

WHAT SAMSUNG TEACHES US ABOUT ANTIFRAGILITY IN THE AI ERA

Author:

Malokhat Sultanova
University of Debrecen

Reviewers:

Ferenc Mező (Ph.D.)
Eszterházy Károly Catholic University

Erzsébet Lestyán (Ph.D.)
Gál Ferenc University

E-mail:

malokhat16072001@gmail.com

...and two more anonymous reviewers

Absztrakt

MIT TANÍT A SAMSUNG AZ MI-KORSZAKBAN AZ ANTIFRAGILITÁSRÓL

A tanulmány átfogó elemzést nyújt a Samsung Electronics Co. Ltd., az egyik vezető technológiai vállalat, pénzügyi teljesítményéről és marketingstratégiáiról, hogy bemutassa, mennyire jellemző az antifragilitás jelleg a Samsungra mint üzleti szervezetre a gyorsan változó mesterséges intelligencia korában.

A vállalat aktuális pénzügyi teljesítményének értékelése érdekében vertikális és horizontális elemzések végzése történt, amelyek bemutatják a likviditási, fizetőképességi és jövedelmezőségi mutatókat a 2022-2023-as időszakban. Továbbá a SWOT-elemzés feltárja a vállalat belső és külső helyzetét az MI által vezérelt időszakban. Az Ans-off mátrix elemzése a növekedési stratégiák és kockázatkezelés értékelésére irányul, míg a BCG mátrix a termékvonalak közötti erőforrás-elosztást becsüli meg.

Annak ellenére, hogy a Samsung erős tőkehozamot mutat, csökkenő jövedelmezőséggel és likviditással, valamint növekvő gyártási költségekkel szembesül. A vállalat marketingstratégiai hatékonyan alkalmazza a piaci szegmentációt, célzást és pozicionálást, különböző termékskálára és az innovációra, valamint hozzáférhetőségre fókuszáló márkára támaszkodva. A fő kihívások a termékinnováció és a piaci vezető szerep fenntartása, míg a gyengeségek közé tartozik a mobiltelefon-eladások csökkenése és a fokozódó verseny.

Bár a Samsung kihívásokkal néz szembe, a vállalat az alkalmazkodóképességét és „antifragil” jellegét folyamatos innovációval és alkalmazkodási stratégiákkal bizonyítja, hogy vezető szerepet töltsön be a változó piacokon. A dolgozat ajánlásokat fogalmaz meg az üzleti stabilitás erősítésére és a versenyelőny megőrzésére az átalakuló technológiai iparágban.

Kulcsszavak: Samsung, antifragility, mesterséges intelligencia, pénzügyi elemzés, marketingstratégia, SWOT-elemzés, Ans-off mátrix, BCG mátrix.

Diszciplínák: gazdaságtudomány

Abstract

The paper integrates an in-depth analysis of one of the leading technology companies Samsung Electronics Co. Ltd. through the financial performance and marketing strategies to illustrate how antifragile Samsung as a business organization is in the fast-changing AI era. In order to evaluate the current financial performance of the company, the vertical and horizontal analyses are conducted, which illustrate liquidity, solvency and profitability ratios over the period 2022-2023. Moreover, SWOT analysis demonstrates internal and external views of the company in the AI-driven period. The analysis of Ans-off matrix is conducted to evaluate the growth strategies and risk management, while the BCG matrix estimates the resource allocation within product lines.

Despite the high equity performance, Samsung faces declines in profitability, liquidity and increases in manufacturing costs. The company's marketing strategies effectively applies market segmentation, targeting and positioning, relying on a diverse range of products and a brand focused on innovation and accessibility. The main challenges are product innovation and market leadership, while the weaknesses are declines in mobile phone sales and increased competition. Notwithstanding Samsung faces challenges, the company illustrates adaptability and antifragility through consistent innovations and adjustments strategies to be a leader in the changing markets. The paper suggests recommendations to strengthen its business stability and maintaining its competitive edge in the evolving tech industry.

Keywords: Samsung, antifragility, AI, financial analysis, marketing strategy, SWOT analysis, Ans-off matrix, BCG matrix

Discipline: Economics

Sultanova, Malokhat (2024): What Samsung teaches us about antifragility in the AI era. *Mesterséges Intelligencia – interdiszciplináris folyóirat*, VI. évf. 2024/2. szám. 9-32. Doi: <https://www.doi.org/10.35406/MI.2024.2.9>

Samsung, founded by Lee Byung-chul in Daegu, South Korea, in 1938, started as a small trading company with a turnover of only 30,000 won employing 40 workers. Samsung initially operated as a grocery store, and then diversified into various industries, including textiles, insurance, and securities.

Samsung entered the electronics industry in the 1960s, founding divisions such as Samsung Electronics Devices and Samsung Semiconductor & Telecommunications. By 1978, Samsung had produced 5 million televisions and had become one of the largest shipbuilders in the world.

In the 1980s, Samsung began manufacturing telecommunications equipment and entered the global market, reaching the markets of Germany, Portugal and the United Kingdom. In 1987, Lee Byung-chul died, and Samsung was headed by his son Lee Kun-hee.

In the 1990s, Samsung focused on semiconductor manufacturing and became a global leader in chip manufacturing. In the early 2000s, Samsung also entered the mobile phone market, releasing popular devices such as the Galaxy S series.

In the late 2000s and early 2010s, Samsung acquired several companies to expand its technology offerings, including medical technology, Smart TVs and Artificial Intelligence. Samsung also introduced innovative products such as Gear VR and became the market leader in patent issuance.

In 2017, Samsung received government approval to test self-driving cars and announced plans to expand renewable energy initiatives aimed at attracting 40,000

employees over the next three years (Burris, 2020).

Samsung Electronics Co. Ltd (referred as “SEC”) headquartered in Suwon, Republic of South Korea was established in 1969 under the law of the Republic of Korea and became publicly listed on the Korea Stock Exchange in 1975. The company with its subsidiaries operates in four diverse business divisions:

1. DX (Device eXperience) concentrates on digital televisions, refrigerators, smart phones and communication systems.

2. DS (Device Solutions) is engaged in memory, foundry and System Large Scale Integration (SLI) businesses.

3. SDC focuses on display panel products.

4. Harman is involved in connected car systems, audio and visual products, enterprise automation solution (Samsung Electronics Co Ltd Company Profile - Samsung Electronics Co Ltd Overview, n.d.).

Furthermore, the company offers services in advertisement, construction, hospitality and entertainment industries. Samsung supplies its products in 80 countries around the world. Meanwhile, the manufacturing process is held in South Korea, China and other Asian countries. According to the recent results, consumer electronics and semiconductor products generate the most revenue for the company (Bajj, 2023).

Methodology

In order to retrieve the results, the secondary data is retrieved from 2 journal papers, 15 website articles, 2 research preprint

research articles, 1 book chapter and 12 websites including statistical information and financial statements.

The research paper aims to evaluate the importance of antifragility in a business environment. Therefore, the company Samsung is chosen as a successful role model to illustrate how fast it can adapt and flourish under the power of evolving AI period to reach its objectives.

This research paper encompasses both quantitative and qualitative research methods. The quantitative research method illustrates the vertical and horizontal analysis of the financial performance of Samsung for the period 2022-2023, while quantitative methods entails the SWOT analysis reflecting the internal and external factors, the Ans-off matrix, BCG matrix evaluates to analyze the strategies of the company to increase its antifragility.

Literature review

According to Taleb (2013), antifragility is the opposite term to fragility, where stress causes significant harm, meanwhile, anti-fragility refers to systems, ideas and entities, which become more powerful when face with stress, volatility and chaos.

From the mathematical concept, small stressors result in disproportionately enormous harm and losses following concave (downward) curve in fragility, while small stressors cause disproportionately enormous benefits following convex (upward) curve in anti-fragility.

Antifragility entails the systems and entities thriving and flourishing under volatility, stress and abrupt changes. Therefore, antifragility in business refers to diversifying strategies and product concentration to diminish reliance on a single approach. An antrifragile businesses invest in a wide range of potentially growing areas and retain flexibility to shift their concentration when one path fails. Owing to antifragility, businesses avoid debts and unpredicted spendings in order to minimize risks and remain adaptive (Liberto, 2023).

Munoz et al., (2022) defined the concept of antifragility from the perspectives of the organization, as exploiting emerging opportunities to outperform the pre-disruption phase. For instance, during the COVID-19 pandemic, companies shifting to delivery and remote work expanded their market outreach and capabilities illustrating flexible anti-fragility.

According to American Express Business Trends and Insights (2024), the business following the diverse antrifragile strategies are able to survive the COVID-19 and expect to embrace evolved changes and volatilities due to the development of artificial and machine intelligence. Therefore, the following strategies are suggested to increase the strength of antifragility in businesses and flexibility of the organizational development:

- Training versatile employees through concentration on development of their soft and hard skills and industry specific competencies to increase adaptability and career durability.

- Encouraging innovation through promoting cross-departmental creativity, testing ideas and avoiding inflexible competition.
- Strengthening supply chains thorough using real-time data and creating adaptable systems.
- Embracing digital transformation through gradually modernizing business processes with digital tools, prioritizing consumer experience and data-driven decisions to enhance a long-term growth and stability.

In recent evolving business environment, artificial intelligence (AI) is a vital instrument to create antifragile organizations that enables to create to adapt to uncertainties, learn from mistakes and embrace opportunities during the changes. AI assists companies turn problems such as supply chain disruptions and changing consumer behavior into growth opportunities. Analyzing these errors provides valuable informations to develop counter-measures and turn inflexible processes into data-driven adaptable forecast (Building Antifragile Organizations With AI, n.d.).

Meanwhile, Simpson et al. (2021) argue that the concept of antifragility is one of the most vital principles to develop future AI systems in military command and control (C2). The reserachers state that these systems not only respond to unpredictable and chaotic scenarios, such as wars, but also they should evolve and adapt in response as a result. Interacting with emerging challenges and learning from feedbacks, these AI systems can operate in unstable operations. However, this coping ability with volatility diminishes the risks related to becoming fragile and

reliant on inflexible AI processes that can fail under pressure.

Gap

There are still gaps between previous studies and this research specifically in addressing importance of antifragility in corporate businesses during the fast evolving AI era. Businesses have implemented a wide range of strategies and adaptation of AI to enhance efficiency and productivity in their operations Therefore, this research paper entails the in-depth analysis of Samsung by utilizing a mixed research approach both quantitative and qualitative methods. Based on these analyses, the research paper estimates and explores the anitifragility strategy of the company.

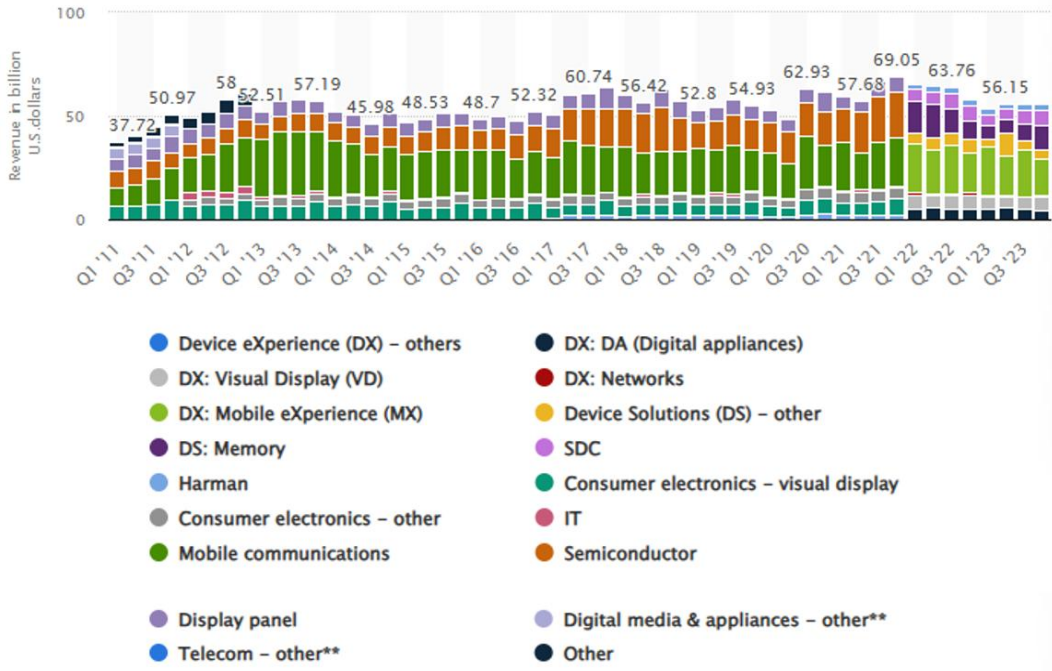
Results and Discussion

1. Financial analysis

It can be seen from the recent performance over the period 2021-2023 that Samsung has been generating the most profit from DX division products including digital televisions, refrigerators, smart phones and communication systems (Figure 1). This trend is followed by DS division products that consist of memory, foundry and System Large Scale Integration (SLI) businesses. There has been witnessed a decrease in the revenue of Samsung by approximately 19% from 69.05 billion USD to 56.15 billion USD for the given period 2021-2023.

Overall, the financial results of Samsung Electronics for the fourth quarter and the

Figure 1: Current profitability performance. Source:



whole of 2023 illustrated a decrease in performance. Operating profit was estimates for the quarter as 2.82 trillion South Korean Won (SKW), and revenue-67.78 trillion SKW. Total sales for the year estimated at 258.94 trillion SKW with an operating profit of 6.57 trillion SKW. The following reasons such as economic instability and weakening global demand for semiconductors and consumer electronics can be assumed for the decline. Therefore, in order to improve the company's performance the future goals focusing on recovery by 2024 are set by increasing the production of artificial intelligence, semi-

conductors and premium product primarily. Consequently, it is expected that the financial performance is going to increase in the second of the year (Samsung Electronics Announces Fourth Quarter and FY 2023 Results, n.d.)

Vertical and Horizontal analysis of balance.

It can be seen from the balance sheet (Table 1), the capital structure of Samsung Co Ltd consists of approximately 20% liabilities whilst the equity encompasses circa 80%. The healthy financial balance between debt and equity financing can be witnessed that can be more advantageous for the company's financial stability.

Table 1. Vertical and Horizontal analysis of balance. Source: Financial Statements | Financial Information | Investor Relations | Samsung Global | 2024)

| Variable | 2022 | Percent | 2023 | Percent | Change |
|--------------------------|-------------|---------|-------------|---------|--------|
| Total assets | 343 325 656 | 100,0% | 349 053 672 | 100,0% | 1,7% |
| Total liabilities | 71 719 981 | 20,9% | 70 612 285 | 20,2% | -1,5% |
| Total equity | 271 605 675 | 79,1% | 278 441 387 | 79,8% | 2,5% |

* Total assets = Liabilities +Equities

Ratio analysis

The quick ratio indicates the company's ability to cover its short-term obligations through its most liquid assets:

$$\text{Quick ratio} = \frac{\text{Cash \& Equivalents} + \text{Accounts Receivable}}{\text{Current liabilities}}$$

The quick ratio is a more conservative way than the current ratio to evaluate the liquidity since it excludes inventory, which cannot easily be converted to cash in a short term.

Table 2 indicates that the quick ratio of Samsung Co Ltd has increased by 18.62% in 2023, which can be considered as a positive indicator. It displays that the company possesses more liquid assets in ratio to its current liabilities that suggests an improved short-term financial health and ability to meet its obligations.

The cash ratio is the most conservative method to estimate the ability of the company to pay off its short-term liabilities through cash and cash equivalents. The ratio displays the extent to which a company can meet its

Table 2. Measurement of liquidity ratio. Source: (Financial Statements | Financial Information | Investor Relations | Samsung Global |, 2024b)

| Accounts | 2022 | 2023 | Change |
|----------------------------------|----------------|----------------|---------|
| Cash and cash equivalents | \$ 38 036 865 | \$ 52 890 158 | 39,05% |
| Trade receivables | \$ 27 349 373 | \$ 28 058 213 | 2,59% |
| Non-trade receivables | \$ 4 707 997 | \$ 5 078 590 | 7,87% |
| Total liquid assets | \$ 70 094 235 | \$ 86 026 961 | 22,73% |
| Total current assets | \$ 167 266 852 | \$ 150 014 208 | -10,31% |
| Total current liabilities | \$ 57 972 815 | \$ 59 982 888 | 3,47% |
| Quick ratio | 1,21 | 1,43 | 18,62% |
| Cash ratio | 0,66 | 0,88 | 34,39% |
| Current ratio | 2,89 | 2,50 | -13,32% |

current liabilities if they come due immediately:

$$\text{Cash ratio} = \frac{\text{Cash \& Equivalents}}{\text{Short-term liabilities}}$$

The cash ratio of Samsung Co Ltd indicated increase by 34.39% in 2023 suggesting that the company possesses more resources to cover short-term liabilities, however, excessively high cash ratio can propose that the company is not managing its resources effectively and missing out the investment opportunities.

The current ratio indicates a company's ability to pay off its short-term liabilities with its short-term assets. A current ratio reflecting 1 or higher indicates the company possesses more current assets than current liabilities that proposes a good short-term financial health.

$$\text{Current ratio} = \frac{\text{Current assets}}{\text{Current liabilities}}$$

Table 2 indicates that the current ratio of Samsung Co Ltd is 2.89 and 2.50 in 2022 and 2023 respectively. These ratios can suggest the company is utilizing its current assets more efficiently to generate the revenue. However, the slight decrease can be seen in these ratios over this given period. If this decrease continuous to soar, it can lead to potential liquidity issues, when the company may struggle to meet its short-term liabilities such as paying the bills and debts.

Measurement of Solvency ratio

The debt ratio evaluates the proportion of a company's assets that are financed by debt:

$$\text{Debt ratio} = \frac{\text{Total Debt}}{\text{Total Assets}}$$

A high debt ratio suggests that a larger portion of company's assets is financed by debt which can be a financial risk.

The debt ratio is less than 1 indicating that the company's total liabilities are less than its total assets. The Table 3 of ratios displays that the debt ratio has decreased from 0.21 to 0.20 in 2022 and 2023 by 3.16%, which can be considered as a less financial risk and greater financial stability.

The debt-to-equity ratio compares a company's total debts to its total equity and indicates the proportion of financing provided by creditors and shareholders. A higher debt-to-equity ratio proposes higher financial leverage and potential risk.

Table 3. Measurement of Solvency ratio. Source: (Financial Statements | Financial Information | Investor Relations | Samsung Global | 2024c)

| Variable | 2022 | 2023 | Change |
|-----------------------------|----------------|----------------|--------|
| Total assets | \$ 343 325 656 | \$ 349 053 672 | 1,67% |
| Total liabilities | \$ 71 719 981 | \$ 70 612 285 | -1,54% |
| Total equity | \$ 271 605 675 | \$ 278 441 387 | 2,52% |
| | \$ 343 325 656 | \$ 349 053 672 | 1,67% |
| Debt-ratio | 0,21 | 0,20 | -3,16% |
| Debt-to-equity ratio | 0,26 | 0,25 | -3,96% |
| Equity Multiplier | 1,26 | 1,25 | -0,83% |

$$\text{Debt to Equity Ratio} = \frac{\text{Total Debt}}{\text{Total Equity}}$$

The debt-to-equity ratio is less than 1 indicating that the company possesses more equity than debt that can be viewed as favorable. The debt-to-equity ratio of Samsung Co Ltd has decreased by 3.96% by 2023 that can suggest lower financial risk and better financial health.

The equity multiplier measures the level to which a company's assets are funded by equity compared to debt determining how much the company relies on debt financing to fund its assets. A higher equity multiplier displays a greater dependence on debt financing in comparison with equity. The formula is:

$$\text{Equity Multiplier} = \frac{\text{Total assets}}{\text{Total shareholder's fund}}$$

The equity multiplier ratio of Samsung Co Ltd is more than 1 indicating that the company is mostly relied on equity financing rather than debt. Moreover, a higher equity multiplier suggests a higher level of financial leverage, which can be increase profitability but also comes with increased financial risks. It can be seen a slight decrease by 0.83% in 2023. Consequently, it can be inferred that Samsung Co Ltd utilizes the financial strategies to keep the balance.

Measurement of profitability ratio

The Return on Equity (ROE) ratio indicates a company's profitability in relevance to its shareholder's equity and determines how much profit a company generates with the capital that shareholders have invested. Meanwhile, a high ratio of ROE indicates that a company is generating higher profit with each dollar of shareholder's equity, which is desirable for shareholders. The formula is:

$$\text{Return on Equity} = \frac{\text{Net income}}{\text{Shareholder's Equity}}$$

Table 4 indicates that the ROE of Samsung Co. Ltd. less than 1 suggesting that the company is not generating positive returns on the equity invested. Moreover, it can be witnessed the ROE has decreased by 72.86% in 2023 in comparison with the previous year. A small ROE less than 1 displays the company's inefficiency or operational challenges.

The Return on Assets (ROA) ratio evaluates a company's profitability in relevance to its total assets and indicates how the company uses its assets to generate profit. A high rate

Table 4. Measurement of profitability ratio. Source: (Financial Statements | Financial Information | Investor Relations | Samsung Global | 2024d)

| Variable | 2022 | 2023 | Change |
|-----------------------------|----------------|----------------|---------|
| Net income | \$ 42 610 233 | \$ 11 857 333 | -72,17% |
| Shareholder's equity | \$ 271 605 675 | \$ 278 441 387 | 2,52% |
| Total assets | \$ 343 325 656 | \$ 349 053 672 | 1,67% |
| Total revenue | \$ 231 396 319 | \$ 198 247 859 | -14,33% |
| Gross profit | \$ 85 895 316 | \$ 60 137 593 | -29,99% |
| ROE | 0,16 | 0,04 | -72,86% |
| ROA | 0,12 | 0,03 | -72,63% |
| Net profit margin | 0,18 | 0,06 | -67,52% |
| Gross profit margin | 0,37 | 0,30 | -18,28% |

of ROA indicates that the company generates more profit with its assets, which can be a positive sign of efficiency.

$$\text{Return on Assets} = \frac{\text{Net income}}{\text{Average total assets}}$$

Over the period 2022-2023, ROA has decreased by 72.63% from 0.12 to 0.03 in 2022 and 2023 respectively indicating 72.63% decrease. The ROA ratios of Samsung Co Ltd indicates the numbers less than 1 suggesting that the company's assets are not generating as much profit as their total value. Consequently, it can be inferred that the ROA resulting in less efficiency and lower profitability in relevance to the assets used.

The net profit margin ratio indicates the percentage of revenue after all expenses in-

cluding taxes and interests have been deducted:

$$\text{Net profit margin} = \frac{\text{Net income}}{\text{Revenue}}$$

A high net profit margin indicates that a company is generating the profit from sales efficiently.

The net profit margin ratio of Samsung Co Ltd indicates 0.18 and 0.06 in 2022 and 2023 respectively. It can be inferred that the company is generating quite less profit in relevance to revenue. If these ratios continues following the less profitability that can be a signal to inefficiency or the issues that the business model and strategy that may need reconsideration.

The Gross Profit Margin Ratio evaluates the percentage of revenue that the cost of goods sold (COGS):

$$\text{Gross Profit Margin} = 100 * \frac{\text{Gross Profit}}{\text{Total revenue}}$$

A larger gross profit margin indicates that a company is earning more profit per sale after deducting the direct costs aligned with producing goods and services.

Over the period 2022 and 2023, the Gross Profit Margin ratios of Samsung Co Ltd indicate 0.37 and 0.30 resulting in 18.28% decrease. Subsequently, it can be inferred that the company's cost of goods sold is significantly high in comparison with its total revenue. If the ratios continue being consistent the company may encounter challenges in controlling production costs and pricing strategy.

Stock market

Samsung Electronics Co.Ltd or SEC commerce its stock on the Korea Exchange (KRX) and possesses global depository receipts listed in Europe. However, SEC is not involved in trading on a U.S. stock exchange as well as does not propose American Depository Receipts (ADRs), which causes the difficulty for the Americans to invest in the company. Notwithstanding this issue the Americans can have an option to trade on shares through a local broker in South Korea or invest directly after filling in the significant amount of documentation. Along the same line, the SEC's shares can be traded on the over-the-counter through Grey Market or through exchange traded funds (ETF) (Sadek, 2022).

Investment

It can be inferred from the bar-chart (Figure 2) that the investment in research and development has been increasing over the years 2009-2023.

Samsung Venture Investment Corporation, the venture capital division of Samsung Group, operates worldwide in Seoul, Silicon Valley, Boston, India, Beijing, Israel, London and Tokyo. The organization is actively seeking for innovative businesses that leverage new technologies aimed to drive future growth (Figure 3).

Figure 2. Samsung Electronics: Research & Development Expenditure 2023. Source: Samsung Electronics: Research & Development Expenditure 2023 | Statista, (2024)

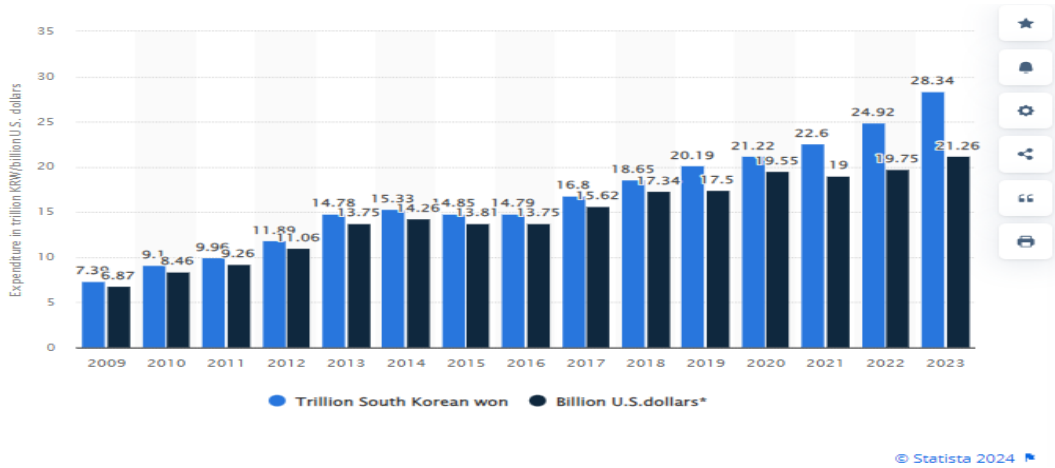
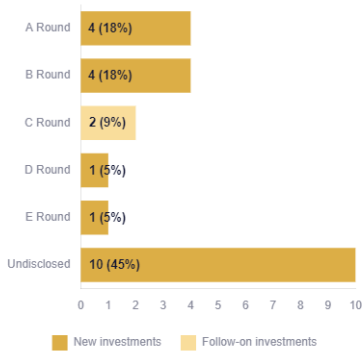


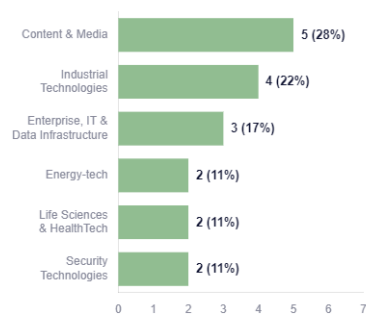
Figure 3. Samsung Venture Investment investments. Source: Samsung Venture Investment (n.d.)

Samsung Venture Investment Investments

Investment Rounds by Type



Investment Rounds by Sector



- Exit ratio ①
5% (1/21)
- Investment follow-on ratio ①
1.05 (22/21)
- Lead investor share ①
55% (12/22)
- New portfolio companies (12m) ①
1
- Solo investment round ratio ①
50% (11/22)
- First Investor Ratio ①
10% (2/21)

The objective of the company is to support small and medium-sized enterprises involved in cutting-edge technology development, offering expertise and financial backing across a

range of industries such as semiconductors, telecommunications, software, internet, bio-engineering, and medical sectors. In addition to funding, Samsung Venture Investment

Corporation provides strategic support, technical assistance, and access to markets to help companies succeed.

To encourage further expansion, Samsung announced that it will invest 25 trillion Korean won in biopharmaceuticals, automotive electronics, 5G and artificial intelligence. It is part of a three-year 180 trillion won project that also includes expanding research, development and manufacturing in Korea. Improving semiconductor leadership, supporting startups in building a technology ecosystem, and creating 40,000 jobs are some of the main goals. To drive innovation and jobs, Samsung will also improve its vendor programs, help small businesses implement Smart Factory projects, and promote software training (Samsung Steps up Investment for Future Growth, Takes Initiative to Build Innovation Ecosystem, n.d.).

2. Marketing analysis

Brand identity

Samsung is a global technology company renowned for creating innovative products and services since its establishment in 1969. Samsung is dedicated to dismantling the boundaries and improving the world with a strong concentration on human-centered innovation. The company is steered by the following 5 values: prioritizing people, followed by progressive innovation, defiant optimism, integrity and transparency as well as social advancement.

Samsung regards itself as an invincible pioneer that constantly pushes the barriers and views challenges as an opportunity to

grow. The goal of the company is to make an immense impact on people's lives by driving meaningful changes in sustainability, expression and technology. The core features of their brand identity consist of boldness, genuineness, modernity and a sense of fun.

The emphasis of the company is mainly on sustainability initiatives that strive to make the technologies accessible, sustainable and beneficial for everyone. Along the same line, the company's sustainability strategy encompasses recycling, innovation, renewable power and energy efficiency.

Samsung manufactures an extensive range of commodities including smartphones, tablets, smartwatches and home-appliances. In order to promote the customer interaction with their products and services, they run promotions and special offers additionally to their customer support and assistance through various channels. Furthermore, it can be observed that the corporate social responsibility (CSR) of Samsung highlights diversity, equity and inclusion (Samsung's Brand Story | Brand Identity | Samsung US, 2021).

Unique selling proposition

Samsung differentiates itself by providing high-quality, technologically advanced products at reasonable prices. The unique selling proposition (USP) of Samsung centers around the superior quality of its products in a combination with cutting-edge technology embedded into electronic devices with affordable prices. The competitive edge of Samsung is maintained by its efficient cost-effective structure and its capacity and

flexibility to adapt in response to economic changes. As Samsung possesses a wide range of diverse product categories, Samsung utilizes a variety of pricing strategies to stay competitive in a technology market (Jain, 2023).

Segmentation

As Samsung caters a wide range of consumers, the segmentation is divided in the following categories:

- Demographic segmentation. Samsung segments its consumers across all age groups, genders, disposable income through offering a wide range of products, such as smartphones, tablets, TVs, and home appliances. Furthermore, it particularly focuses on the tech-savvy consumers seeking the most updated innovations. As well as, it can be noticed that Samsung targets the younger generation with stylish and creative designs.
- Geographic segmentation. Samsung operates in more than 80 countries with a significant portion of a market share in Asia, Europe, and North America, notably South Korea and China. Notwithstanding the company's main focus stays on Asian market, it is expanding its range in the emerging Indian and African markets.
- Psychographic segmentation. Samsung approaches the consumers who value quality, aesthetics and innovation. As the company's products are renowned for its trendy designs and advanced technology, the company targets those who acknowledge the devices with pioneering features and user-friendly interfaces.

Behavioral segmentation. Another means of segmentation of Samsung is the individuals with active lifestyles, subsequently, offered portable and user-friendly devices such as smartphones and tablets. Furthermore, it serves the consumers who seek high-performance devices that offer excellent value for money (Bajj, 2023).

Targeting

Samsung targets a wide variety of consumers geographically including the U.S. and International individuals, urban locations and e-commerce websites, socio-demographically in the range of 18-45 group age of males and females, bachelors, newly married couples, full nest I and II markets, middle and upper classes. Meanwhile, the target market encompasses the determined and ambitious individuals and those who seek for speed and service, efficiency, sense of achievement, belongingness, self-expression as well as advanced features and tools. Alongside, the customers can be classified as the resigned, succeeders, explorers and aspirers targeted by Samsung drawn upon their needs.

Positioning

Samsung utilizes the following means of positioning strategies:

- Multi-segment positioning. Samsung serves to diverse groups of marketing segments simultaneously offers a variety of products and services bundled to different consumer preferences and budgets. As an example, Samsung SMART Signage professional displays can be offered with various sizes, screen

resolutions and features, consequently, with different price tags to cater to the diverse customer preferences and budgets.

- Imitative positioning. Samsung is renowned for its imitation of the product design, functionalities as well as marketing strategies of their primary competitor, Apple, to target similar customer demographics.
- Anticipatory positioning. Despite low market turnover, Samsung develops the certain commodities, such as mobile image sensors with an anticipation of future market increase (Samsung Segmentation, Targeting and Positioning: Multi-segment, Imitative and Anticipatory, 2017).

Marketing mix

A marketing mix is regarded as a combination of strategies and techniques utilized by the companies to market its products and services effectively to the chosen target market. Therefore, one of the reasons of Samsung's success is well-executed marketing mix.

Product: Samsung is recognized worldwide for its wide range of products including smartphones, TVs, laptops, cameras, audio devices and smart home appliances that are known for their quality, innovation and user-friendly interfaces. Samsung commodities are renowned for their upscale and advanced features as well as they supply the customers with outstanding outcomes combined with prompt services and support. In order to remain ahead of the curve and satisfy the needs of its targeted segments, Samsung invests significant amount of capital in

research and development. Samsung's flagship Galaxy line covering smartphones, tablets, and wearable technologies is distinctive among mobile devices. The top priorities of home appliances such as air conditioners, vacuum cleaners, washing machines, and refrigerators are concentrated on energy efficiency and smart connectivity. Meanwhile, Samsung TVs stand out from its competitors regarding picture quality and user-friendly interfaces as well as the company offers a variety of computing devices from laptops to displays.

It can be inferred that Samsung maintains its market position as a leader in the technology sector by offering a wide selection of products and delivering the services that meet the needs and preferences of its customers.

Price: As Samsung possesses a wide range of consumers, its pricing strategy varies drawn upon their target segments and products. The company utilizes premium pricing strategy for flagship products such as Galaxy smartphones and high-end TVs, highlighting the products' innovative features and superior quality. Owing to this strategy, Samsung positions itself as a leader in the technology sector whilst attracts customers looking for cutting-edge technologies.

Moreover, Samsung employs competitive pricing while provides mid-range and entry-level items at reasonable prices to attract a wider customer base. Alongside, promotional pricing strategies are used during significant shopping occasions, exploiting discounts and bundling tactics of products to boost sales and excitement of customers.

Furthermore, Samsung implements psychological pricing strategy to provide a sense of reduced prices for instance, by using .99 to accelerate the chance of purchase.

The pricing mix of Samsung is a crucial component of its marketing strategy that enables the business to meet a variety of customer demand and needs, simultaneously, holds a dominating position in the industry.

Place: Samsung utilizes direct and indirect distribution channels to ensure that its products are widely available. The company's website and physical location are regarded as direct channels while partnerships with major retailers and mobile carriers can be considered as indirect channels of the company. Distribution centers are strategically facilitated in diverse locations to guarantee effective product delivery, whilst internet presence promotes advertising, customer service and feedback gathering. For corporate sales, Samsung utilizes the service of dealers through the exploitation of a single distribution company to reach numerous locations.

It can be noticed that Samsung maintains its leadership role in the technology industry owing to the comprehensive distribution strategies and techniques.

Promotion: In order to reach the target audience, Samsung utilizes a broad range of marketing communication methods such as public relations to maintain positive brand image, personal selling, advertizing efforts concentrated on both product promotion and brand building, digital marketing to engage with customers through social media and

influencer partnership as well as sales promotion implemented by means of discounts and loyalty programs to encourage purchases. The goal of these promotional strategies is to reach the target audience and enhance the brand awareness, simultaneously, to adapt the promotion mix strategies to the demand and needs of the consumers. Consequently, Samsung maintains a competitive edge in the technology market (Bajj, 2023).

Ansoff matrix

Market penetration: Market penetration occurs when Samsung starts promoting its existing products in its existing markets. One of the main strategies of Samsung is to cut the price or offer discounts. This strategy can be implemented a few month prior to the time when Samsung is about to manufacture an updated version of its products, consequently, market share and sales can be increased while old version of its products are depleted so that the company won't get financial losses. Moreover, Samsung promotes a greater product usage by widening its product line with diverse models, complimentary accessories, and software upgrades. Simultaneous new product release in numerous markets raises the entry barriers for rivals. Alongside, establishment of strategic alliances with local companies is other method of promoting products. Samsung utilizes a tactic to promote its brand and elevate product sales through diversified channels such as social media, television and printed advertisements as well as sponsorship of technology events.

Market development: Samsung utilizes various tactics when intruding in new markets with its existing products. The main objective of the company is to increase the global presence by exploring untapped countries, simultaneously, fostering the development in existing ones. Samsung pays primarily attention to the product packaging when entering new markets. Alongside, it uses the advertisements with sportsmen and celebrities to increase brand awareness and customer loyalty. Mainly, Samsung utilize diverse distribution channels encompassing internet and retail sales. As Samsung evaluates its revenue in the United States Dollars, therefore, it is important for Samsung to use right pricing strategy drawn upon the local currency. Notwithstanding these risks Samsung excels at increasing its revenue in a number of foreign markets.

Product development: The consumer electronics division dominates the technology industry in terms of product innovation. Samsung offers a wide range of products and releases new versions with advanced specifications and features, while its main competitors Apple concentrates only on one model. Along the same line, Samsung implements this strategy in other divisions such as entertainment industry, construction machinery and home appliances. Thus, Samsung invests in research and development to update product functionality and durability while keeping its position as a innovator. Moreover, Samsung improves constantly its existing products by advancing new features, subsequently, offer new products. Samsung

implements a gradual product launch strategy across its diverse markets by generating more sales and revenue in relevance to the new product release.

Diversification: Samsung utilizes a conglomerate diversification strategy engaging in multiple diverse industries. Not limiting itself with horizontal diversification, Samsung has successfully entered unrelated industries. By researching the potential industries thoroughly, Samsung enters in those emerging markets and offers a wide range of products. With atypical portfolio in comparison with other brands Samsung offers different products and service, which may confuse those customers that lack the deep knowledge in terms of brand awareness (Adamkhankasi, 2020).

BCG matrix of Samsung

Table 5 shows Samsung's BCG matrix.

Table 5. BCG matrix of Samsung. Source: Author

| Stars | Question mark |
|---|----------------------|
| Smart TVs | Laptops |
| Cash cows | Dogs |
| Home appliances: <ul style="list-style-type: none"> • Washing machines • AC • Refrigerators • Cooking appliances | Printers |

Stars: It can be reviewed that the TV industry is dominated by Samsung that gains high market share and market growth of

Smart TVs. Notwithstanding that Samsung faces a strong competition, it manages to maintain its global recognition and popularity in markets. Furthermore, Samsung make consistent innovations in Smart TV technologies in order to attract new potential customers and retain current ones.

Question mark: Samsung laptops can be regarded as a question mark product. Since the company released this product, it has not been working consistently on its development as its mobile phones. It can be seen that Samsung laptops possesses low market share, however, with the help of effective management laptops can be a star product and gain potential market share and market growth.

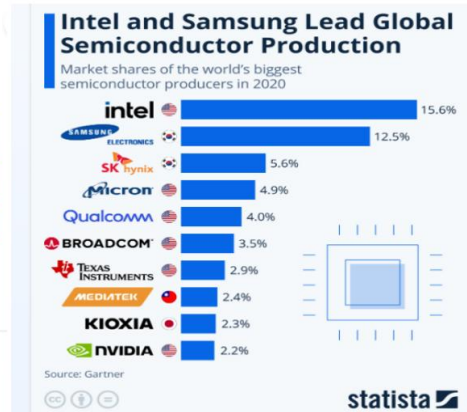
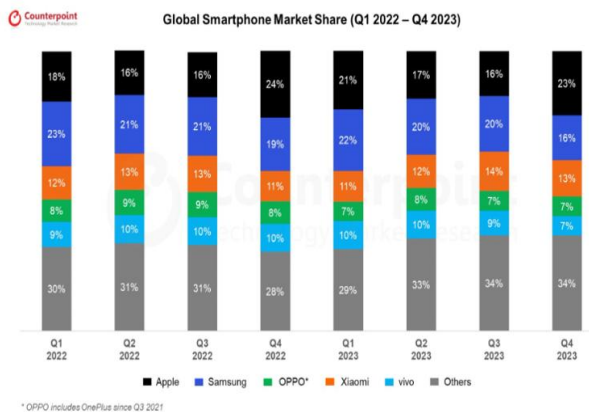
Cash cows: Samsung home appliances consisting of Samsung Washing machine, ACs, Refrigerators and Cooking appliances represent the company’s cash cows. These products positioned Samsung with quality and

reliability. Over the years, Samsung has secured a considerable market share within diverse industry segments and is susceptible to grow in the future.

Dogs: Samsung printers can be categorized as dogs. Since the dogs makes small contribution to the company expansion and performs low sales. Though resources are utilized to develop the printers, the opportunities to recycle the products and reinvest those resources in more promising items can be recognized (BCG Matrix Analysis of Samsung [Detailed] - Boardmix, n.d.).

Current market share: It can be seen (see: Figure 4) that customers prefer the other companies when purchasing smartphones. However, the second most purchased smartphones refer to the brand Samsung, this trend indicates on average 32.4% of market belongs to Samsung over the given period 2022-2023.

Figure 4. Current market share. Source: Statista (2024)



Moreover, it can be seen from the second chart of Figure 4 that Samsung takes also the leading position in terms of semiconductor product indicating 12.5% of market share in 2020 after the dominating company Intel.

SWOT analysis

Table 6 shows the results of a SWOT analysis of Samsung.

Table 6. SWOT analysis. Source: Simplilearn (2023); Jain (2023)

| | | |
|-------------------------|--|--|
| Internal factors | Strengths | Weaknesses |
| | <ul style="list-style-type: none"> • Extensive product selection • Sizable market share • Eco-friendly technologies • Power of Asian market • Technological innovation • Production capabilities | <ul style="list-style-type: none"> • Decrease in mobile sales • Flaws in products • Bribery scandal • Dependency on external technology • Intense competition • Patent invasion lawsuits |
| External factors | Opportunities | Threats |
| | <ul style="list-style-type: none"> • The demand growth for smartphones • Updated technologies • Market expansion • Strategic collaboration | <ul style="list-style-type: none"> • Increased competition • Economic uncertainties and instabilities • Evolving technological advancements • Legal and regulatory challenges |

Strengths:

- Extensive product selection. Samsung supplies a variety of products to satisfy a wide range of consumer demands and tastes by

offering laptops, TVs, smartphones, home appliances, memory cards, printers, peripherals, cameras. This broad range of products and items enables Samsung to reach a wide range of target audience, consequently, shares a bigger market presence and generates higher revenue.

- Sizable market share. Samsung takes one the leading positions in the technology industry by offering the various categories of products. The substantial market share indicates the consumer trust and preference of Samsung products over other brands driving success and competitiveness in turn.

- Eco-friendly technologies. Samsung’s brand image and sustainability initiatives have been bolstered by its commitment to environmentally friendly practices. The acknowledgment from institutions such as the EPA and ENERGY STAR highlights Samsung’s dedication to ecological preservation that boosts popularity among eco-aware stakeholders and consumers.

- Power of Asian Market. Samsung is a leader in a market share in Asia, particularly, in rapidly developing nations such as China and India. Its significant presence in these areas boosts its worldwide income and market share considerably, which is the result of its efficient market penetration techniques adapting to local customer tastes.

- Technological innovation. As Samsung is recognized for its creative products and technical achievements, the dedication of the company to push the boundaries and create industry standards is obvious in its innovative features, such as dual-screen mobile phones,

sophisticated display technology and modern design aesthetics that stimulate customer attention and encourage brand loyalty. Samsung is continuously introducing new products, therefore, it spends a significant amount of its revenue to the research and development to spur the technical innovation. This approach enables Samsung not only to differentiate itself from its rivals, but also to improve its market positioning and competitiveness, simultaneously, to draw in tech-savvy customers, consequently, increase demand for its goods.

- Production capabilities. Samsung's solid manufacturing platform enables prompt effective production and product delivery. Samsung possesses the ability to guarantee product accessibility and competitive pricing through upholding high standards of quality, optimizing production processes and costs with the help of control over its supply chain (Simplilearn, 2023)

Weaknesses:

- Decrease in mobile sales. The decline in smartphone sales has been encountered by Samsung since 2017, particularly, affecting the Chinese markets, which was regarded as price sensitive. The negative change in the market suggests that Samsung is struggling to catch the up with the evolving customer demand as well as being a leader in a competitive market resulting in changes of revenue and market share.

- Flaws in products. The product defects such as the exploding Samsung Galaxy A20e and defective foldable tablets have been manufactured by Samsung affecting

negatively on customer trust and confidence in the brand, consequently, resulting in the loss of business and finances as well as in diminishing number of loyal customers.

- Bribery scandal. In 2015, the reputation of Samsung has been damaged because of the bribery controversy involving the CEO of the company, who bribed the South Korean government in order to merge, as a result was sentenced. This incident resulted in the weakened public trust both in South Korea and globally as well as consumer confidence and brand perception.

- Dependency on external technology. Although Samsung pioneers electronic, the company is reliant on other companies such as Google since the software system operates in Android platform. Thus, this may make the company may struggle to develop on its own and keep a competitive edge impacting on product differentiation and market positioning.

- Intense competition. Samsung faces a strong competition for a market share from the side of the companies such as Apple, Huawei, Xiaomi, Sony, LG Electronics and Panasonic hindering the leadership in the market share and profit margin. Furthermore, it faces the competition from online retailers that supply a wide range of products at competitive prices. Owing to the reduced operating expenses in the sales channels they offer lower prices threatening the distribution channel strategy of Samsung.

- Patent invasion lawsuits. Samsung has been involved in a several patent infringement cases, most of which are linked with Apple

resulting in a negative impact on revenue and brand perception. Moreover, these lawsuits can cause risks in terms of financial and business operations and competitive market share (Jain, 2023).

Opportunities:

- The demand growth for smartphones. Changing customer demand for sophisticated features and accessibility can stimulate for the market expenditure. This growth can be a driving force for Samsung to further expand its market share and use penetration strategies to the emerging markets.

- Updated technologies. The development of technologies such as artificial intelligence (AI), Internet of Things (IoT), 5G and 6G offers Samsung with new opportunities to create and provide advanced solutions. Consequently, Samsung can develop new devices and products in order to adapt to the evolving demands of its customers by using these technologies.

- Market expansion. Samsung possesses the capacity to venture into unexplored areas and extend its market share beyond its regular strongholds. By means of targeting emerging economies with increasing number of the middle classes with greater disposable cash for technology products can bring Samsung potential revenue and increase its market share.

- Strategic collaboration. Samsung can partner with other businesses in terms of sustainability and service industry to improve its ecosystem and offer excellent user-friendly experience. This cooperation can enable

Samsung to stand out from rivals and draw more buyers (Jain, 2023).

Threats:

- Increased competition. Samsung struggles to preserve its competitiveness and allocate financial resources because of growing rivals such as Xiaomi, Apple and Huawei that constantly launch new products to gain a greater market share in the technology industry.

- Economic uncertainties and instabilities. Due to economic uncertainty and volatility, Samsung can encounter considerable struggles. Since the shifts in the global economic conditions can impact on consumer expenditure regarding technological items. In Q1 2020, there has been witnessed a 20.2% drop owing to the market volatility. The downturns in the economy can lead to a decrease in the demand for Samsung's commodities, consequently, affect sales and profitability.

- Evolving technological advancements. Due to the current technological development and innovations, Samsung can struggle to stay in a leadership position in a competitive market, thus, it needs investments in research and development and new strategies.

- Geopolitical factors. As Samsung is present in a global market, it is prone to be affected in terms of regulation of its supply chain as well as operational and financial performance because of trade conflicts and geopolitical tensions, which can alter in trade policies, tariffs and political volatility.

- Legal and regulatory challenges. Due to globalization and technological orientation

worldwide, governmental bodies start issuing directives that encompass the growth in legal and regulatory challenges to businesses globally, subsequently, affecting Samsung's operation (Jain, 2023).

Conclusion

Samsung Electronics Co. Ltd. Is a prime model of an antifragile organization that illustrates remarkable adaptability and flexibility when encountering volatile markets and abrupt technological changes. Being founded in 1938 as a small trading company, Samsung has become a global leader in semiconductors, consumer electronics, telecommunications and medical technology. This transformation is a key characteristic of antifragility and a result of the company's capability not only resist breakdowns, but also reinforce strategies to emerge stronger from learning failures.

Samsung's combating strategies towards antifragility is the company's concentration of diversification. Samsung operates in four diverse divisions, such as DX (Diverse Experience), DS (Device Solutions), SDC (Samsung Display Corporation) and Harman, which diminishes reliance on any single market and product. This diversification approach reduces risks and increases stability, which makes the company more antifragile to downturns in specific sectors. Additionally, vertical integration with manufacturing facilities in South Korea and China enables Samsung to better monitor supply chains and respond quickly to external challenges.

Samsung illustrates a healthy financial statement balancing the equity and debt capital proportion by consistent investments in research and development. The company's \$230 billion investment in semiconductor development reflects an active strategy that ensures continued competitiveness globally in the AI-driven period. Though profitability indicators such as ROE and ROA have encountered challenges, the company's strong liquidity rate illustrates its capability to cope with financial constraints and reinvest in growth opportunities.

Innovation is regarded as a primary cornerstone of Samsung's success. The company has constantly implemented new technologies such as artificial intelligence (AI) and the Internet of Things (IoT) and transforming potential challenges such as supply chain disruptions into reinvention opportunities. By integrating AI in its operations, Samsung not only improves product's functionality, but also strengthens its systems.

Samsung has created a sustainable organizational culture that combines efficiency and creativity. Its structure effectively combines independent units with collaborative efforts, fostering innovation and operational discipline.

However, Samsung is facing challenges such as rising production costs, declining profits in critical industries, and fierce competition from Apple, Huawei, and Xiaomi. To address these issues, the company must improve cost management, differentiate its products, and identify new market opportunities. In ad-

dition, geopolitical and economic uncertainty necessitate proactive risk management.

Samsung's rise from a small trading company to a global technology conglomerate demonstrates its tenacity and ability to overcome adversity. With a focus on innovation, efficiency, and sustainable development, Samsung is well positioned to maintain its technological leadership and contribute positively to society's future development.

References

- American Express Business Trends and Insights. (2024, August 12). 4 Ways to Build An Antifragile Business. Business Class: Trends and Insights | American Express. URL: <https://www.americanexpress.com/en-us/business/trends-and-insights/articles/4-ways-to-build-an-antifragile-business/>
- BCG Matrix Analysis of Samsung [Detailed] - Boardmix. (n.d.). URL: <https://boardmix.com/analysis/bcg-matrix-of-samsung/>
- Bajj, A. (2023, May 4). Samsung's Marketing Strategies: Redefining Possibilities. StartupTalky. <https://startuptalky.com/samsung-marketing-strategies/#:~:text=Demographic%3A%20Samsung%20targets%20consumers%20of%20all%20ages%2C%20genders%2C,the%20lookout%20for%20the%20latest%20and%20greatest%20products.>
- Bhasin, H. (2023, June 9). Business Model of Samsung – How does Samsung make money? Marketing91. <https://www.marketing91.com/business-model-of-samsung/>
- Buchholz, K. (2021, March 22). Intel and Samsung Lead Global Semiconductor Production. Statista Daily Data. <https://www.statista.com/chart/24485/biggest-semiconductor-producers/>
- Building Antifragile Organisations with AI. (n.d.). <https://www.mesh-ai.com/blog-posts/building-antifragile-organisations-with-ai>
- Burris, M. (2020, December 2). The History of Samsung (1938-Present). Lifewire. <https://www.lifewire.com/history-of-samsung-818809>
- Cuofano, W. I. G. (2024, April 12). What Is Samsung's Organizational Structure? Samsung Organizational Structure In A Nutshell. FourWeekMBA. <https://fourweekmba.com/samsung-organizational-structure/>
- Cuofano, W. I. G. (2024, April 3). Siloed Organizational Structure. FourWeekMBA. <https://fourweekmba.com/siloed-organizational-structure/>
- Evans, L. (2023, September 22). Samsung's Organizational Structure & Its Characteristics (An Analysis). Panmore Institute. <https://panmore.com/samsung-corporate-organizational-structure-characteristics-analysis>

- Financial Statements | Financial Information | Investor Relations | Samsung Global |. (2024, February 20). Samsung Global. <https://www.samsung.com/global/ir/financial-information/audited-financial-statements/>
- Gadalla, A. (2020, April 19). SAMSUNG MANAGEMENT CASE STUDY. ResearchGate. https://www.researchgate.net/publication/350734149_SAMSUNG_MANAGEMENT_CASE_STUDY
- Global Smartphone Market Share: Quarterly - Counterpoint. (2024, February 22). Counterpoint Technology Market Research. <https://www.counterpointresearch.com/insights/global-smartphone-share/>
- Jain, A. (2023, June 16). Business Model of Samsung ~ Business Plan, Revenue Model, SWOT Analysis. Investor Guruji. <https://investorguruji.com/business-model-of-samsung/#:~:text=The%20unique%20selling%20proposition%20for%20Samsung%20is%20mostly,structure%2C%20its%20aptitude%20for%20adaptation%20to%20economic%20events.>
- Jurevicius, O. (2021, October 20). Samsung Mission Statement. Strategic Management Insight. <https://strategicmanagementinsight.com/mission-statements/samsung-mission-statement/>
- Khankasi, A. (2020, January 5). Ansoff Matrix of Samsung. Ansoff Matrix. URL: <https://ansoff.com/ansoff-matrix-of-samsung/>
- Leadership & Mission | About Us | Samsung US. (2024, March 27). Samsung Us. <https://www.samsung.com/us/about-us/leadership-and-mission/>
- Liberto, D. (2023, October 12). Anti-Fragility: Definition, Overview, FAQ. Investopedia. <https://www.investopedia.com/terms/a/anti-fragility.asp>
- Martin, V. (2023, September 23). Samsung's Mission Statement, Vision Statement & Purpose (An Analysis). Panmore Institute. <https://panmore.com/samsung-corporate-vision-statement-corporate-mission-statement-analysis>
- Munoz, A., Billsberry, J., & Ambrosini, V. (2022). Resilience, robustness, and antifragility: Towards an appreciation of distinct organizational responses to adversity. *International Journal of Management Reviews*, 24(2), 181–187. <https://doi.org/10.1111/ijmr.12289>
- Pereira, D. (2023, June 24). Samsung Mission and Vision Statement. Business Model Analyst. <https://businessmodelanalyst.com/samsung-mission-and-vision-statement/>
- Sadek, S. (2022, April 14). Samsung Stock: How to Invest in EWY,KF. Investopedia. <https://www.investopedia.com/articles/investing/082714/how-invest-samsung.asp>
- Samsung Electronics Announces Fourth Quarter and FY 2023 Results. (n.d.).

- <https://news.samsung.com/global/samsung-electronics-announces-fourth-quarter-and-fy-2023-results>
- Samsung Electronics Company's Business Model Essay Example [Free]. (2022, November 22). Business-Essay.com. <https://business-essay.com/samsung-electronics-companys-business-model/>
- Samsung Segmentation, Targeting and Positioning: multi-segment, imitative and anticipatory. (2017, October 12). Research-Methodology. <https://research-methodology.net/samsung-segmentation-targeting-positioning-multi-segment-imitative-anticipatory/>
- Samsung revenue by segment 2011-2023 | Statista. (2024, February 20). Statista. <https://www.statista.com/statistics/630434/samsung-quarterly-revenue-by-segment/>
- Samsung: Business Model, SWOT Analysis, and Competitors 2023 - PitchGrade. (n.d.). <https://pitchgrade.com/companies/samsung>
- Samsung's Brand Story | Brand Identity | Samsung US. (2021, December 2). Samsung Us. <https://www.samsung.com/us/about-us/brand-identity/brand-story/>
- Samsung's Brand Story | Brand Identity | Samsung US. (2021, December 2). Samsung Us. <https://www.samsung.com/us/about-us/brand-identity/brand-story/>
- Sastry, A. (2023, October 5). Comprehensive Business Model of Samsung - 2024 | IIIDE. IIIDE. <https://iide.co/blog/business-model-of-samsung/>
- Simpson, J., Oosthuizen, R., Sawah, S. E., & Abbass, H. (2021). Agile, Antifragile, Artificial-Intelligence-Enabled, Command and Control. arXiv (Cornell University). <https://doi.org/10.48550/arxiv.2109.06874>
- Song, J., & Lee, K. (n.d.). The Samsung Way: Transformational Management Strategies from the World Leader in Innovation and Design. O'Reilly Online Learning. <https://www.oreilly.com/library/view/the-samsung-way/9780071835794/ch03.html>
- Taleb, N. N. (2013). "Antifragility" as a mathematical idea. *Nature*, 494(7438), 430. <https://doi.org/10.1038/494430e>