustainability in the corporate market.

Wheelen, et al. (2018) described strategic management as a process wherein management makes decisions and takes actions to improve the long-run performance of the firm. On the other hand, Armstrong (2021) stated that strategic management process means to create and execute strategy. A strategy is defined by Whittington, et al. (2020) as a 'long-run direction' of a firm, a set of actions and distribution of resources needed to achieve business objectives. Good strategic management and a well-planned strategy provides a competitive edge and helps firms to achieve business goals and missions (Dess, et al., 2019).

Dell Background

Dell Technologies Inc. was founded in 1984 by Michael Dell and at present it is a well-known and globally-operating company that engages in designing, producing, manufacturing, promoting, selling and providing technology infrastructure, like hardware (laptops, desktops, storage devices, etc.), software, and cloud solutions to the consumers world-wide (Global Data, n. d.; Forbes, n. d.). As of 2022, Dell has around 133,000 employees working in 30,000 stores in 180 countries across the globe (Alsop, 2022).

Dell's financial results showed outstanding performance in the full fiscal year (FY) of 2023. Moreover, the company generated a revenue of 102.3 billion US-Dollars in the FY2023, which was 1% above the FY2022 (Dell Technologies, 2023). It reported 24% increase in the operating profit, the previous year, which accounted to \$5.8 billion. Further, the company's full year net income was \$2.4 billion whereas the cash flow from continuous operations was \$3.6 billion. Additionally, the earning per share (EPS) for the year 2023 was \$3.24 (Dell Technologies Inc., 2023).

Dell's Mission and Objectives

The mission of Dell Inc. is to be the pioneering company across the globe producing high quality computers and offering best buying and service experience to its customers in the market of its operation (Dell Technologies, n. d.).

With regards to the objectives, Dell has set an ambitious and time-bound goals which includes, sustainability goal of achieving net zero emissions of greenhouse gases by 2050; producing recyclable and renewable products and packaging by 2030; including diverse workforce across the global business by 2030; and improving the lives of the people by producing advanced and trustworthy technology devices by 2030 (Dell Technologies, n. d.).

Macro-Environment Analysis

According to Whittington, et al. (2020), organisations function in a challenging multi-layered environment (as shown in Fig. 1). The outer macro-environment includes political, economic, social, technological, legal and ecological (PESTLE) factors that not only influences the organisations but also offers probable threats and opportunities to them. For Dell's managers, changes occurring at macro-environment can be large, highly complex and difficult to predict (Whittington, et al., 2020).

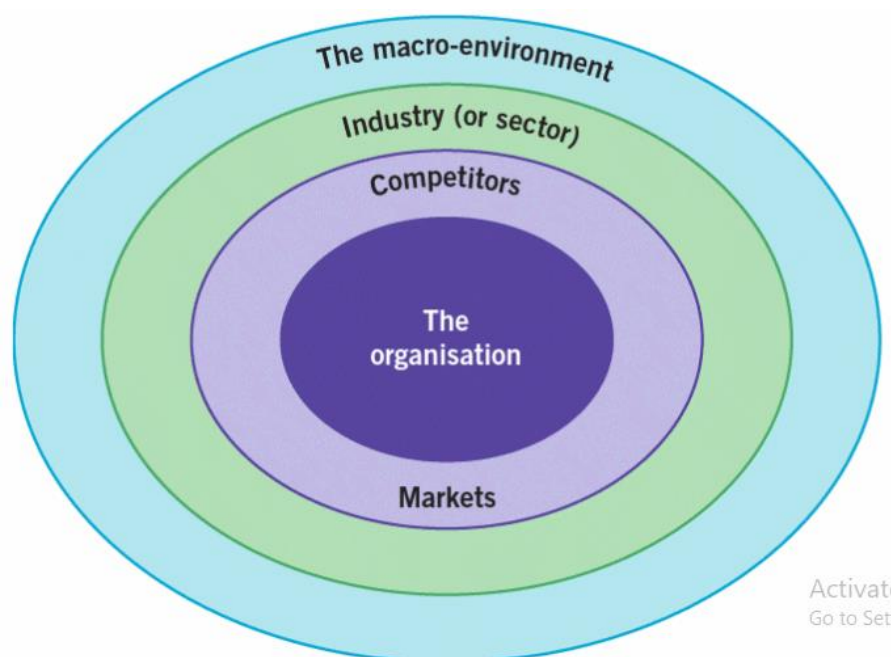


Figure 1: Multi-layered Business Environment (Whittington, et al., 2020)

PESTLE Analysis

This analysis examines macro-environmental or PESTLE factors (as shown in Fig. 2) that are interrelated to each other and that provides information about elements that drives the

changes in the macro-environment and that possibly impacts the success or failure of any strategies within the organisations (Johnson, et al., 2012).

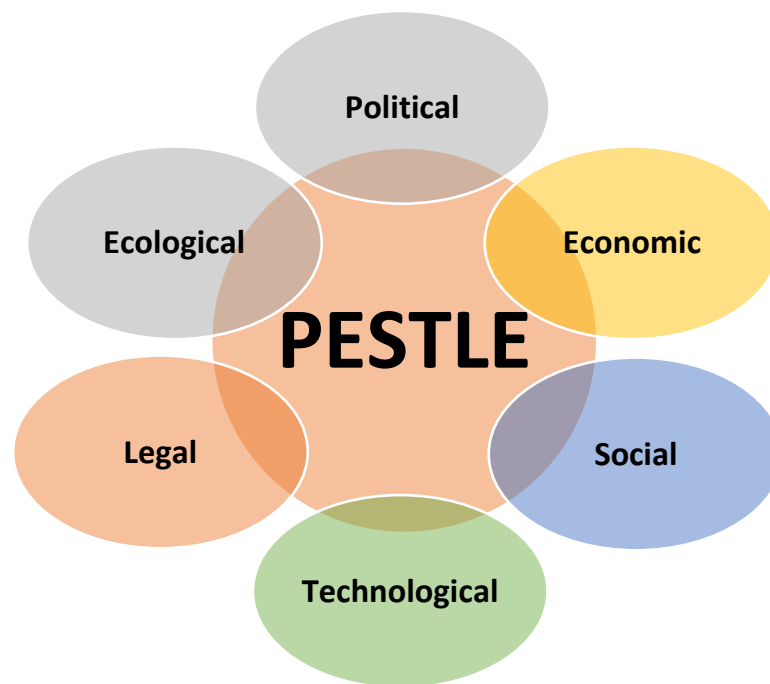


Figure 2: PESTLE Factors (Adapted from Johnson, et al., 2012)

The impact of PESTLE factors on computer or electronic industry, in which Dell Technologies operate, can be examined as follows:

Political – Computer industry can be affected by political factors, like political conflicts, governmental rules and regulation concerning export and import of the products, taxation, currency rates, and so on. For example, to conduct business in the UK, companies in this industry need to pay 25% corporate tax as of 2023, whereas in the USA it is 21% (PwC, 2023; PwC, 2023). Higher corporate tax indicates increase in the price of the product, decreased earning of the shareholders, low remunerations and expensive investment in new technology and equipment (Baker, et al., 2023; Tax Foundation, 2022)

Economic – Mainly 3 economic factors, like fluctuating currency rate, inflation and raw material cost, currently impact the computer industry (The World Financial Review, 2022). For instance, high currency rates can increase the trading prices of laptops and computers in the international market (Bussiere, 2013). Moreover, inflation can reduce the sale of the products in the computer industry, whereas increased cost of raw material can further lead to higher product prices (Moheb-Alizadeh and Handfield, 2018).

Social – Computers industry is affected by social factors, like income and education level, purchase behaviour, lifestyle, etc. (Lynch, 2018). For example, computers and laptops are expensive technical products which can be afforded by people with good disposable income and sound technology knowledge (Hamilton and Morgan, 2018). ‘Work-from-home’ and ‘hybrid work’ concepts have further influenced the buying behaviour of consumers for laptop and computer gadgets (Yang and Yamazaki, 2020). Additionally, these products are an essential part of people’s everyday life as they are used for various purposes, like playing games, finding information, conducting studies, and for professional work (GCF Global, n. d.). All these factors increase the sale and market growth of the companies in the industry.

Technological – Advanced technology has offered increasing opportunities for the companies in the computer industry. For example, emerging technologies like virtual and augmented reality are used to install gaming and educational features in the computers and laptop, artificial intelligence is used to improve the functionality, and cloud computing is used for easy accessibility and storage of data (Allinson, 2023). Also, companies are focusing on enhancing the connectivity, durability and portability, as well as versatility of the devices. For example, companies are designing thin and light weight products having 2-in-1 features, like laptops that can be converted to tablets due to easily detachable keyboards. (Allinson, 2023)

Legal – Businesses in the computer industry can be affected by governmental regulations depending on the country of its operation. For example, in the UK, the computer manufacturing companies need to abide by *The Copyright, Designs and Patents Act (1998)* which indicates that the companies should produce original products and use licensed hardware and software technologies within their devices (Scott, 2018).

Ecological – Computer and laptop manufacturing companies should operate in a socially responsible way by producing recyclable gadgets that have longer battery life, consume less energy and create less pollutants during the manufacturing process (Lucidi and Woermann, 2021).

Micro-Environment Analysis

Blythe and Martin (2019) stated that micro-environment encompasses factors (as shown in Fig. 3) that are in close contact with the organisation and that influences its day-to-day

operations, performance and decision-making. Analysis of micro-environment can help Dell to identify its potential customers, major competitors, range of suppliers, intermediaries (like retailers, wholesalers and distributors) who can sell products to customer on behalf of Dell, and general public who influences the decision of other customers (Kotler, et al., 2019).

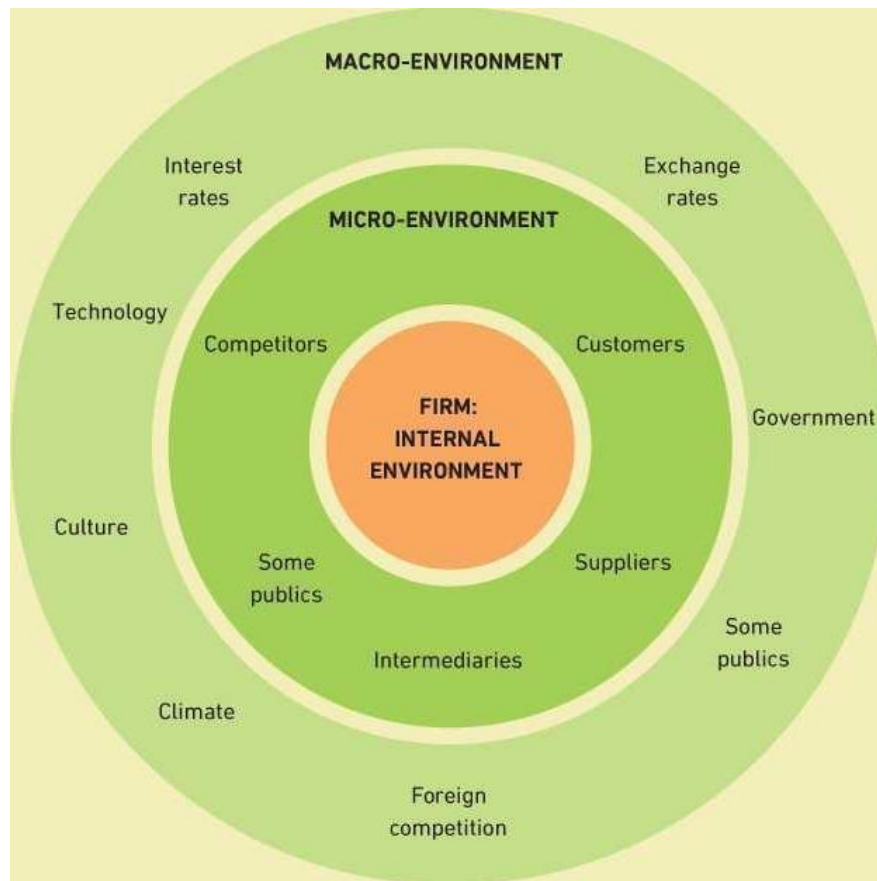


Figure 3: Macro- and Micro- environment Factors (Blythe and Martin, 2019)

Industry Life Cycle

This cycle demonstrates different stages (as shown in Fig. 4) that are experienced by an industry throughout its life (Lynch, 2018). According to Whittington, et al. (2020), these stages cover five phases which starts with the development of the industry wherein it is new and small in the market, then it passes through a stage of constant growth, followed by a ‘shake-out’ period where it experiences increasing rivalry, and finally a period of maturity and decline which is marked by ‘slow or zero growth’ period.

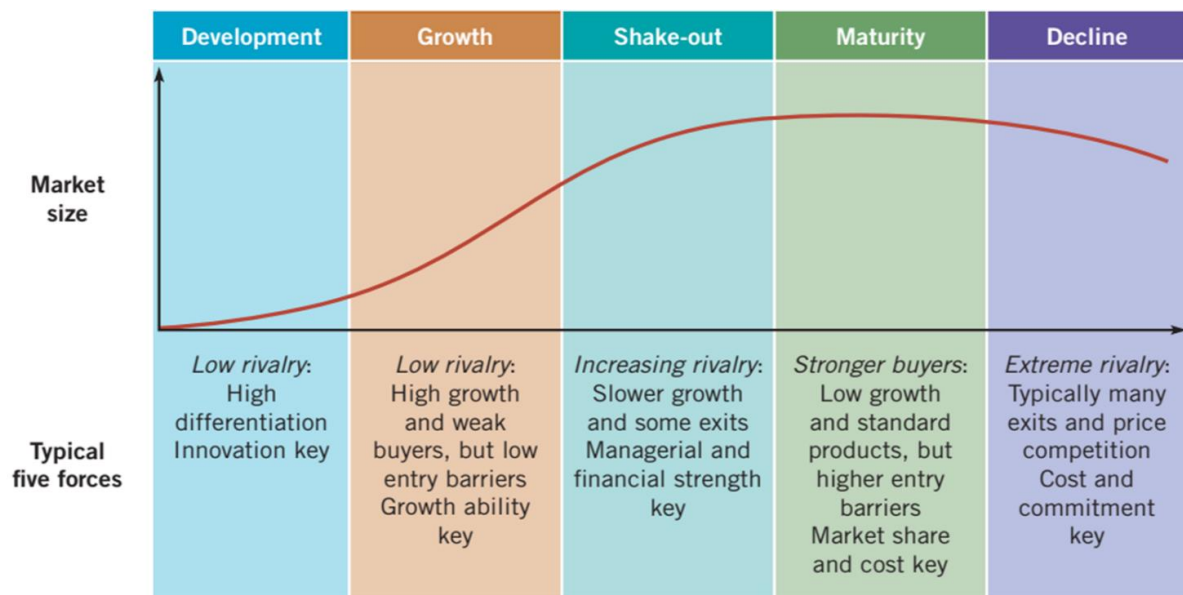


Figure 4: Industry Life Cycle of Computer/laptop Industry (Whittington, et al., 2020)

With regards to the computer/laptop industry, there is increasing competition between the brands for price, features and functionality, design, marketing and promotion (Kantar, 2019). The industry had experienced an explosive growth in terms of sales and shipment of personal computers (PCs) and laptops during the pandemic due to increase in remote working (International Data Corporation [IDC], 2022). However, in the post-pandemic era, the sale and shipment of laptop and PCs had declined by 16% and 16.2% respectively in 2022 as compared to that in 2021 (Mearian, 2023; Gartner, 2023). The major strengths of companies in this industry are their financial health and managerial expertise. For example, Dell's leaders are the pioneers of the company who drive innovation and technology revolution to develop excellent products (Dell Technologies, n. d.). Additionally, the success of Dell is also attributed to its financial health which grew by 17% in the year 2022 than in 2021 (Dell Technologies, 2023).

The above-mentioned characteristics of the computer/laptop industry corresponds with the 'shake-out' stage of industry life cycle. To avoid reaching to the decline stage, computer/laptop industry needs to focus on constantly innovating the product and introducing new-age features, like nano computers or laptops, touchscreens, in-built virtual assistance, less expensive cloud storage with increased connectivity and large space, slimmer body and lighter weight, advanced processor, and so on (World Economic Forum, 2016).

Porter's Industry 5 Forces Analysis

Porter's 5 forces framework (as shown in Fig. 5) is a strategic analysis tool that helps to examine, competition, new entrants, buyers, suppliers and substitutes present in a specific industry (Whittington, et al., 2020). These forces are analysed to identify the structure and attractiveness of the industry as well as the power equilibrium existing between individual force and the company operating in a given environment (Lynch, 2018).

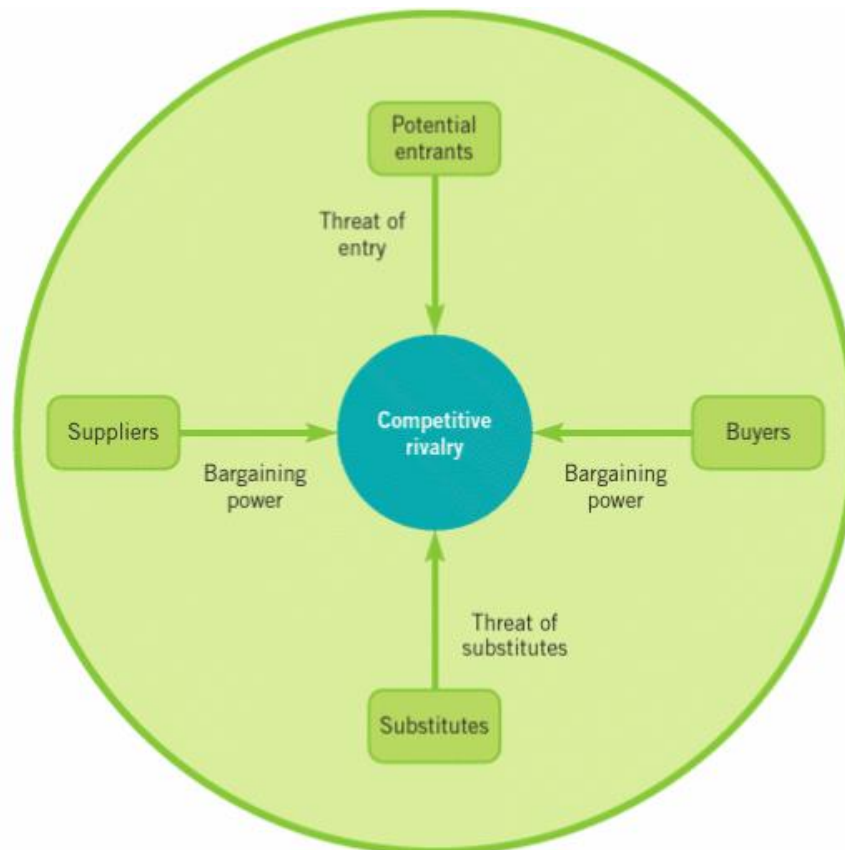


Figure 5: Porter's 5 Forces Framework (Whittington, et al., 2020)

The power of each force in the computer industry can be examined as follows:

Threat of Potential Entrants – This threat is **low** in the computer industry as there are major brands, like Apple, Dell, HP, Lenovo, etc., dominating the PC market and hindering the entry of potential new companies (Global Brands, 2022). Another big hurdle for new entrants is the significant start-up cost required to build a manufacturing unit, to invest in hiring technical experts, to finance their research and development and marketing activities, and to offer seamless customer experience (Walls, 2023). To recoup the initial investment, the new entrants may have to initially set high prices for their less innovative computer and laptop products (Nagle and Muller, 2018). This makes it further difficult for the new entrants to win

the loyalty of the customers in the price sensitive computer/laptop market (Mukherjee and Sundararajan, 2012).

Bargaining Power of Buyers – Buyers have **high** bargaining power in the computer/laptop industry. There are a number of companies offering a wide range of laptops and computers for different buyers having different needs (Global Brands, 2022). For example, business professionals may need laptops that have good speed and increased storage capacity, whereas the younger generation may prefer gaming laptops. Leading brands, like Dell, HP, Lenovo, etc., are offering innovative devices having advanced technology and features at a highly competitive price (Allinson, 2023). This offers increasing opportunity to the buyers to choose the brand that can meet their specific needs and budget. Also, low switching cost further strengthens the bargaining power of buyers (Cheng, 2022).

Bargaining Power of Suppliers – There is **high** bargaining power of suppliers in the computer industry. This is because companies in the industry are highly dependent on suppliers to provide them high quality hardware and software solutions (O'Connor, 2013). Although there are wide range of suppliers that can offer different parts and components, such as mouse, keyboard, hardware, etc., there are two major suppliers – Microsoft and Intel – in the computer/laptop industry that has gained increasing monopoly (Manners, 2022; AntiTrust Division, n. d.). Every company in the PC world uses Microsoft Office and Intel processors in their computers and laptops and this increases the suppliers bargaining power (Roberts, 2016). Additionally, these suppliers' switching cost is also high, meaning if the computer firms switch to other suppliers than Microsoft and Intel, it may directly impact the sale of their products and their overall revenue (Cheng, 2022).

Threat of Substitutes – Currently, the computer industry faces **low** threat of substitutes as PCs and laptops are the essential commodities in people's life. For example, as per OECD (n. d.) statistics, nearly 93% of the households in the UK possess at least one computer or laptop. The major substitute for Windows' PCs or laptops are the computers and laptops from Apple that have different software support and features than Windows. Further, Apple computers/laptops are expensive which prevents individuals from shifting to Apple products (Cheng, 2022). Other substitutes can be mobile phones or tablets but they have limited memory space, low software compatibility and slower processing speed than the computers or laptops which restrict people from using them as a useful substitute (Watson, 2021).

Competitive Rivalry – There is **high** competition among the top brands in the computer industry. All the companies are competing to deliver cost-effective, highly efficient and innovative design products that can meet the needs of varying customer segments (Rayming Technology, 2021). However, price is the major competitive factor within the industry and companies are ready to accept low profit margins to achieve high market shares (Cheng, 2022). In addition, the recent statistics show decreased profitability and sales in the industry (Mearian, 2023; Gartner, 2023) that further fuels the competition between the existing players. Another reason for intense competition is the globalisation of computer business which is growing at a compound annual growth rate of 8.3% (The Business Research Company, 2023).

Internal Analysis

As stated by Jenkins and Williamson (2015) internal analysis refers to the detailed examination of strategic resources and competencies, assets and business processes. It aids in identifying a company's strengths and weaknesses in terms of producing customer-satisfactory products and services, achieving business goals and objectives and gaining competitive edge (Parnell, 2014). Identification and examination of internal resources and capabilities can help Dell to exploit its strong areas and work on its weaknesses to increase its survival, sustainability and competitiveness in the market.

Dell's Strategic Resources and Capabilities

Strategic resources refers to those assets of an organisation that adds value and helps it to perform better in the market whereas capabilities refer to managerial skills, activities and leadership qualities that exploits, share and create value from the organisational resources (Todorov and Akbar, 2019). Both resources and capabilities play a crucial role in determining long-run survival and competitiveness of an organisation (Lynch, 2018). According to Whittington, et al. (2020) an organisation may consist of physical, financial and human resources and capabilities. Based on this explanation, Dell's resources and capabilities include –

Physical – These are tangible assets of Dell that have significant value and that aids in producing goods and services (Whittington, et al., 2020). Dell’s physical resources include, its offices and headquarters in 180 countries, more than 30,000 stores across the globe, over 20 manufacturing locations worldwide, more than 725 distribution and logistics centres globally and around 2,200 service centres around the world, computer and laptop units, and IT and Cloud infrastructure for effective storage, networking and management of business processes (Dell Technologies, 2023).

Intangible – Whittington, et al. (2020) explained that intangible resources are not physically present but they offer increasing value to the organisation. Goodwill and reputation that Dell has created over the years represent its most valuable intangible assets. Besides, the intangible resources of Dell consist of its brand name, 51713 patents worldwide and copyright information, loyal customer-base, franchise agreements with the partners across different countries, and its tailor-made pro-support service for all type of computer and laptop issues (GreyB, 2023; Dell Inc., 2023).

Financial – These are annual reports and balance sheets of Dell which give detailed information about the company’s revenue, cash flow, assets, liabilities and shareholder’s equity. Dell generates most of its revenue from its goods (70%) and services (21%) wherein goods revenue is derived from sales of hardware products, like personal computers, laptops, cameras, printers, electronics, etc. (Goel, 2022). Additionally, increasing demand among the consumers, product shipment and constant growth across the business operations also contributes to the increase in financial resources of Dell (Dell Technologies, 2022).

Human – Dell’s human resource includes its diverse team members (approximately 133,000 as of February 2023), go-to-market members (around 31,000) and IT service and support team (nearly 35,000) and 240,000 global partners (Dell Technologies, 2023). The company offers a working environment that is highly accessible, provides equal opportunity to all, and is attractive for existing and potential employees to develop and grow (Dell Technologies, 2020).

Value Chain Analysis

According to Johnson (2012), it refers to the chain of activities within a company which contributes to the development, production and marketing of products and services. These

activities range from raw material to consumer that play a significant role in providing competitive edge to the company and in creating value for the final consumers (Stacey, 2010). A value chain framework (as shown in Fig. 6) of Dell comprises primary and secondary activities that are connected with each other to offer best product, service and experience to the customers.

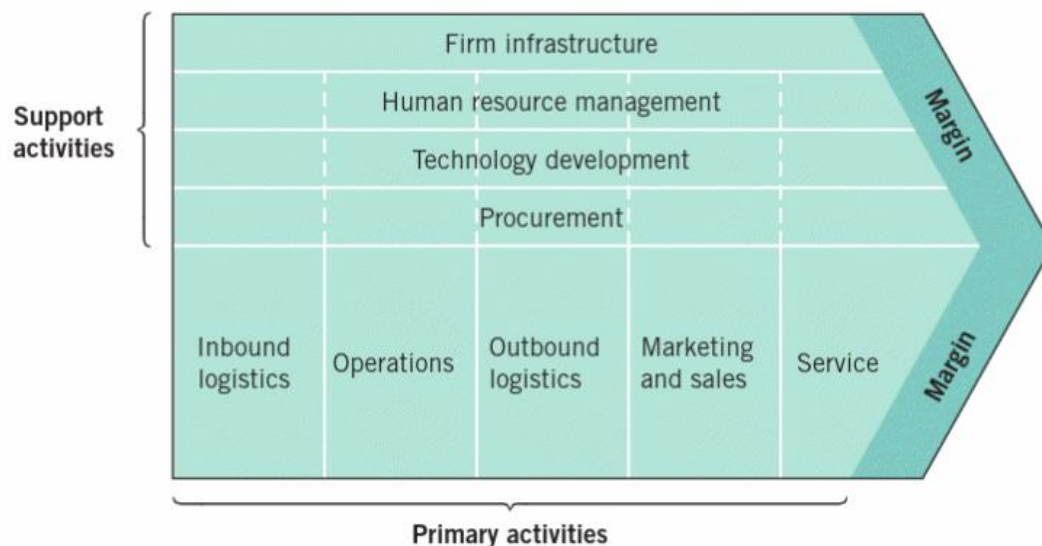


Figure 6: The Value Chain Framework (Whittington, et al., 2020)

Primary Activities

In the value chain of Dell, the primary activities refers to business operations concerned with the creation and supply of exceptional personal computers as well as other electronic products and technology services (Whittington, et al., 2020). Primary activities of Dell includes –

Inbound logistics – The global supply chain of Dell is effectively managed through its manufacturing and assembly plants and retail services. The company’s manufacturing centres are located in China, Ireland, Brazil, and the United States and it follows a just-in-time model (right quantity of raw material arriving at right time) for production, delivery and inventory management (Dell Technologies, 2023). Additionally, Intel and Microsoft Corporation are the key suppliers who respectively provide microchips and software systems for Dell’s computer products. The company is also associated with many trustworthy logistic partners, like UPS, DHL, etc., who use rail, road, ocean and airways to deliver millions of Dell’s products globally (Dell Inc. 2023).

Operations – Goel (2022) stated that Dell's main operation is to assemble the computer parts, install software, test the functionality and product configuration and control the quality aspect. Assembly operation creates increasing product customisation opportunity which offers competitive edge to the company.

Outbound logistics – The 2022 annual report of Dell Technologies shows that the outbound logistics of the company involves delivery of the finished products to the customers (Dell Technology Inc., 2023). Dell is a globally operating brand, however, it uses e-commerce technology to connect with the customers on a global platform and to satisfy their varying demands. Using such a platform, customers can directly place their orders and the company can accordingly design customised products for them. Additionally, this allows Dell to better understand their customers and to enhance their overall experience (Cheng, 2022).

Marketing and sales – The marketing strategy of Dell is directed towards the customers. It uses various marketing methods, such as advertising on print media and television, sales and online promotion, etc. to increase the customers' awareness about the brand's product range (Talbot, 2020). Since Dell became a private company in 2013, its marketing efforts are focused on increasing customer awareness about its hardware and software solutions (Ellis, 2017).

Dell's sales strategy is concerned with selling its technology products directly to the customers and through retailers. Direct selling involves selling the product on its company website and through direct calling the corporate customers. At electronic or computer retail stores, Dell installs Kiosk which allows customers to visually scan the product and place the order (Cheng, 2022).

Services – Dell offers pre-purchase and post-purchase services to its customers which includes IT and technical support, product information, value-based and after sales services (Chen, 2022). Dell employees attend thousands of customers' calls every day and offer at-home technical services to the customers based on their need and requirements. Additionally, customers can also share their problems and queries on Dell's websites and get customised support (Dell Inc., 2023).

Secondary Activities

On the other hand, secondary activities or support activities in the value chain of Dell are connected with the primary activities to support and improve the efficiency of business operation (Whittington, et al., 2022). These activities are –

Procurement – This is concerned with acquiring resources from the suppliers (Schiele, 2019). Dell ensures close contacts and long-term relationship with its two main suppliers, which are Intel and Microsoft Corporation so that the brand can get good quality raw materials at the best price, receive on-time delivery and avail engineer service from the suppliers at all time at the manufacturing unit to produce new and improve quality finished goods (Cheng, 2022).

Technology development – Dell invests in the latest technology to design customised personal computer products and also to constantly test the quality of its components and finished goods (Cheng, 2022). Further, the company conducts research and development to produce innovative technology, like cloud computing (Dell Inc., 2023). It also uses its e-commerce platform to offer information about its business operations and product portfolio.

Human resource management – Dell has 133,000 employees as of 2022 (Macrotrend, 2023). For the professional development of the workforce, Dell offers 70% of on-the-job training, 20% of coaching and mentoring and 10% of formal training through free certificate courses online (Harrison, 2016).

Firm infrastructure – This is concerned with support infrastructure within Dell which includes financial planning, quality check and control and general support from the management team (Cheng, 2022). There is a worldwide business consultancy of Dell which helps in improving business performance and making business-related decisions.

VRIO Analysis of Distinctive Resources and Capabilities

According to Barney and Herterly (2019) VRIO framework is an essential tool to conduct internal analysis and identify those resources and capabilities that are distinctive and offer competitive potential to the company. Arraya (2022) explained that distinctive resources and capabilities are unique to the organisation that are difficult to replicate and that strategically differentiates the organisation from its competitors. Dell's distinctive resources and capabilities can be determined through VRIO analysis framework that asks questions (as

shown in Table 1) related to four parameters – value, rarity, imitability and organisation – to identify if the firm’s resources are distinctive (Lynch, 2018).

Distinctive Resources/ Capabilities	Value	Rarity	Imitability	Organisation	Competitive advantage
Brand name and reputation	Yes	Yes	Yes	Yes	Sustainable competitive advantage (SCA)
Brand awareness	Yes	Yes	No	Yes	SCA
Sell-direct model	Yes	Yes	Yes	Yes	SCA
Just-in-time model	Yes	Yes	Yes	Yes	SCA
Product quality	Yes	Yes	Yes	Yes	SCA
Product customisation	Yes	No	No	Yes	SCA
Good market segmentation	Yes	No	Yes	No	SCA
Customer support service	Yes	No	No	Yes	SCA

Figure 7: The VRIO Framework (Adapted from Lynch, 2018)

Value – Lynch (2018) stated that valuable resources and capabilities allows firms to design effective strategies based on external opportunities and that helps to overcome the weaknesses and minimise the threats. According to Forbes’ list (2022), Dell is the 10th largest company having the ‘world’s best employers’ position. It has achieved a good **brand name and reputation** and is a well-known brand in the computer industry which increases its market value and market shares. Additionally, its sell directly to the customer model, **product customisation** capabilities and just-in-time for production and inventory are the valuable capabilities of Dell Technologies (Knott, 2015).

Rarity – Rare resources and capabilities helps the firm to generate competitive edge and enhance its economic performance in comparison to its competitors (Lynch, 2018). In the computer industry, Dell is the only company **selling its products directly to the customers** without relying on the network of wholesalers or retailers. This offers rarity to the company

in comparison to its competitors. However, it is not a rare company on the global platform as many key players, like Apple, HP and Samsung have established a good brand name and position in the industry (Knott, 2015).

Imitability – Inimitable resources and capabilities of an organisation are those that are expensive to imitate and this helps it to generate more profit and gain competitive edge over its competitors (Lynch, 2018). Although competitors can **imitate just-in-time inventory, direct selling to customers and customisation of the product capabilities** of Dell, they may have to change their entire business process to imitate these capabilities which may increase their overall business cost (Knott, 2015).

Organisation – Lynch (2018) stated that a well-organised organisation can use its value, rare and inimitable resources and capabilities to its full potential. Dell has effectively managed and organised its inventory and production process with just-in-time delivery and customisation of computer products through its direct engagement with the customers. Such an organised business process of Dell offers it a competitive advantage. On the other hand, it is difficult for the company to match the strategic capabilities of Dell as they may have to completely reorganise their processes which may prove time consuming and expensive for the competitors (Knott, 2015).

SWOT Analysis

According to Stacey (2011), SWOT analysis is a method that helps to understand the strengths and weaknesses of an organisation and to identify the opportunities available to it and the threats it has to tackle. The SWOT analysis of Dell is represented in Table 2.

Strengths	Weaknesses
- Well-known brand and a largest producer of personal computers and laptops - First brand to offer 'Next Business Day On-site Service' (NBD) from a certified engineer at place convenient to the customers (Business Direct, 2023)	- Product customisation strategy results in more time incurred to produce and deliver the finished product to the customers - Limited suppliers or increasing reliance on two main suppliers (Intel and Microsoft) may decrease the bargaining power of Dell

● It engages in customisation of the product and offers direct service to the customers (Dell Inc., 2023). This aids in enhancing the customer experience and in meeting their individual needs ● Dell's main business is to assemble components manufactured by the suppliers and create the finished product. This helps to control the quality and manage the supply chain effectively (Cheng, 2022) ● The company is able to manage low inventory cost as it quickly clears its inventory within 6 working days (Dynamic inventory, 2018). ● Long-term partnership with reputed suppliers like Intel and Microsoft Corporation (Manners, 2022) ● The company known for its just-in-time production, delivery and inventory management (Dell Technologies, 2023)	● There is limited differentiation in Dell's product in comparison to its competitors like Lenovo, Samsung, HP, etc. as they offer the same processor and internal software system. ● It faces intense competition from the competitors with regards to market shares, profit margin and innovative disruption ● Dell has not created strong presence in the market in comparison to its competitors like Apple and Samsung, who have diversified its product-line and have capitalised their growth opportunities in smartphone, tablets and home appliance market (Cheng, 2022)
Opportunity	Threats
● Boost the position in the market through diversification of product-line ● Investment in research and development can aid Dell in making innovative disruption ● Focusing on developing countries can help Dell to expand its business growth and increase its demand. For	● Increase competition from key players in the market, such as Apple, Samsung, HP, Lenovo, etc. ● Failure to capitalise on innovative and advanced technology can not only obstruct the growth of Dell but also decrease its profitability and market shares

example Dell can offer cloud computing service in Asian and African market • Dell can enhance its cloud computing and data storage capabilities by capitalising on artificial intelligence and machine learning technologies that will aid in better business processes and performance	• Disruption in the supply chain, natural calamities, political war, or pandemic can lead to decrease in sales and revenue, dissatisfaction of customers and their needs, and increase inventory cost.
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Table 2: SWOT Analysis of Dell

Strategies to Sustain Competitive Advantage

In order to sustain competitive advantage in the business market, an organisation needs to develop competitive strategies related to features and quality of products and services, branding and marketing and costs. Overall, competitive strategies, as stated by Whittington, et al. (2020) is concerned with the way firms generate value for their customers which is not only more in terms of money paid by the customers but also higher than that offered by the competitors. Wheelen, et al. (2018) explained that a firm can gain competitive advantage by offering products and services at lower price, or by offering different or unique products and services than the competitors. There are 3 generic strategies, outlined by Michael Porter, which a firm can choose from to compete in the market and to achieve sustainable competitive edge (Lynch, 2018). These strategies are – cost leadership, differentiation and focus strategies (as shown in Fig. 7).

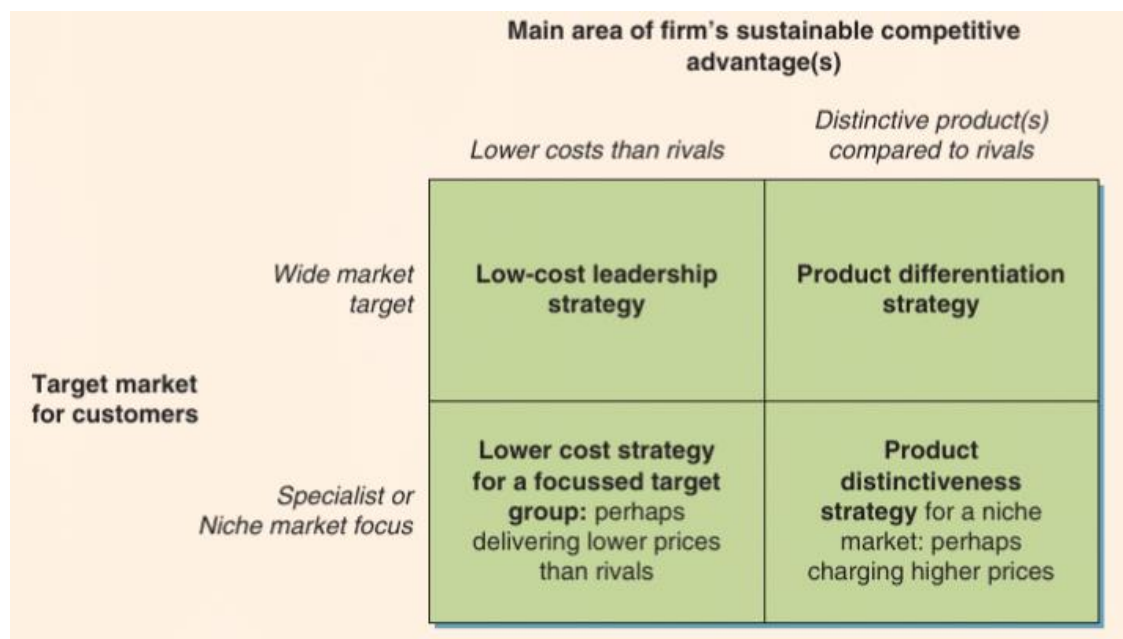


Fig. 7: Porter's Generic Strategy (Lynch, 2018)

Cost leadership Strategy

Whittington, et al. (2020) states that this strategy is concerned with being a low-cost producer of goods and services in the industry. By adopting cost leadership strategy, Dell can offer its computer products and services at lower price than its competitors, like HP, Apple, Samsung, etc. Dell can use **mass customisation strategy** when creating its user-specific products and this will help the company to reduce its unit costs that are linked with the large production (Islami, et al., 2020). Further, Dell can strategically position itself as a cost-effective firm by changing from low cost producer to low cost suppliers of products and services (Cheng, 2022). The pricing advantage over the competitors can help Dell to attract maximum customers to its business which can further aid in increasing marketing share and gaining competitive advantage. Although Dell currently adopts a cost leadership strategy to some extent, it needs to also focus on adopting differentiation strategy.

Differentiation Strategy

This strategy focuses on offering unique products and services that are of high value to the customers and for which they are ready to pay a premium price (Whittington, et al., 2020). Currently, Dells products are similar to its competitors, like HP, Lenovo and Toshiba in terms of processor and the internal computer software and machines used. Also, it relies increasingly on Intel and Microsoft Corporation, like its competitors. As a result, Dell needs to invest in research and development and create innovative product design which can prove

a disruption in the market as well as offer an increasing competitive advantage to the company (Cheng, 2022). Furthermore, Dell can focus on differentiating itself from the competitors in terms of service solutions offered to the customers in areas like, advanced cloud computing solution, artificial intelligence-supported data storage and management system, and satisfying customer's computing needs related to service and security (Dell Inc. 2023). Furthermore, Dell can leverage its customisation strategy which currently functions as a major differentiator that offers competitive edge to the brand in comparison to its industry rivals.

Growth Strategies

Wheelen, et al. (2018) suggested that growth strategy offers a detailed plan of action and a direction which a company can choose to expand its business operations, boost its assets and sales and revenue, and increase its overall market value. Gamble, et al. (2015) illustrated that a company can adopt internal expansion by spreading its business operations at national and international levels, or external expansion through collaboration, joint ventures, mergers, acquisition and strategic alliances. Furthermore, Grant (2018) stated that Ansoff matrix is an effective tool to identify growth opportunities in the competitive market. Dell can explore its further growth areas by using this strategic framework (as shown in Fig. 8).

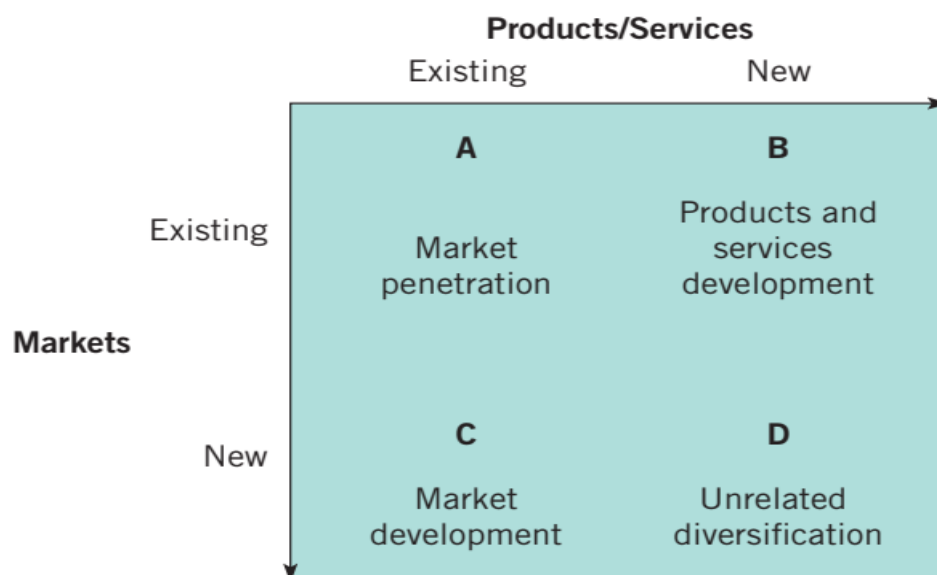


Figure 8: Ansoff's Matrix (Whittington, et al., 2020)

Ansoff matrix is a four-squared tool that effectively identifies growth opportunities in terms of product or market expansion (Clarissa, 2020). Dell's future growth strategy in relation to Ansoff's matrix can be explained as follows:

Market penetration – Market penetration, as explained by Whittington, et al. (2020), indicates boosting market growth and market share in the existing industry with existing products and services. With market penetration strategy, Dell can either increase the number of its product and services or boost the value of its offering to gain competitive growth (Grant, 2018). Dell's product customisation strategy in the existing market can help the company to innovate its existing product line. This will not only help to meet customers' needs and demands but also boost the sales and profitability of the company.

Product and service development – This is related to offering improved or new products and services in the existing market (Whittington, et al., 2020). Dell needs to increasingly focus on product and service development as currently it offers similar products as HP and Lenovo, in terms of processors and internal mechanism of computers and laptops. Like its key competitors – Apple and Samsung – Dell can adopt product diversification strategy and introduce new product-line, like smartphones, tablets, home appliances, etc. so that it can offer tough competition to its rivals and at the same time increase its market shares (Cheng, 2022).

Market development – Whittington, et al. (2020) stated that market penetration is concerned with delivering existing goods and services to new customer-base in new geographical locations or markets. With regards to Dell, its strategic move involves a shift from large corporations to small and medium enterprises (SMEs) in the developing countries of India and Africa (Das, 2021). According to the management of the company, SMEs business comprises a large market in the developing countries, like Asia Pacific, Japan and China and they spend nearly 50% on the technology (The Economic Times, 2009). This can offer increasing opportunities to Dell to boost its growth and increase its market shares.

Unrelated diversification – This indicates growth or expansion in a completely new market with new products and services (Whittington, et al., 2020). Dell's unrelated diversification can involve producing new products, like sunglasses, pens, clothing or merchandising, kitchen wares, etc. However, to diversify with new products in new markets, Dell needs to thoroughly research the new market and identify the product needs and demands among the market segments (Marquis and Raynard, 2015).

Green Strategy and CSR

Fogel (2016) explained that green strategies are concerned with the sustainable initiatives of the firm that focuses on safeguarding the natural environment as well as exploiting the business opportunities resulting from sustainable business practices. The green strategy of Dell is highlighted in the sustainability and environment, social and governance (ESG) report of the company. These report for the year 2023 highlights:

- Dell uses a circular principle which focuses on recycling and reusing the technology components in its computer product to reduce waste and negative impact on the planet. This is achieved through repairing the existing products of the customers at Dell solutions or service centres, reusing the internal components and recovering the products. Further, it uses £343.3 million of sustainable raw materials, like paper fibres, carbon fibres, recycled metals, etc., in manufacturing and packaging of laptops and computers (Dell Inc., 2023).
- The company is committed to the net zero goals, as stated in the Paris Agreement, which focuses on reducing the emissions of greenhouse gases to net zero by 2050 (United Nations, n. d.).
- Dell focuses on sustainable design for computers and laptops by collaborating with its supplier (Intel) and producing 'Concept Luna' which not only lowers waste and harmful emission but is also made from re-used raw materials. It is also easy to repair this product and disassemble it which increases the opportunity to reuse and recycle the internal components (Robson, 2022).
- To make the Dell services environment-friendly, the company has designed contemporary management tools, called 'Active Management Technology', through its partnership with Intel which allows technician to virtually access and rectify the device and eliminates the need of visiting the customers or shipping the products, thus saving the valuable resources of time, fuel and money (Dell Inc., 2023).

Along with the green strategy, Dell is committed to its corporate social responsibilities (CSR) that is beyond its profit-maximisation objectives. According to Johnson, et al. (2017), CSR is a concept wherein a firm behaves in an ethical manner, takes interest in societal activities and improves the life of customers, workforce, shareholders, as well as of people living in the society in which it operates. The CSR initiatives of Dell can be illustrated as follows:

- Dell focuses on involving 75% of its workforce every year to offer 5 million hours of social service to the community. Further it uses expert knowledge and technology to directly support 3 million young population and indirectly supports 10 million individuals to grow and develop in the community. This service involves offering career readiness training and providing technology skills and learning. Besides, the indirect support includes helping children care centres with IT solutions that will aid in treatment of cancer (Dell Technologies, n. d.).
- The company ensures that employees have access to a safe and healthy work environment where they can grow and develop their skills and potentials. Dell ensures that the workforce is offered necessary skills training and leadership development programs so that they can enhance their potential and develop their career aspirations (Dell Inc., 2023).
- The same social responsibility is ensured in the supply chain of the company wherein it promotes responsible manufacturing, supports suppliers to develop necessary competencies, and conducts audit programs to maintain the quality of the products. It also ensures that all workforce involved in the supply chain are treated equally and their human rights are protected (Dell Inc., 2023).

Conclusion

Dell is a recognised brand in the computer industry that has reported excellent financial performance in the fiscal year 2023. It operates in the macro environment which consists of PESTLE factors that impact the business operation and at the same time offers threats and opportunities to the business. The current computer industry is characterised as one in the shake-out stage and to avoid the decline stage, the companies in the industry need to introduce disruptive innovation. Besides, Dell operates in the industry where there is low threat of substitutes and new entrants but high bargaining power of buyers and suppliers and high competitive rivalry. Further, Dell has distinctive resources and capabilities that offer it a competitive advantage. However, in order to accelerate its competitiveness in the industry, the company needs to follow cost leadership and product differentiation strategy as well as diversify its product-line in smartphone and tablet business to achieve maximum growth and expansion.

Recommendation

Following recommendations can help Dell to improve its performance as well as create value within the organisation as well as for its customers:

- Dell can adopt the diversification strategy as Apple and Samsung and offer additional products and services, like smartphones, tablets, music, and app stores
- It should focus on new entrants who have increasing potential to introduce disruptive innovation and offer cost-effective services
- The worldwide operations can be effectively managed by maintaining the relationship between the local retailers and business functionality and by understanding the needs of varying market segments
- Dell should ensure providing high quality products and good customer service during and post-purchase so increase customer satisfaction and loyalty. This can help to further reduce the bargaining power of the customers
- Dell should maintain low operation cost by involving in mass customisation of its computer and laptop products

References

- Allinson, M. (2023) 'The Future of Personal Computers: What to Expect in the Next Decade', *Robotics and Automation News*. Available at: <https://roboticsandautomationnews.com/2023/03/24/the-future-of-personal-computers-what-to-expect-in-the-next-decade/66220/> [Accessed: 12th July 2023].
- Alsop, T. (2022) 'Dell Technologies - statistics & facts', *Statista*. Available at: <https://www.statista.com/topics/2285/dell/#topicOverview> [Accessed: 4th July 2023].
- AntiTrust Division (n. d.) *U.S. V. Microsoft: Court's Findings of Fact*. Available at: <https://www.justice.gov/atr/us-v-microsoft-courts-findings-fact> [Accessed: 19th July 2023].
- Armstrong, M., 2021. *Armstrong's Handbook of Strategic Human Resource Management*. 7th ed. London: Kogan Page.
- Arraya, M. (2022) 'The relationship between distinctive capabilities system, learning orientation, leadership and performance', *European Journal of Management Studies*, 27(2), pp.205-227.
- Baker, S. R., Sun, S. T. and Yannelis, C. (2023) 'Corporate Taxes and Retail Prices', *National Bureau of Economic Research*. Available at: <https://www.nber.org/papers/w27058> [Accessed: 12th July 2023].
- Barney, J. B. & Hesterly, W. S. (2019) *Strategic Management and Competitive Advantage: Concepts and Cases*. 6th ed. Harlow: Pearson Education Limited.
- Blythe, J. and Martin, J. (2019) *Essentials of marketing*. 7th edn. Harlow: Pearson Education Limited.
- Business Direct (2023) *Dell Support Services*. Available at: <https://www.businessdirect.bt.com/products/dell-next-business-day-on-site-extended-service-agreement-2-years-on-site-890-12849-BW9V.html#:~:text=Dell's%20Next%20Business%20Day%20On,Friday%2C%20subject%20to%20parts%20availability>. [Accessed: 19th August 2023].
- Bussiere, M. (2013) 'Exchange rate pass-through to trade prices: The role of nonlinearities and asymmetries', *Oxford Bulletin of Economics and Statistics*, 75(5), pp.731-758.

Cheng, J. (2022) 'Sustainable Competitive Advantage Analysis and Recommendations for Dell Company to Achieve Success', *Open Journal of Social Sciences*, 10(12), pp.486-497.

Cheng, J. (2022) 'Sustainable Competitive Advantage Analysis and Recommendations for Dell Company to Achieve Success', *Open Journal of Social Sciences*, 10(12), pp.486-497.

Clarissia, S.M.S. (2020) 'A study on Ansoff Matrix Technique: As a growth strategy and an adaptive learning technique adopted in the leading brand of products', *BIMS Journal of Management*, 5(1), pp. 18-26.

Das, S. (2021) 'Growth Strategies of Dell', *LinkedIn*. Available at:

<https://www.linkedin.com/pulse/growth-strategies-learnt-from-dell-shubhangi-das/>

[Accessed: 20th August 2023].

Dell Inc. (2023) *A Partnership of Trust: Dell Supply Chain Security*. Available at:

https://i.dell.com/sites/csdocuments/CorpComm_Docs/en/supply-chain-assurance.pdf

[Accessed: 6th August 2023].

Dell Inc. (2023) *Advancing Sustainability: At the core of everything we do*. Available at:

<https://www.dell.com/en-uk/dt/corporate/social-impact/advancing-sustainability.htm#scroll=off> [Accessed: 20th August 2023].

Dell Inc. (2023) *Copyrights*. Available at: <https://www.dell.com/learn/us/en/uscorp1/site-terms-of-use-copyright>

[Accessed: 6th August 2023].

Dell Inc. (2023) *Dell Technologies Timeline*. Available at: <https://www.dell.com/en-uk/dt/corporate/about-us/who-we-are/timeline.htm>

[Accessed: 6th August 2023].

Dell Inc. (2023) *Help at every step. Explore Dell's recommended Support Services*. Available

at: <https://www.dell.com/en-uk/lp/support-services-for-home> [Accessed: 6th August 2023].

Dell Inc. (2023) *Our Digital Transformation: Sharing what we've learned inside Dell*

Technologies. Available at: <https://www.dell.com/en-uk/dt/what-we-do/our-digital-transformation.htm#collapse>

[Accessed: 4th August 2023].

Dell Inc. (2023) *Supply chain: We're championing social and environmental responsibility*

across our entire supply chain. Available at: <https://www.dell.com/en-uk/dt/corporate/social-impact/advancing-sustainability/supply-chain.htm>

[Accessed: 20th August 2023].

Dell Inc. (2023) *Welcome to Dell Support*. Available at:
<https://www.dell.com/support/home/en-uk> [Accessed: 4th August 2023].

Dell Technologies (2011) *Dell's Differentiated Enterprise Solutions and Services Driving Long-Term Value and Growth*. Available at:
<https://www.dell.com/learn/ly/en/lycorp1/secure/2011-06-28-analystmtg-release> [Accessed: 19th August 2023].

Dell Technologies (2020) *Diversity and Inclusion Report*. Available at:
<https://corporate.delltechnologies.com/content/dam/delltechnologies/assets/corporate/pdf/progress-made-real-reports/delltechnologies-2020-diversity-inclusion-report.pdf> [Accessed: 6th August 2023].

Dell Technologies (2022) *Dell Technologies Delivers Fourth Quarter and Full-Year Fiscal 2022 Financial Results*. Available at: <https://investors.delltechnologies.com/news-releases/news-release-details/dell-technologies-delivers-fourth-quarter-and-full-year-fiscal#:~:text=Full%2Dyear%20revenue%20was%20a,units%2C%20and%20record%20PC%20shipments>. [Accessed: 4th August 2023].

Dell Technologies (2023) *About the Company*. Available at:
https://www.delltechnologies.com/asset/en-sg/solutions/business-solutions/briefs-summaries/key_facts_about_dell_technologies.pdf [Accessed: 4th August 2023].

Dell Technologies (2023) *Annual Report*. Available at:
https://www.annualreports.com/HostedData/AnnualReports/PDF/NYSE_DELL_2022.pdf [Accessed: 4th August 2023].

Dell Technologies (2023) *Corporate Social Responsibility Policy*. Available at:
<https://i.dell.com/sites/doccontent/corporate/corp-comm/en/Documents/india-csr-policy.pdf> [Accessed: 19th August 2023].

Dell Technologies (2023) *Dell Technologies Delivers Fourth Quarter and Full-Year Fiscal 2022 Financial Results*. Available at: <https://investors.delltechnologies.com/news-releases/news-release-details/dell-technologies-delivers-fourth-quarter-and-full-year-fiscal#:~:text=%22Fiscal%202022%20was%20the%20best,chief%20operating%20officer%2C%20Dell%20Technologies%20>. [Accessed: 18th July 2023].

Dell Technologies (2023) *Dell Technologies Delivers Fourth Quarter and Full Year Fiscal 2023 Financial Results*. Available at: <https://www.dell.com/en-us/dt/corporate/newsroom/announcements/detailpage.press-releases~usa~2023~03~20230302-dell-technologies-delivers-fourth-quarter-and-full-year-fiscal-2023-financial-results.htm#/filter-on/Country:en-us> [Accessed: 20th August 2023].

Dell Technologies (2023) *Who we are*. Available at: <https://www.dell.com/en-uk/dt/corporate/about-us/who-we-are.htm> [Accessed: 4th July 2023].

Dell Technologies (n. d.) *Dell Technologies Timeline*. Available at: <https://www.dell.com/en-uk/dt/corporate/about-us/who-we-are/timeline.htm> [Accessed: 4th July 2023].

Dell Technologies (n. d.) *Leadership*. Available at: <https://www.dell.com/en-uk/dt/corporate/about-us/leadership.htm#tab0=0> [Accessed: 18th July 2023].

Dell Technologies (n. d.) *Our ESG Goals*. Available at: <https://www.dell.com/en-uk/dt/corporate/social-impact/reporting/goals.htm> [Accessed: 4th July 2023].

Dell Technology Inc. (2023) *Security*. Available at: [Accessed: 6th August 2023].

Dess, G., Eisner, A., Lumpkin, G.T. and McNamara, G., 2019. *Strategic Management: Creating Competitive Advantages*. 9th edn. New York McGraw Hill Education.

Dynamic Inventory (2018) *An Overview of Dell's Supply Chain Strategy*. Available at: <https://www.dynamicinventory.net/dell-supply-chain-strategy/#:~:text=The%20company%20considers%20its%20vendors,and%20avoids%20unnecessary%20carrying%20costs>. [Accessed: 19th August 2023].

Ellis, J. E. (2017) 'Dell: The Business Case for a Sustainable Supply Chain', *University of Oxford*. Available at: https://www.sbs.ox.ac.uk/sites/default/files/2018-06/dell_-_mutuality_case_study_27.10.17.pdf [Accessed: 6th August 2023].

Fogel, D. S. (2016) *Strategic Sustainability: A Natural Environmental Lens on Organizations and Management*. New York: Routledge

Forbes (2022) *World's Best Employers*. Available at: <https://www.forbes.com/lists/worlds-best-employers/?sh=1383802f1e0c> [Accessed: 19th August 2023].

Forbes (n. d.) *Dell Technologies*. Available at: <https://www.forbes.com/companies/dell-technologies/?sh=6f80dd3d94f2> [Accessed: 4th July 2023].

Gamble, J. E., Peteraf, M. A. & Thompson Jr, A. A. (2015) *Essentials of Strategic Management: The Quest for Competitive Advantage*. 4 ed. New York: McGraw-Hill Education.

Gartner (2023) *Gartner Says Worldwide PC Shipments Declined 28.5% in Fourth Quarter of 2022 and 16.2% for the Year*. Available at: <https://www.gartner.com/en/newsroom/press-releases/2023-01-11-gartner-says-worldwide-pc-shipments-declined-28-percent-in-fourth-quarter-of-2022-and-16-percent-for-the-year> [Accessed: 18th July 2023].

GCF Global (n. d.) *What is a laptop computer?* Available at: <https://edu.gcfglobal.org/en/computerbasics/laptop-computers/1/#> [Accessed: 12th July 2023].

Global Brands (2022) *Top 10 Laptop Brands in the world 2023*. Available at: <https://www.globalbrandsmagazine.com/top-10-laptop-brands-in-the-world/> [Accessed: 19th July 2023].

Global Data (n. d.) *Dell Technologies Inc Company profile*. Available at: <https://www.globaldata.com/company-profile/dell-technologies-inc/> [Accessed: 4th July 2023].

Goel, S. (2022) 'Dell Business Model: Supply chain & Marketing Strategy', *The Strategy Story*. Available at: <https://thestrategystory.com/2022/11/29/dell-business-model-supply-chain-marketing-strategy/#:~:text=Dell%20makes%20money%20primarily%20from,hardware%20products%20and%20software%20licenses>. [Accessed: 15th August 2023].

Grant, R. M. (2018) *Contemporary Strategy Analysis*. 10th ed. New Jersey: John Wiley & Sons, Inc.

GreyB (2023) *Dell Technologies Patents – Key Insights and Stats*. Available at: <https://insights.greyb.com/dell-technologies-patents/> [Accessed: 6th August 2023].

Hamilton, J.T. and Morgan, F. (2018) 'Poor information: How economics affects the information lives of low-income individuals', *International Journal of Communication*, 12, pp.2832-2850.

Harrison, M. (2016) 'How Dell Develops Training for Career Growth of New Leaders', *Dell Technologies*. Available at: <https://www.dell.com/en-us/blog/how-dell-develops-training-for-career-growth-of-new-leaders/> [Accessed: 7th August 2023].

IDC (2022) *PC Shipments Begin to Slow Following Two Years of Strong Growth, According to IDC*. Available at: <https://www.idc.com/getdoc.jsp?containerId=prAP49019122> [Accessed: 18th July 2023].

Islami, X., Mustafa, N. and Topuzovska Latkovikj, M. (2020) 'Linking Porter's generic strategies to firm performance', *Future Business Journal*, 6, pp.1-15.

Jenkins, W. and Williamson, D. (2015) *Strategic management and business analysis*. 2nd edn. London: Routledge.

Johnson, G. et al. (2017) *Exploring Corporate: Text and Cases*. 11th edn. Harlow: Pearson Education Limited.

Johnson, G., Whittington, R. and Scholes, K. (2011) *Fundamentals of strategy*. 2nd ed. Harlow: Pearson Education Limited.

Kantar (2019) *Competition heats up for laptop & tablet manufacturers*. Available at: <https://www.kantarworldpanel.com/global/News/Competition-heats-up-for-laptop-tablet-brands> [Accessed: 18th July 2023].

Knott, P.J. (2015) 'Does VRIO help managers evaluate a firm's resources?' *Management Decision*, 53(8), pp.1806-1822.

Kotler, P., Keller, K.L., Brady, M., Goodman, M. and Hansen, T. (2019) *Marketing management*. 4th edn. Harlow: Pearson Education Limited.

Lucidi, M. and Woermann, K. (2021) 'Laptop', *The Considerate Consumer*. Available at: <https://www.considerate-consumer.com/laptop> [Accessed: 12th July 2023].

Lynch, R. (2018) *Strategic Management*. 8th edn. Harlow: Pearson Education Limited.

Macrotrend (2023) *Dell: Number of Employees 2015-2023*. Available at: <https://www.macrotrends.net/stocks/charts/DELL/dell/number-of-employees> [Accessed: 14th August 2023].

Manners, D. (2022) 'Monopoly', *Electronics Weekly*. Available at: <https://www.electronicsweekly.com/blogs/mannerisms/dilemmas/monopoly-2-2022-08/> [Accessed: 19th July 2023].

Marquis, C. and Raynard, M. (2015) 'Institutional strategies in emerging markets', *The Academy of Management Annals*, 9(1), pp.291-335.

- Mearian, L. (2023) 'PC sales fell hard in 2022', *Computer World*. Available at: <https://www.computerworld.com/article/3685433/pc-sales-fell-hard-in-2022.html#:~:text=For%20all%20of%202022%2C%20laptop,year%20growth%20was%20around%2015%25>. [Accessed: 18th July 2023].
- Moheb-Alizadeh, H. and Handfield, R. (2018) 'The Impact of raw materials price volatility on cost of goods sold (COGS) for product manufacturing', *IEEE: Transactions on Engineering Management*, 65(3), pp.460-473.
- Mukherjee, J. and Sundararajan, M. (2012) 'HCL: Facing the Challenge of the Laptop Market', *Vikalpa*, 37 (1), pp.113-126.
- Nagle, T. T. and Muller, G. (2018) *The strategy and tactics of pricing*. 6th edn. New York: Routledge.
- O'Connor, S. (2013) *Competitive Rivalry*. Available at: <https://prezi.com/nobt8vexau1h/porters-5-forces-dell/> [Accessed: 19th July 2023].
- OECD (n. d.) *Access to computers from home*. Available at: <https://data.oecd.org/ict/access-to-computers-from-home.htm> [Accessed: 19th July 2023].
- Parnell, J.A. (2014) *Strategic management*. 4th edn. London: SAGE Publications Ltd.
- PwC (2023) *United Kingdom: Corporate - Significant developments*. Available at: <https://taxsummaries.pwc.com/united-kingdom/corporate/significant-developments> [Accessed: 12th July 2023].
- PwC (2023) *United States: Corporate - Taxes on corporate income*. Available at: <https://taxsummaries.pwc.com/united-states/corporate/taxes-on-corporate-income> [Accessed: 12th July 2023].
- Rayming Technology (2021) *Top 10 Computer Manufacturing Companies in the World*. Available at: <https://www.raypcb.com/top-10-computer-manufacturing-companies/> [Accessed: 19th July 2023].
- Roberts, C. (2016) 'Personal computers', *Communication Technology Update and Fundamentals*. 15th edn. London: Routledge.
- Robson, G. (2022) 'Data-Driven Innovation Meets Sustainable PC Design: Concept Luna's Evolution', *Dell Technologies*. Available at: <https://www.dell.com/en-uk/lp/dt/concept-lunas->

[evolution?ref=cpcl_sustainable-promo-pc-design-item0_cta_secondaryv2_readblog](#)

[Accessed: 20th August 2023].

Schiele, H. (2019) *Purchasing and supply management. Operations, logistics and supply chain management*. Cham: Springer, pp.45-73.

Scott, B. (2018) 'Legal Responsibilities Policy', *City of Lincoln Council*. Available at: <https://democratic.lincoln.gov.uk/documents/s41238/Information%20Governance%20Appendix%20D.pdf> [Accessed: 12th July 2023].

Stacey, R.D. (2011) *Strategic management and organisational dynamics: The challenge of complexity to ways of thinking about organisations*. 6th edn. Essex: Pearson Education Limited.

Talbot, P. (2020) 'Inside Dell's Marketing Strategy', *Forbes*. Available at: <https://www.forbes.com/sites/paultalbot/2020/06/02/inside-dells-marketing-strategy/?sh=10b6bf422445> [Accessed: 7th August 2023].

Tax Foundation (2022) *Who Bears the Burden of the Corporate Income Tax?* Available at: <https://taxfoundation.org/taxedu-video-who-bears-burden-corporate-income-tax/> [Accessed: 12th July 2023].

The Business Research Company (2023) *Computers Global Market Report 2023*. Available at: <https://www.thebusinessresearchcompany.com/report/computers-global-market-report> [Accessed: 19th July 2023].

The Economic Times (2009) *Dell eyes more SMB business*. Available at: <https://economictimes.indiatimes.com/tech/hardware/dell-eyes-more-smb-business/articleshow/4470018.cms?from=mdr> [Accessed: 20th August 2023].

The World Financial Review (2022) *6 Ways Exchange Rates And Inflation Are Affecting The Prices Of Phones And Laptops*. Available at: <https://worldfinancialreview.com/6-ways-exchange-rates-and-inflation-are-affecting-the-prices-of-phones-and-laptops/> [Accessed: 12th July 2023].

Todorov, K. and Akbar, Y.H. (2018) *Strategic Management in Emerging Markets: Aligning Business and Corporate Strategy*. 1st edn. Bingley: Emerald Publishing Limited.

United Nations (n. d.) *For a livable climate: Net-zero commitments must be backed by credible action*. Available at: <https://www.un.org/en/climatechange/net-zero-coalition> [Accessed: 20th August 2023].

Walls, P. (2023) 'How Much Does It Cost To Start A Custom Laptop Business?', *Starter Story*. Available at: <https://www.starterstory.com/ideas/custom-laptop-business/startup-costs> [Accessed: 19th July 2023].

Watson, D. (2021) *Information and communication technology*. 2nd edn. London: Hodder Education.

Wheelen, T. L., Hunger, J. D., Hoffman, A. N. & Bamford, C. E. (2018) *Strategic Management and Business Policy: Globalization, Innovation and Sustainability*. 15th edn. Harlow: Pearson Education.

Whittington, R., Regner, P., Angwin, D., Johnson, G. and Scholes, K. (2020) *Exploring strategy*. 12th edn. Harlow: Pearson Education Limited.

World Economic Forum (2016) *By 2030, this is what computers will be able to do*. Available at: <https://www.weforum.org/agenda/2016/12/by-2030-this-is-what-computers-will-do/> [Accessed: 18th July 2023].

Yang, H. and Yamazaki, M. (2020) 'Home work triggers demand jump for chips, laptops and network goods', *Reuters*. Available at: <https://www.reuters.com/article/us-health-coronavirus-tech-demand-idUSKBN21A0Y9> [Accessed: 12th July 2023].