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Global Strategy Development and Implementation of Intel

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1. Introduction

Intel Corporation is a leading technological giant in the semiconductor chip market. As one of the prominent leaders in computer technology based in the US, Intel is responsible for revolutionizing computing and driving continuous progress. With an intensive investment in research and development breakthroughs, the company manages to achieve the mission, including quantum computing, 5G wireless connectivity, and semiconductors of the future. Intel has a significant global presence in 65 countries with offices, manufacturing facilities, and research and development centres in across North America, Europe, Asia, and other regions (Intel, 2024). According to Statista (2023), semiconductor industry account for 22.74% net profit margin which means that it is among the 10th top most profitable industry within USA itself. Intel number of employees are 124800 in 2023 (Statista, 2024). The aim of this report is to analyse Intel's competitive landscape, strategic advantages, and external factors that impact its business and development.

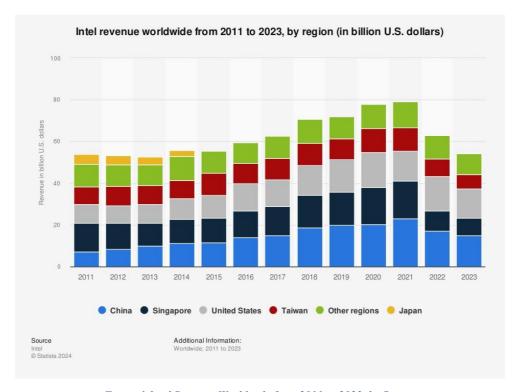


Figure 1 Intel Revenue Worldwide from 2011 to 2023, by Region

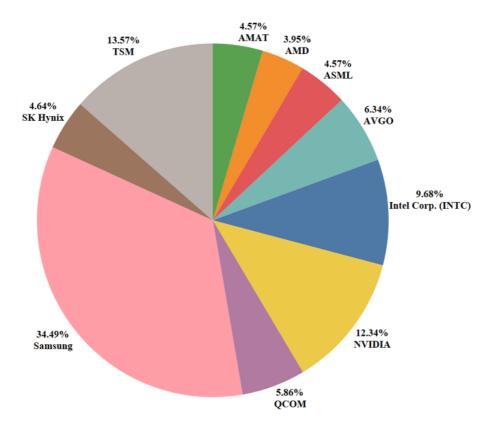


Figure 2 Market Share Semiconductor Industry in 2023 (Alsop, 2023)



Figure 3 Share Price Change since 2019 (AWOL, 2023)

2. Porter's Five Forces Model

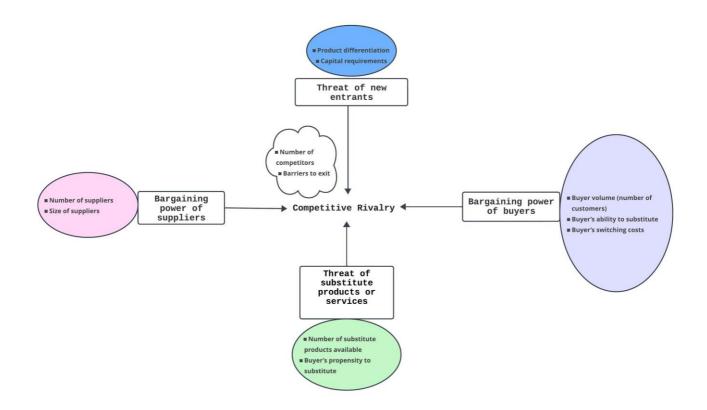


Figure 4 Five Forces Model (Porter, 2008)

Examining Intel's competitive structure in the **semiconductor** market reveals a landscape characterized by intense rivalry among major players. This market allure stems from several factors: Intel's dominant market position, its influence on industry standards, and the continuous innovation and aggressive marketing strategies it employs. Moreover, the attractiveness of this market lies in its dynamic nature, driven by technological advancements and evolving consumer demands, presenting ample opportunities for growth and profitability.

2.1. Threat of New Entrants

Capital Requirement

This industry needs high level of technological manufacturing for semiconductor production (Fontana and Greenstein, 2020). Additionally, the lithography process, a critical facet of semiconductor manufacturing, remains prohibitively expensive and accessible only to select companies such as ASML. The semiconductor sector demands substantial investments in research and development, manufacturing infrastructure, and technology, thereby erecting formidable barriers to entry (gov.uk, 2023). Hence, this treat is **low**.

Product Differentiation and Intellectual Property (IP)

Intel's extensive portfolio of patents and proprietary technologies presents formidable barriers to entry for potential competitors. Alongside industry giants such as Samsung Electronics, Intel dominates international patent applications, safeguarding crucial aspect of semiconductor architecture (OECD, 2023). New entrants would encounter substantial legal and technical obstacles in attempting to replicate Intel's innovations without infringing on its intellectual property rights. This treat is **low**.

2.2. Bargaining Power of Buyers

Buyer volume

Intel caters to a vast customer base in the tech industry, including computer manufacturers, data centers, and other semiconductor companies. The high volume of buyers can potentially give them more leverage in negotiations with Intel. High buyer volume can empower large customers. This threat may impact Intel to offer more competitive pricing or customized solutions to retain these customers (Yashodha, 2020). This treat is low **high**.

Availability of Substitutes and Buyer's switching cost

There are alternatives available from competitors like AMD, NVIDIA, and ARM. This availability of substitutes can increase buyer power as they can easily switch to other suppliers. Buyer's switching costs play a role in their bargaining power. If the cost of switching from Intel to another semiconductor provider is low, buyers may have more power to negotiate prices, leading to a reduction in profitability. (von Weizsacker, 1984). This treat is **high**.

2.3. Bargaining Power of Suppliers

Number of Supplier

Intel works with multiple suppliers such as Astronics, Sifco, Esco, and Skywater simultaneously, leveraging its purchasing power to negotiate better prices and terms. Additionally, having numerous suppliers reduces dependency on any single entity, enhancing Intel's resilience to disruptions in the supply chain. A higher number of suppliers generally reduces their individual bargaining power as Intel can switch between suppliers more easily (Yehuala, 2023). This treat is **low**.

Size of Suppliers

Suppliers catering to Intel span from small-scale manufacturers to corporate giants. The latter wield considerable bargaining power, stemming from economies of scale or monopolistic provision of crucial components. Although Intel may lean on major suppliers for key components, its industry dominance empowers it to maintain equitable relationships. Intel's substantial purchasing capacity affords negotiation leverage, even with formidable suppliers, facilitating favourable terms. Moreover, Intel fosters ties with smaller suppliers, diversifying its component pool and minimizing vulnerability to supplier size (Kurniawan et al., 2020). This treat is **low**.

2.4. Threat of Substitution

Number of substitute products available and Buyer's propensity to substitute

Semiconductor manufacturing requires specialized technology, expertise, and significant investment in research and development. While there are alternative semiconductor manufacturers withing specific industry such as AMD, Qualcomm, and Nvidia, it is almost impossible to be substitute outside of the industry due to the nature of semiconductor. Performance, reliability, compatibility, and brand reputation of product play major role in this industry Intel's products, vital in complex systems like computers and servers, discourage substitution due to compatibility and reliability concerns in architecture such as x86-64 (Chen et al., 2022; Davies, 2024). This is notably **low**.

2.5. Intensity of Competitive Rivalry

Number of Competitors

Lastly, the semiconductor industry is characterized by fierce competition among major players like AMD and Nvidia, leading to constant innovation and price competition. This high competitive rivalry poses a challenge for Intel but also drives continuous improvement and innovation within the industry. For example, in the consumer PC market, AMD has gained market share by offering competitive performance at attractive price points (AWOL, 2023). This treat is **high**.

Barriers to Exit

In addition, the semiconductor industry has high barriers to exit due to substantial investments in research and development, manufacturing facilities, and intellectual property (Kenton, 2023). This treat is **high**.

In conclusion, while the threat of new entrants and supplier bargaining power are mitigated by high capital requirements, intellectual property, and a diverse supplier base, Intel faces significant challenges. High buyer power due to available substitutes and switching ease, coupled with intense competition from established rivals, necessitates strategic manoeuvring. However, the dynamic nature of the market presents opportunities for Intel to leverage its brand recognition, technological prowess, and customer loyalty to maintain its position as a leader in the ever-evolving semiconductor landscape.

3. Porter's Diamond Model for Intel in the USA

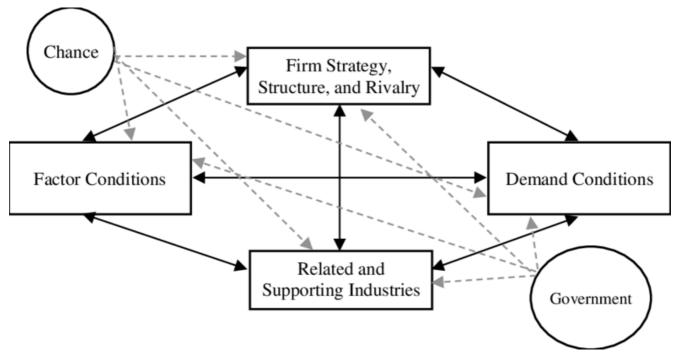


Figure 5 Porter's Diamond Model

This model is widely used to assess the competitive advantage of industries and understand the factors that contribute to their success and national competitiveness (Ferdinand and Ciptono, 2022).

3.1. Factor Conditions

Highly Skilled Workforce and Advanced Technological Infrastructure

Firstly, Intel benefits from a highly skilled workforce and advanced technological infrastructure in the USA, contributing to its competitive advantage (Butt et al., 2019). Top engineers and scientists are the backbone of their chip development process. These individuals translate cutting-edge research into tangible products. Heavy investment in R&D allows them to constantly innovate and stay ahead of the curve. This translates to more powerful and efficient processors, keeping Intel competitive in the ever-evolving technological landscape (Scott, 2008). However, the flip side is that rising costs of attracting and retaining top talent and dependence on foreign suppliers for some raw materials are challenging (Angelo, 2021).

3.2. Demand Conditions

Technological Sophistication of Customers

Intel's presence in the USA allows it to cater to a technologically advanced and large market, driving innovation and growth Intel faces a two-sided demand coin. Long-term growth is expected in AI and IoT, and strong gaming PC sales fuel processor demand. However, stagnant PC sales, fierce competition, and economic uncertainty pose challenges. Adapting to this dynamic environment is key for Intel's future. Intel must analyse the segmentation of its customer base to tailor its product offerings effectively. Segments such as data centres, personal computing, and emerging technologies like artificial intelligence and autonomous vehicles have distinct demands for semiconductor solutions (Tsai et al., 2021).

Level of Domestic Competition

Intel operates in a highly competitive environment characterized by rival semiconductor manufacturers, such as AMD, NVIDIA, and Qualcomm. Analysing the intensity of competition helps Intel identify emerging threats, anticipate competitive moves, and differentiate its offerings effectively. Intel's domestic market encompasses not only direct competitors but also suppliers, partners, and complementary firms in the technology ecosystem. Analysing the interplay between these stakeholders provides insights into collaboration opportunities, supply chain risks, and ecosystem dynamics (Waters, 2023).

3.3. Related and Supporting Industries

Complementary Industries (CI)

Intel's partnerships with various technology firms and suppliers in the USA create a robust ecosystem that supports its operations and innovation (Thompson, 2023). Intel relies on a complex ecosystem. EDA and EMS companies like Foxconn assemble them into devices. Software giants like Microsoft (CI) rely on Intel's processors, and material suppliers provide the building blocks for chip fabrication. This network of industries fuels Intel's innovation and production. However, dependence on foreign foundries (TSMC) for chip fabrication may cause trouble and face conflict with China for strategic and sustain development (BBC, 2022).

Research and Development Institutions

Collaboration with research institutions, universities, and laboratories is crucial for Intel to stay at the forefront of technological innovation. These institutions contribute to the development of new

technologies, processes, and materials that can enhance Intel's product offerings and competitiveness. USA has most famous universities that can be beneficial for Intel (Jack, 2024).

3.4. Firm Strategy, Structure, and Rivalry Focus

Company strategy

Lastly, Intel's strategic focus on research and development, coupled with intense competition in the tech sector, drives continuous improvement and innovation (Rodríguez-Gutiérrez and Vargas-Hernández, 2019). They recently employed the strategy under the topic of IDM 2.0 to maintain their competitive advantage by heavily investing in foundry and cost reduction. However, they were unsuccessful, and for three consecutive years, they have struggled (Intel, 2021). Intel said its foundry business recorded an operating loss of \$7 billion in 2023. That because their strategic group and fierce competition may this more difficult to compete.

Market Dominance and Competitive Intensity

Intel's dominance in the semiconductor market within the United States underscores its competitive landscape, marked by intense rivalry with key industry players. Holding a substantial market share as a leading microprocessor provider, Intel wields significant influence over industry standards. Its primary rivals include AMD and NVIDIA, alongside emerging contenders in the mobile and IoT sectors. This rivalry fuels a cycle of innovation, aggressive marketing, and price competition. Moreover, Intel's formidable market presence and brand recognition attract regulatory attention, shaping its strategic decisions and competitive milieu (Waters, 2023).

3.5. Government

Government Investment in R&D

The US environment and government offers several advantages for Intel. In March 2024, a preliminary agreement provided Intel with up to \$8.5 billion in direct funding from the CHIPS Act. This aims to strengthen domestic semiconductor manufacturing and research. The CHIPS Act also offers potential benefits like loans and tax credits, further supporting Intel's domestic production efforts. The main point is that it is strongly support by US government (USDC, 2024).

Government Trade and Export Policies

The United States government's trade policies, including tariffs, export controls, and trade agreements, shape the global trade environment and impact Intel's access to foreign markets.

Policies that promote free trade and reduce trade barriers can benefit Intel by facilitating access to international markets, enabling the company to expand its customer base and increase export opportunities. trade barriers, protect intellectual property rights, and create a level playing field for American semiconductor companies like Intel, enhancing their competitiveness in the global marketplace (ITA, 2023).

3.6. Chance

Technological Breakthroughs and Disruptions

Sometimes fundamental scientific breakthroughs occur and might cause problem for the future of Intel such as in Quantum computing which is events are beyond the control of the government or individual companies.

Government Policies and Regulations

Changes in government regulations related to trade, tariffs, and export controls can affect Intel's global supply chain, market access, and competitiveness in international markets. For example, shifts in trade policies between the USA and major trading partners like China can impact Intel's sales and operations in key markets (McMorrow and Liu, 2024).

In conclusion, Intel's competitive edge stems from a skilled workforce and advanced infrastructure in the USA, driving innovation. However, rising talent costs and reliance on foreign suppliers pose challenges. Market demands, like AI and gaming, offer growth opportunities, but competition and economic uncertainty persist. Partnerships with tech firms and US government support enhance Intel's ecosystem. Yet, technological breakthroughs and regulatory changes, like trade policies, remain unpredictable.

4. The Application of the Bartlett and Ghoshal Framework

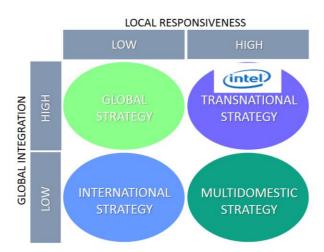


Figure 6 Bartlett and Ghoshal Framework and Intel's Quadrant Position

This analytical framework allows for a structured examination of how Intel navigates the tension between standardization and adaptation in its global strategy. Intel's strategic positioning aligns with the **Transnational** strategy, emphasizing both global integration and local responsiveness. The company seeks to balance the imperatives of achieving economies of scale through standardized operations while also catering to the unique needs and preferences of local markets (Hill, 2021).

4.1. Global Integration

Global integration, as evidenced by Intel's emphasis on standardized product offerings worldwide, underscores the company's pursuit of economies of scale and operational efficiency. By standardizing product aspects, Intel streamlines manufacturing processes, reduces costs, and ensures consistency in production, distribution, and support services. However, maintaining a balance between standardization and local adaptation is imperative. Intel may adopt modular approaches, standardizing core components while customizing peripheral features to suit local market demands. While global consistency in branding enhances Intel's reputation and credibility worldwide, localized messaging is essential to resonate with diverse audiences and address their unique concerns (Dulfano, 2007).

4.2. Local Responsiveness

The establishment of manufacturing facilities in various countries, such as Germany and Israel, underscores Intel's commitment to local adaptation and market penetration. For example, in Germany, where environmental regulations are stringent, Intel must consider environmental factors in its manufacturing processes to align with local standards (DW, 2024). Similarly, geopolitical risks, such as conflicts in Israel, pose challenges to long-term operations, necessitating strategic adaptation and risk management measures (Cherney et al., 2023).

In countries like India and Brazil, where affordability is a key concern, Intel offers budget-friendly processor options and engages in educational campaigns to promote energy-efficient computing solutions. By understanding and addressing specific market needs, Intel enhances its competitiveness and fosters consumer loyalty. However, to compete with local giants such as Huawei and SMIC in China, Intel could forge partnerships, invest in local R&D centres, and adopt flexible manufacturing methods (McMorrow and Liu, 2024).

5. Analysis of PESL

The external environment presents both opportunities and threats for Intel. While technological advancements offer avenues for growth, political tensions and economic uncertainties pose challenges to global operations and market expansion. In the USA, Intel faces challenges such as increasing competition from rivals like TSMC and Huawei, as well as rising concerns over data privacy and cybersecurity. Additionally, the semiconductor industry's reliance on global supply chains exposes Intel to supply chain disruptions and geopolitical risks, affecting its competitive position in the market. Addressing these challenges requires strategic adaptation and innovation to maintain Intel's competitive edge amidst evolving market dynamics.

5.1. Political

The political ideology regarding FDI in the USA is multifaceted. Historically, there's been bipartisan support for FDI, aligning with a neoliberal economic approach emphasizing free market principles and globalization. However, in recent years, political divisions have surfaced, particularly regarding China-related investments. While Republicans generally favor deregulation and open markets, Democrats may express concerns about FDI's impact on domestic jobs and national security, advocating for stricter regulatory oversight. Overall, the political ideology surrounding FDI in the USA reflects a delicate balance between economic liberalization and protectionist measures, shaped by geopolitical tensions, economic interests, and national security considerations (Crescenzi et al., 2021; Berg etl, 2023)

5.2. Economical

Intel's economic performance is intricately tied to several key indicators outlined in the PESL framework: GNI, GDP, inflation, and PPP. GNI and GDP (25.98Trillion) reflect the overall economic health of the USA, crucial for Intel's operations. In 2022, a robust GNI of 25.98Trillion signifies high income levels and increased consumer purchasing power to 64623.13 USD, driving demand for Intel's products. Conversely, inflation rates 8% impact production costs and pricing strategies, requiring Intel to manage them adeptly to sustain profitability. Additionally, PPP considerations are vital for global market positioning and pricing strategies, ensuring competitiveness across regions with varying purchasing power. However, factors like the USA's higher healthcare costs compared to European countries could escalate operational expenses for Intel, necessitating strategic adjustments. Therefore, a comprehensive analysis of these economic factors is imperative for Intel to navigate market dynamics

effectively and sustain its competitive edge (Aldatmaz et al., 2022; Sasidharan et al., 2022; Messori and Trippoli, 2022; tradingeconomics, 2022; World Bank, 2022).

5.3. Social

As consumers increasingly prefer mobile devices such as smartphones and tablets over traditional desktops and laptops, Intel's sales of processors for mobile devices may be affected. According to Statista, in 2023, global smartphone shipments reached over 1.5 billion units. Intel needs to adapt its product portfolio to meet the demand for mobile processors to remain competitive (Laricchia, 2024). Namely, Sociocultural changes, such as shifts in lifestyles and values, can affect consumer behaviour and expectations. Intel must adapt its marketing strategies and product offerings to align with evolving cultural trends in the USA (Cattell and Adelson, 1951).

5.4. Legal

The legal framework within the USA has exerted significant influence on the evolution of management practices within companies such as Huawei as a giant tech company. This symbiotic relationship between US legal regulations and Huawei's operations presents a dual-edged scenario. On one hand, it facilitates opportunities for Intel to further expand its presence within the USA. Conversely, China may perceive such actions as provocations, prompting retaliatory measures such as restricting Intel's access to its domestic market. Thus, these dynamics yield two-fold consequences, potentially constraining Intel's operations through reciprocal actions initiated by China (Reuters, 2024).

6. UN SDGs and CSR Practices Intel

Intel, a global leader in semiconductor manufacturing, exemplifies commitment to CSR through various initiatives. On its website, Intel outlines robust CSR practices encompassing environmental sustainability, diversity and inclusion, community engagement, and ethical business conduct. Through investments in education, technology access, and environmental stewardship, Intel aligns its operations with several UN SDGs. Intel's CSR investment is substantial, with initiatives such as the Intel Foundation supporting education and STEM programs worldwide. Additionally, the company champions diversity and inclusion through programs promoting underrepresented groups in technology. Intel's focus on SDGs varies, with particular emphasis on Goal 4 (Quality Education), Goal 9 (Industry, Innovation, and Infrastructure), and Goal 13 (Sarason and Hanley, 2013; Intel, 2013).

Through transparent reporting and active engagement with stakeholders, Intel demonstrates a comprehensive CSR approach that contributes to sustainable development and addresses global challenges outlined by the UN SDGs (Intel, 2024; Intel, 2018)

7. Recommendation

The advantages of Intel lie in its relentless pursuit of cutting-edge semiconductor technology, developing a competitive edge in the market. Its strategy hinges on investing heavily in research and development, fostering a culture of innovation. However, it would be better to invest more in mobile's semiconductor and gaming console, which AMD has surpassed, through a disciplined strategy. In terms of internationalization, Intel employs a localized approach, tailoring products and strategies to diverse markets while maintaining a unified global vision. However, investing in sensitive countries may damage profitability and it would be suggested to invest in some countries like Poland which less likely to be faced regulations in comparison with Germany. Investing on Germany may cause problem in long term because of overwhelming regulations and high cost of labour. This analysis highlights Intel's strengths but warrants further exploration into its **supply chain practices**, potential environmental impacts, and future strategic directions for comprehensive understanding and future research avenues.

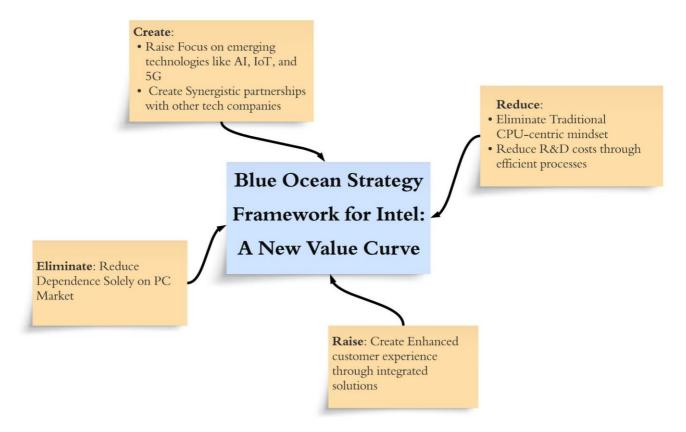


Figure 7 Blue Ocean Strategy Table for Intel Along with Some Analysis (Kim and Mauborgne, 2005)

8. List of References

Aldatmaz, S., Brown, G.W. and Demirguc-Kunt, A. (2022). Determinants of International Buyout Investments. *Journal of Financial and Quantitative Analysis*, pp.1–65. doi:https://doi.org/10.1017/s0022109022000278.

Alsop, T. (2023). *Top semiconductor foundries market share worldwide 2017-2019* | *Statista*. [online] Statista. Available at: https://www.statista.com/statistics/867223/worldwide-semiconductor-foundries-by-market-share/.

Angelo, J. (2021). Relationship between Real Effective Exchange Rate and Labor Productivity: Empirical Evidence. *Management Science and Business Decisions*, 1(1), pp.21–28. doi:https://doi.org/10.52812/msbd.18.

AWOL, A. (2023). *Intel's meaningless margin chart*. [online] www.ft.com. Available at: https://www.ft.com/content/a7fc2199-c8b7-46a0-b873-f87d11f91b39.

BBC (2022). Taiwan: Are the US and China heading to war over the island? *BBC News*. [online] 14 Jun. Available at: https://www.bbc.co.uk/news/world-asia-61782370.

Berg, O., Mildorf, K. and Sensenig, T. (2023). Foreign direct investment reviews increasingly impact cross-border deals | White & Case LLP. [online] www.whitecase.com. Available at: https://www.whitecase.com/insight-our-thinking/taiwan-adapting-macroeconomic-foreign-direct-investment [Accessed 18 Apr. 2024].

Butt, M.A., Katuse, P. and Namada, J.M. (2019). Porter's Diamond Factor Conditions Determinant: Effect on Automotive Industry of Pakistan. *European Journal of Business and Management Research*, 4(4). doi:https://doi.org/10.24018/ejbmr.2019.4.4.78.

Cattell, R.B. and Adelson, M. (1951). The Dimensions of Social Change in the U.S.A. as Determined by P-Technique. *Social Forces*, 30(2), pp.190–201. doi:https://doi.org/10.2307/2571632.

Chen, Y. and Qin, H. (2021). The Relationship Research Between Brand Association, Brand Awareness, Brand Satisfaction, and Brand Loyalty in Three Squirrels' Virtual Image. *Advances in economics, business and management research*. doi:https://doi.org/10.2991/assehr.k.211209.524.

Cherney, M.A., Rosenberg, M., Scheer, S. and Rosenberg, M. (2023). Israel's tech sector could face disruptions after attacks, investors say. *Reuters*. [online] 9 Oct. Available at: https://www.reuters.com/world/middle-east/israels-tech-sector-could-face-disruptions-after-attacks-investors-2023-10-09/.

Crescenzi, R., Ganau, R. and Storper, M. (2021). Does foreign investment hurt job creation at home? The geography of outward FDI and employment in the USA. *Journal of Economic Geography*. doi:https://doi.org/10.1093/jeg/lbab016.

Davies, C. (2024). Why chipmakers are investing billions into 'advanced packaging'. [online] www.ft.com. Available at: https://www.ft.com/content/19710eda-b4c3-488b-a42a-1c6b25c18a12 [Accessed 21 Apr. 2024].

Dulfano, I. (2007). Intel and Costa Rica: A Model for Global Expansion, Economic Development and Sustainability. *Global Business Languages*, [online] 8(1). Available at: https://docs.lib.purdue.edu/gbl/vol8/iss1/3/ [Accessed 28 Apr. 2024].

DW (2024). *Germany: Protest against Tesla plans to expand 'Gigafactory' – DW – 03/10/2024*. [online] dw.com. Available at: https://www.dw.com/en/germany-protest-against-tesla-plans-to-expand-gigafactory/a-68487715 [Accessed 6 Apr. 2024].

Euromonitor (2023). *Euromonitor Login*. [online] login.euromonitor.com. Available at: https://www.portal.euromonitor.com/dashboard/dashboarddetails?id=33dc83ea-3bc7-4e09-aa97-b15e99ea5c8d.

Ferdinand, M. and Ciptono, W.S. (2022). Indonesia's Cosmetics Industry Attractiveness, Competitiveness and Critical Success Factor Analysis. *Jurnal Manajemen Teori dan Terapan* | *Journal of Theory and Applied Management*, 15(2), pp.209–223. doi:https://doi.org/10.20473/jmtt.v15i2.37451.

Fontana, R. and Greenstein, S. (2020). Platform leadership and supply chains: Intel, Centrino, and the restructuring of Wi-Fi supply. *Journal of Economics & Management Strategy*, 30(2), pp.259–286. doi:https://doi.org/10.1111/jems.12409.

gov.uk (2023). *National semiconductor strategy*. [online] GOV.UK. Available at: https://www.gov.uk/government/publications/national-semiconductor-strategy/national-semiconductor-strategy.

Hill, C.W.L. (2021). *International Business: Competing In the Global Marketplace*. 13th ed. New York, NY: Mcgraw-Hill Education, p.386.

Intel (2013). Intel ® STEM Education. [online] Available at:

https://www.intel.com/content/dam/www/public/us/en/documents/brochures/STEM-Brochure-HI.pdf.

Intel (2018). Corporate Social Responsibility. [online] Intel. Available at:

https://www.intel.com/content/www/us/en/corporate-responsibility/corporate-responsibility.html.

Intel (2021). *Intel CEO Announces 'IDM 2.0' Strategy for Manufacturing, Innovation,...* [online] Intel. Available at: https://www.intel.com/content/www/us/en/newsroom/news/idm-manufacturing-innovation-product-leadership.html.

Intel (2022). *Partner Home*. [online] Intel. Available at: https://www.intel.com/content/www/us/en/partner-alliance/overview.html.

Intel (2024a). *Intel company overview*. [online] Intel. Available at:

https://www.intel.com/content/www/us/en/company-overview/company-overview.html.

Intel (2024b). *Intel Labs - Computer Science Research and Collaboration*. [online] Intel. Available at: https://www.intel.com/content/www/us/en/research/overview.html.

Intel (2024c). *Strategic Priorities*. [online] Intel Corporation. Available at: https://www.intc.com/strategic-priorities#:~:text=At%20Intel%2C%20our%20strategy%20is.

ITA (2023). *U.S. Export Controls* | *International Trade Administration*. [online] www.trade.gov. Available at: https://www.trade.gov/us-export-controls.

Jack, A. (2024). Turning ideas into technology: the value of university-business links. *Financial Times*. [online] 14 Mar. Available at: https://www.ft.com/content/0bf8a055-65b8-4faa-8da5-37f39dd26bc2 [Accessed 21 Apr. 2024].

KENTON, W. (2023). *Why Some Companies Face Barriers to Exit*. [online] Investopedia. Available at: https://www.investopedia.com/terms/b/barriers-to-exit.asp.

Kim, W.C. and Mauborgne, R. (2005). Blue Ocean Strategy: From Theory to Practice. *California Management Review*, [online] 47(3), pp.105–121. doi:https://doi.org/10.1177/000812560504700301.

Kurniawan, S., Dewi, S.C. and Marisah, S. (2020). Suppliers Selection Using FAHP and FTOPSIS in a Chemical Manufacturing Company. *Binus Business Review*, 11(2), pp.115–127. doi:https://doi.org/10.21512/bbr.v11i2.6255.

Laricchia, F. (2024). *Global smartphone shipments 2027*. [online] Statista. Available at: https://www.statista.com/statistics/1418443/smartphone-shipments-worldwide/#:~:text=The%20volume%20of%20global%20smartphone [Accessed 18 Apr. 2024].

McMorrow, R. and Liu, N. (2024). *China blocks use of Intel and AMD chips in government computers*. [online] www.ft.com. Available at: https://www.ft.com/content/7bf0f79b-dea7-49fa-8253-f678d5acd64a.

Messori, A. and Trippoli, S. (2022). Estimation of Value-Based Price for Five High-Technology Medical Devices Approved by a Regional Health Technology Assessment Committee in Italy. *Cureus*. doi:https://doi.org/10.7759/cureus.24695.

OECD (2023). Vulnerabilities in the semiconductor supply chain. *OECD science, technology and industry working papers*. doi:https://doi.org/10.1787/6bed616f-en.

Porter, M.E. (2008). *The Five Competitive Forces That Shape Strategy*. [online] Hbs.edu. Available at: https://www.hbs.edu/faculty/Pages/item.aspx?num=34522.

Reuters (2024). *US weighs sanctioning Huawei's Chinese chip network, Bloomberg News reports*. [online] reuters. Available at: https://www.reuters.com/technology/us-weighs-sanctioning-huaweis-chinese-chipnetwork-bloomberg-news-reports-2024-03-

 $20 \#: \sim : text = US\%20 weighs\%20 sanctioning\%20 Huawei's\%20 Chinese\%20 chip\%20 network\%2 C\%20 Bloomberg\%20 News\%20 reports, -$

By%20Reuters&text=March%2020%20(Reuters)%20%2D%20The,people%20familiar%20with%20the%20ma tter. [Accessed 2024].

Rodríguez Gutiérrez, L.M. and Vargas-Hernández, J.G. (2019). Ventaja competitiva de Intel en el segmento de los microprocesadores. *Revista En-contexto*, 8(12), pp.135–151. doi:https://doi.org/10.53995/23463279.665.

Sarason, Y. and Hanley, G. (2013). Embedded Corporate Social Responsibility: Can't We Do Better Than GE, Intel, and IBM? How About a Benefit Corporation? *Industrial and Organizational Psychology*, 6(4), pp.354–358. doi:https://doi.org/10.1111/jops.12066.

Sasidharan, S., Ranjith, V.K. and Prabhuram, S. (2022). What determines the financial performance micro or macro antecedents: A case of Indian general insurance. *Journal of Corporate Accounting & Finance*. doi:https://doi.org/10.1002/jcaf.22592.

Scott, A.J. (2008). Human capital resources and requirements across the metropolitan hierarchy of the USA. *Journal of Economic Geography*, 9(2), pp.207–226. doi:https://doi.org/10.1093/jeg/lbn051.

Statista (2023). *Most profitable industries in the U.S. 2020*. [online] Statista. Available at: https://www.statista.com/statistics/317657/most-profitable-industries-us/.

Statista (2024a). *Intel revenue by region 2011-2023*. [online] Statista. Available at: https://www.statista.com/statistics/263560/net-revenue-of-intel-by-region-since-2006/#:~:text=In%202023%2C%20Intel%20generated%2014.85 [Accessed 5 Apr. 2024].

Statista (2024b). *Number of Intel employees 2018*. [online] Statista. Available at: https://www.statista.com/statistics/263567/employees-at-intel-since-2004/.

Thompson, A. (2023). *Intel is Poised to Unleash America's Innovation Boom, Fueled by the...* [online] Intel. Available at: https://www.intel.com/content/www/us/en/newsroom/opinion/intel-poised-to-unleash-america-innovation-boom.html.

tradingeconomics.com (2022). *United States GDP per capita PPP* | 1990-2019 Data | 2020-2022 Forecast | *Historical*. [online] tradingeconomics.com. Available at: https://tradingeconomics.com/united-states/gdp-per-capita-ppp#:~:text=GDP%20per%20capita%20PPP%20in.

Tsai, P.-H., Chen, C.-J. and Yang, H.-C. (2021). Using Porter's Diamond Model to Assess the Competitiveness of Taiwan's Solar Photovoltaic Industry. *SAGE Open*, [online] 11(1), p.215824402098828. doi:https://doi.org/10.1177/2158244020988286.

USDC (2024). Biden-Harris Administration Announces Preliminary Terms with Intel to Support Investment in U.S. Semiconductor Technology Leadership and Create Tens of Thousands of Jobs. [online] U.S. Department of Commerce. Available at: https://www.commerce.gov/news/press-releases/2024/03/biden-harris-administration-announces-preliminary-terms-intel-

support#:~:text=Today%2C%20the%20Biden%2DHarris%20Administration [Accessed 7 Apr. 2024].

von Weizsacker, C.C. (1984). The Costs of Substitution. *Econometrica*, 52(5), p.1085. doi:https://doi.org/10.2307/1910989.

Waters, R. (2023). Can Intel become the chip champion the US needs? *Financial Times*. [online] 14 Apr. Available at: https://www.ft.com/content/8fd0bb2b-429d-4699-a6d4-aac20e01641f.

World Bank (2022). *GDP*, *PPP* (current international \$) - United States | Data. [online] data.worldbank.org. Available at: https://data.worldbank.org/indicator/NY.GDP.MKTP.PP.CD?locations=US.

Yashodha (2020). Do buyers have bargaining power? Evidence from informal groundwater contracts. *PLOS ONE*, [online] 15(9), p.e0236696. doi:https://doi.org/10.1371/journal.pone.0236696.

Yehuala, A.A. (2023). The effects of supplier relationship management practices on organizational performance and competitive advantage of large manufacturing companies in Bahir Dar, Ethiopia. *Journal of Future Sustainability*, 3(4), pp.233–242. doi:https://doi.org/10.5267/j.jfs.2023.3.001.

9. Appendix

Porter's Five Forces	Analysis	Rating	Benefit to
			Intel
Threat of New	Low due to high barriers to entry such as		Yes
Entrants	economies of scale, high capital requirements,		
	and technological expertise required for		
	semiconductor manufacturing.		
Bargaining Power of	High due to availability of substitutes, significant	High	No
Buyers	buyer volume, buyer concentration, and low		
	switching costs.		
Bargaining Power of	Low due to established relationships, ability to	Low	Yes
Suppliers	backward integrate, and the uniqueness of		
	supplier products.		
Threat of Substitution	Due to Intel's focus on high-performance	Low	Yes
	processors and strong market presence, (risk of		
	customers switching to alternative products or		
	services in different industry)		
Intensity of	High due to fierce competition among major	High	No
Competitive Rivalry	players, leading to continuous innovation and		
	price competition, with high barriers to exit.		
	Challenged by aggressive competitors such as		
	AMD in same industry.		

Table 1 Analyzing the Competitive Landscape of Intel's Key Markets: A Snapshot of Porter's Five Forces Model

Factor	Analysis for Intel (in the USA)	
Factor	The resources available to a company, including: Strong universities and research	
Conditions	institutions fostering innovation in chip design and manufacturing. * Access to venture	
	capital funding for startups in the semiconductor industry. * Highly skilled workforce	
	with expertise in engineering, computer science, and physics	
Demand	The nature of customer demand in the home market. This includes: Large and	
Conditions	sophisticated domestic market for computers and other electronic devices that utilize	
	Intel processors. * High demand for continuous performance improvement and power	
	efficiency in computing. * Evolving user needs for cloud computing, artificial	
	intelligence, and big data, driving demand for specialized processors.	
Related and	The presence of strong supporting industries that provide specialized inputs and	
Supporting	services. This can include: * Strong ecosystem of chip manufacturers, software	
Industries	developers, and hardware vendors collaborating for innovation. * Presence of leading	
	foundries (companies that manufacture chips) like TSMC, fostering competition and	
	access to advanced manufacturing processes. * Availability of supporting industries	
	like fabless chip designers (design chips but don't manufacture) contributing to the	
	overall ecosystem.	
Firm Strategy,	The way companies within a country are created, organized, and managed. This	
Structure, and	includes: * Intel has a long history of innovation and investment in research and	
Rivalry	development (R&D). * Strong brand reputation and established relationships with	
-	major computer manufacturers. * Intense competition from AMD and emerging players	
	like ARM in mobile processors. * Need to adapt to changing market dynamics and	
	diversify beyond traditional PC processors.	
Government	* Acts as a catalyst for innovation through funding research grants and programs. *	
	Enforces intellectual property rights protecting Intel's innovations. * Regulates the	
	semiconductor industry to ensure fair competition and environmental standards.	
Chance	Major technological breakthroughs can disrupt the market and create new opportunities	
	(e.g., emergence of new chip architectures). * Geopolitical events and trade wars can	
	affect access to raw materials and manufacturing facilities. * Some disasters can disrupt	
	supply chains and production, such as covid or war	

Table 2 Analyzing: Porters Diamond Model for Intel in the USA

Factor	Intel (USA)	China Semiconductor Industry
Political	- Stable government support for research and development - Trade tensions with China can disrupt supply chain	- Government subsidies and industrial policies favoring domestic chipmakers - Geopolitical tensions can limit access to foreign technology
Economic	- Mature market with established infrastructure - High labor costs - Vulnerable to economic downturns	- Rapidly growing market - Lower labor costs - Reliant on foreign technology and expertise
Social	- Aging workforce with potential skill gaps - Growing demand for skilled workers	- Large pool of potential engineers and scientists - Cultural emphasis on education and STEM fields
Legal	- Strong intellectual property (IP) protections - Complex regulatory environment	- Developing IP laws and enforcement mechanisms - Government regulations can restrict foreign investment

Table 3 A Comparative Analysis of PESL Factors Between China and the USA

Factors	Impact on Intel
Political	Changes in government regulations can affect Intel's operations and market access. Political stability is crucial for consistent business operations.
Economic	Economic fluctuations in the US economy can impact Intel's revenue and profitability. Changes in consumer spending patterns may affect demand for Intel's products.
Social	Shifts in consumer preferences towards technology and connectivity influence Intel's product development strategies. Demographic changes also impact market demand.
Technological	Rapid technological advancements require Intel to continuously innovate to maintain its competitive edge in the semiconductor industry.
Legal	Compliance with labor laws and other regulations is essential for Intel's operations in the USA. Intellectual property protection and antitrust regulations also pose challenges.
Environmental	Increasing pressure for sustainability requires Intel to adopt environmentally friendly practices and comply with environmental regulations, impacting its manufacturing processes and supply chain management.

Table 4 Analyzing the Challenges Based on PESTLE Factors on Intel's Competitive Position in the USA

Social Issue	Impact on Intel
Shifts in consumer preferences	Increased demand for mobile devices and processors optimized for mobility, such as
towards mobility	laptops, tablets, and smartphones.
Shifts in consumer preferences	Greater emphasis on products supporting faster and more reliable internet connectivity,
towards connectivity	driving demand for Intel's networking solutions and 5G technology.

Table 5 Social Issue Analysis for Intel



Table 6 Consumer of Electronic Device Worldwide (Euromonitor, 2023)

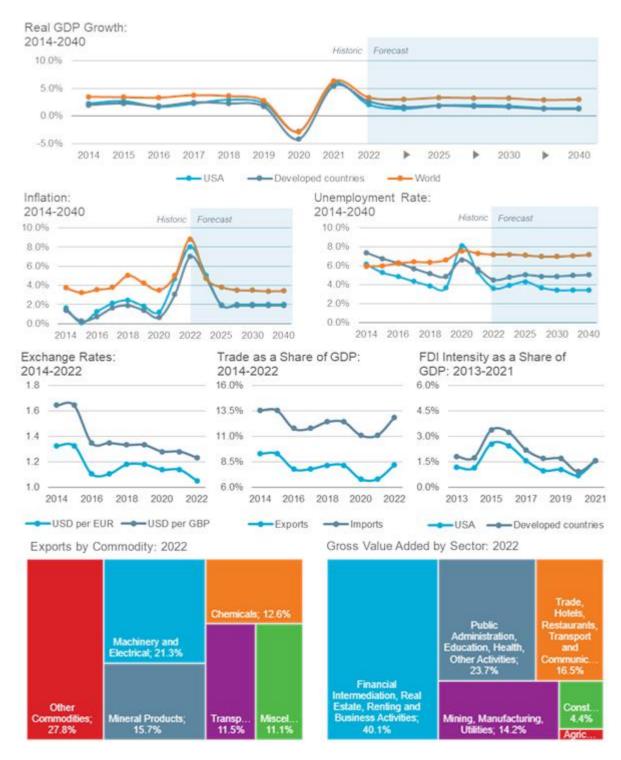


Figure 8 Economic Environment Dynamics in the US (Euromonitor, 2023)

Strategy	Description	Analysis
Global	Establishing manufacturing facilities in	This strategy ensures proximity to
Manufacturing	key locations worldwide to cater to	major markets, reduces shipping costs,
	diverse markets and reduce logistical	and enhances supply chain resilience.
	challenges.	
Strategic	Forming alliances with local technology	Partnerships facilitate access to local
Partnerships	firms, governments, and educational	talent, resources, and regulatory
	institutions to leverage expertise and	insights, aiding in adapting products to
	market knowledge.	regional preferences.
Research &	Investing in R&D centers across the	Distributed R&D efforts lead to
Development	globe to tap into diverse talent pools	localized innovation, addressing
	and foster innovation tailored to	specific market needs and driving
	regional demands.	competitiveness in different regions.
Market	Tailoring product offerings and	Segmenting markets enables Intel to
Segmentation	marketing strategies based on regional	effectively address diverse customer
	preferences, economic conditions, and	needs and gain a competitive edge in
	technological maturity.	different regions.
Mergers &	Acquiring or merging with local	M&A activities allow Intel to quickly
Acquisitions	companies to gain market access,	enter new markets, acquire key
	expand product portfolios, and	technologies, and consolidate its
	strengthen competitive position (Intel,	presence in strategic regions.
	2022-2024)	

Table 7 International Expansion Strategies of Intel: A Comprehensive Analysis