# **Extended Essay In Business Management**

# **Evaluation of Butterfly Network's Profitability**



To what extent can Butterfly Network increase profitability through various strategic changes?

Candidate number: 001218-0125

**Word Count: 3812** 

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## Introduction

Butterfly Network (BFLY) is a publicly traded medical technology (MedTech) startup that designs revolutionary and inexpensive medical imaging devices. Butterfly Network was founded in 2011, by Dr. Jonathan Rothberg, a successful serial entrepreneur in the medical technology industry (Dr. James Somauroo). Butterfly's headquarters is in

Connecticut, USA, with around 150 employees. Butterfly created the world's first handheld, single-probe whole-body ultrasound system using its patented Ultrasound-on-Chip™ semiconductor technology (Jeannine Mjoseth; Forbes). Although Butterfly is an innovative organization, the company still continues to experience low profitability. Therefore, this investigation strives to explore the extent to which the use of various strategies, such as diversification, product development and cost reduction strategies enhance the profitability of Butterfly.

Butterfly Network is dedicated to the manufacturing distribution of hardware and software for portable imaging. The organization's main mission is to "democratize healthcare" for the people who lack access to medical imaging; consequently, Butterfly has a global target audience. Butterfly Network has five prominent devices: iQ+ ultrasound, Butterfly Blueprint<sup>TM</sup>, iQ+ Care, Butterfly Transform, and lastly the iQ+ Ve. The organization was able to place an entire ultrasound machine on a small chip, and they made improvements to an ultrasound's portability, power consumption, and cost. A single probe does the work of several machines by controlling sensors with software, by connecting to a phone which runs an application that collects data and sends it to the cloud for instant storage and for analysis by artificial intelligence-based software. The results of the analysis are then shared with medical practitioners worldwide., which aligns with their objective to make ultrasound scannings accessible to people of all financial statuses (Butterfly Network; Samuel L. Bruelson).

Overall, Butterfly Network operates in a highly competitive, rapidly growing market. The medical imaging sector consists of corporations who manufacture technological devices that monitor, observe, diagnose, or treat a range of medical illnesses. The industry consists of various technologies including, but not limited to, x-rays, ultrasounds, handheld ultrasounds, VR, AR, 3D Imaging, AI. In 2020, the industry's size was \$36.19 billion, and by 2028 it is projected

that market will grow to \$56.53 billion. Butterfly Network is competing in a market that has always been dominated by highly profitable industry giants: Siemens, GE, Philips, Samsung, and Fujifilm (Fortune Business).

The primary aim of this extended essay is to answer the following question: To what extent can Butterfly Network increase profitability through various strategic changes?. This RQ is of great significance, as it draws conclusions to the methods by which Butterfly can increase its profitability, which will increase its market share.

## Methodology

This business management extended essay will make use of secondary sources, in order to evaluate the different methods by which Butterfly network could increase its market share in the medical imaging sector and its total revenues (Investopedia). A wide range of sources were utilized: websites, news articles, business/economical / scientific research papers, analysis reports, Profit and Loss Statement, the IB BM textbook, and governmental regulatory body reports. A variety of sources were analyzed, because they allow the research question to be explored in great detail. In this extended essay, all the data will be analyzed through a variety of business theories and tools.

The main strategies proposed to increase Butterfly's profitability are: international expansion, diversifying product mix in order to increase and diversify target audiences, reduction in manufacturing expenses, and increase research and development, to increase use of cash/cash equivalents (Paul Hoang).

## **Business Theories & Tools**

### **Financial Analysis:**

Analysis of a firm's financial documents reveals key insights into the company's performance and potential. Therefore, in this investigation, Butterfly's income statements and balance sheets from 2019 till 2021 will be examined. The income statement is a document outlining a breakdown of Butterfly's revenue, cost of goods sold, gross profit, operating expenses and net profit. Analysis of the income statement indicates the ways in which Butterfly is excelling and avenues or aspects that are negatively impacting profitability. Moreover, analysis of the balance sheet will be conducted to complement the income statement. The balance sheet is a financial document emphasizing the firm's assets (current and fixed), liabilities (current and long-term) and equity.

## **Ansoff Matrix:**

The ansoff matrix is a business analytical tool, utilized by managers to select and concoct a wide range of product and market growth strategies. There are four main parts to the ansoff matrix: market penetration, product development, market development, and diversification. This research paper will investigate the ways in which Butterfly can increase profitability, through the use of the ansoff matrix, by evaluating Butterfly's current product and market strategies and then suggesting new strategies.

### **Globalization:**

Globalization is the process by which businesses expand operations through penetration of new markets directly or partnership with distributors and manufacturers in foreign markets. Globalization is a key strategy for increasing

revenue as it allows companies to enhance their customer base. In addition, companies compete to penetrate new markets as this offers a first-mover advantage. Butterfly is aggressively investing in globalization or international expansion efforts. Therefore, in this essay, the globalization strategies of Butterfly, their efficacy and potential impact on market share and revenue, will all be studied.

## **Competition:**

In the corporate world, all organizations have competition, whether big or small. Butterfly Network, operating in the medical imaging sector, is continuously competing against stable, well-recognized, and established companies. In this EE, Butterfly Network and its biggest competitor, Simmens, will be compared from the perspective of financial statements, international growth, and organizational objectives (target products & markets). This comparison is essential, as it allows further investigation of the methods by which Butterfly can increase its profitability and market share.

## The Profitability of Butterfly Network

## **Financial Analysis of Butterfly Network:**

Overall, the financial performance of Butterfly Network will be examined through analysis of the income statement and balance sheet. Profitability is a business concept used to measure the efficiency of a corporation; the difference between total income and total expenses (net profit). The higher an organization's net profit, the more profitable the company (Paul Hoang).

CONSOLIDATED STATEMENTS OF OPERATIONS (In thousands, except shares and per share amounts)				
	Ye	ear ended	Dece	ember 31,
	-	2020	200	2019
Revenue:				
Product	\$	38,347	\$	25,081
Subscription		7,905		2,502
Total revenue	\$	46,252	\$	27,583

Fig 1. Butterfly Network Revenue Financial Report (Yearly), Years 2019 and 2020. Source: Business Wire.

		Three months ended September 30,			30,	Nine months ended September 30,					,	
	_	202	1		202	0		2021	l		2020	)
	_		% of			% of			% of			% of
(in thousands)		Dollars	revenue	]	Dollars	revenue		Dollars	revenue		Dollars	revenue
Revenue:												
Product	\$	10,848	74.2 %	\$	8,621	85.1 %	\$	33,455	76.8 %	\$	25,820	84.4 %
Subscription		3,773	25.8 %		1,514	14.9 %		10,123	23.2 %		4,777	15.6 %
Total revenue:	\$	14,621	100.0 %	\$	10,135	100.0 %	\$	43,578	100.0 %	\$	30,597	100.0 %

Fig 2. Butterfly Network Financial Report (Nine Months), Years 2020 and 2021. Source: US SEC Government. General examination of Butterfly's income statements for the years 2019, 2020 and 2021 reveal intriguing trends. In 2019, the total revenue was approximately \$27.6 million, then increasing by 67.6% to over \$46.2 million. By the end

of 2021, the total revenue had increased to \$62.6 million; within a three year period, the company generated a 126% increase in total revenue. This is a result of their increase in clinical partnerships within the US, increase in software subscription and aggressive international expansion. Nevertheless, in 2019, the company suffered a negative gross loss of \$20.9 million. In 2019, the company required a significant increase in research and development expenditure to amplify production of their devices. Thus, a high cost of sales was required to rapidly expand. Similarly, in 2020, cost of revenue more than doubled resulting in a gross loss of \$61.2 million. This gross loss is due to non-recurring charges and disruptions to the supply chain because of the COVID-19 pandemic. Fortunately, in 2021, cost of sales decreased to only \$45.5 million. Consequently, at the end of 2021, the company generated a gross profit exceeding \$17 million. Nevertheless, within this three-year period, the firm's operating expenses had increased from \$81.4 million in 2019 to \$209.8 million in 2021. This significant proliferation in operating costs is due to increase in spending on recruitment, partnerships, expansion of manufacturing facilities and preparation for public listing. It is evident that the largest contributor to the operating expenses is the "selling general and administrative" expenditure increasing by more than 300% by 2021 (Yahoo Finance; Stock Analysis).

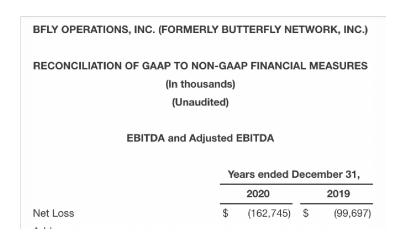


Fig 3. Butterfly Network Net Loss Financial Report (Yearly), Years 2019 and 2020. Source: Business Wire. Overall, in 2019, the firm's net income was a loss of \$99.7 million. However, by 2021, this loss in net income had only decreased to \$32.3 million. Although the firm has not attained a breakeven point yet this is promising. Butterfly is a

firm in an early growth stage that is investing significantly in setting up production facilities, developing distribution channels and recruiting sales and engineering teams. Consequently, in the early years of the firm, the company will continue to generate a loss due to spending on these fixed costs. However, as revenue continues to rapidly increase, Butterfly demonstrates potential to breakeven and generate profit within a few years. It is integral for Butterfly to reduce operating expenses or increase revenue significantly to achieve profitability.

The following critical ratios were calculated: current ratio, working capital, debt-to-equity ratio, and solvency ratio, primarily to further analyze Butterfly Network's profitability and potential to increase their profitability. These four ratios are of great importance, as they draw attention to Butterfly Network's major successes or failures (Maria Tanski Philips).

The ratios from fiscal year 2019, indicate that Butterfly Network was to some extent financially solid. A current ratio of 7.13:1 signifies that Butterfly had seven times as many assets than liabilities, however, it also indicates that Butterfly might not be managing funds effectively (Business insider). In addition, \$93,930,000 worth of working capital suggests that the corporation has more than enough capital to run its business operations. Moreover, the company's debt-to-equity ratio suggests that they have \$0.11 of debt for every dollar of equity, thus showing the financial independence of the company, since they don't rely much on equity to finance the business. Butterfly's exceedingly high solvency ratio, 172%, indicates that they are financially stable, which is a major advantage for

#### potential investors.

Current Ratio = Current Assets / Current Liabilities =  $109,255,000 \overline{/15,325,000} = 7.13:1$ 

Working Capital = Current Assets - Current Liabilities = 109,255,000 - 15,325,000 = \$93,930,000.00

Debt - To - Equity Ratio = Total Liabilities / Total Shareholder Equity = 16,478,000 / 148,695,000 = 0.11 : 1

Solvency Ratio = (Total Net Income + Depreciation) / Total Liabilities = (27,583,000 + 758,000) / 16,478,000 = 1.72

#### Fig 4. Butterfly Network's Fiscal Year 2019 Ratios. Source: Stock Analysis.

On the other hand, the ratios calculated for fiscal year 2020, clearly highlight that Butterfly Network was heavily, negatively impacted by the COVID-19 pandemic outbreak. The working capital ratio of \$2,763,700 identifies that Butterfly Network has a higher number of liabilities than assets, and is unable to pay all its operating expenses. Furthermore, Butterfly's debt-to-equity ratio of -149.08: 1, concludes that the company is at high risk of bankruptcy, because they have more liabilities than assets. To add on, Butterfly's solvency ratio of 32% is a sign that the company faces no issues with paying long-term debt, however, it is possible for their solvency ratio to decrease quickly, if neglected, which will pose a threat to its financial stability. However, the current ratio of 1.40:1 demonstrates that Butterfly is able to pay its current liabilities, and doesn't face short-term liquidity complications.

Current Ratio = Current Assets / Current Liabilities = 97,332,000 / 69,695,000 = 1.40 : 1

Working Capital = Current Assets – Current Liabilities = 97,332,000 - 69,695,000 = \$2,763,700

Debt - To - Equity Ratio = Total Liabilities / Total Shareholder Equity = 148,185,000 / -994,00 = -149.08 : 1

Solvency Ratio = (Total Net Income + Depreciation) / Total Liabilities = (46,252,000 + 1,316,000) / 148,185,000 = 0.32

Fig 5. Butterfly Network's Fiscal Year 2020 Ratios. Source: Stock Analysis.

Fortunately, in 2021 it is conspicuous from the ratios, that Butterfly was successful at reverting its financial position. Butterfly shows financial strength through its current ratio of 10.27:1, because the company has 10 times as many

assets than liabilities, however, its over exceeding current ratio is a sign of ineffective management of funds. To add on, Butterfly's working capital of \$462,075,000, reveals the resurgence that the company had post the pandemic, because they have enough capital to run business activities for a year or even two. In addition, the debt-to-equity ratio indicates that Butterfly has \$0.28 of debt for every dollar of equity, hence suggesting they have no reliance on equity to financial business activity. Butterfly also presents its financial strength in fiscal year 2021, through their solvency ratio of 52%, which demonstrates that the organization is financially stable for a very long period of time, and are more than capable of paying off their long term debts.

Current Ratio = Current Assets / Current Liabilities = 511,904,000 / 49,829,000 = 10.27 : 1

Working Capital = Current Assets – Current Liabilities = 511,904,000 - 49,829,000 = \$462,075,000

Debt - To - Equity Ratio = Total Liabilities / Total Shareholder Equity = 124,274,000 / 447,691,000 = 0.28 : 1

Fig 6. Butterfly Network's Fiscal Year 2021 Ratios. Source: Stock Analysis.

Solvency Ratio = (Total Net Income + Depreciation) / Total Liabilities = (62,565,000 + 2,090,000) / 124,274,000 = 0.52

## **Marketing Strategies:**

One of the main reasons behind Butterfly Network's low profitability is their ineffective marketing strategy. Over the past three years, Butterfly has implemented poor marketing strategies. They are continuously diversifying their portfolio of products by frequently releasing new products, for new target customers, rather than focusing on a singular product for a target market and customer group. Spreading so thinly distracts the company and consumes resources without proper justification for the return on investment (ROI). Butterfly Network quickly shifted from

producing/selling handheld ultrasound machines for clinics/hospitals, then to consumers for home use, and now they are targeting vets/animal owners. Butterfly Network is extensively marketing ultrasound and diagnostics hand-held devices for the veterinary market; which no doubt is in dire need for such devices. Simultaneously, they are marketing medical diagnostic equipment for hospitals, consumers, locally in the USA and internationally in the various countries in which they have a presence.

Below is an image of the ansoff matrix chart, which suggests four different marketing strategies for business to grow. According to figure 5, Butterfly Network is constantly partaking in diversification, since they are manufacturing new products, each with its own target market.

		Products			
		Existing	New		
cets .	Existing	Market penetration	Product development		
Markets	New	Market development	Diversification		

Fig 7. Ansoff Matrix Chart. Source: IB Business Management Textbook Paul Hoang 4th Edition.

A major difficulty that Butterfly Network faces is their lack of solid marketing strategies; currently they are spreading too thin, by their ongoing diversification; new products and new markets. For Butterfly to succeed, increase profitability, and increase market share, the organization must begin by implementing the marketing strategy, market

penetration, until they break-even. Market penetration will allow Butterfly to effectively reach out to their target customers, and truly focus on their devices, to ensure they are producing the best technology in the market. Once Butterfly breaks-even, they should execute the marketing strategy, market development, until their total revenues have exceeded their goals, and they no longer suffer from significant losses. Market development enables the corporation to further improve their current medical imaging devices, while expanding its target market and consumers. The market segment's expansion is essential for Butterfly to increase profitability, because the organization would be capable of . Therefore, Butterfly Network should only take part in diversification, if they have successfully increased their total revenues, have no net losses, and are financially solid.

Despite Butterfly Network's ineffective marketing strategies, the company is on the right track, however, they must execute their plans and strategies effectively, in order to increase their profitability. Butterfly Network provides its customers with the most affordable medical imaging devices, when compared to its competitors such as GE Health, Siemens, and FujiFilm, however, Butterfly also has the most patents, supporting the idea that the company is not focused on succeeding at one device at a time (Butterfly Network). Butterfly Network must take advantage of the various patents they own, in order to release its medical imaging devices at the right times, when they are in high demand, and when no competing company has produced those new devices (Mukund Mohan). This will ensure that customers purchase Butterfly Network's new medical imaging devices until their devices are all sold out, which will allow Butterfly to lead the market for that specific device, and increase its market share and profitability.

Furthermore, Butterfly Network should consider forming alliances with well established medical diagnostics equipment; such as Siemens, rather than competing directly with all major players. Legacy medical imaging companies have their own internal barriers and bureaucracies. It is not surprising that a tier-one manufacturer could be interested in a partnership with a startup like Butterfly Network. Such an alliance would benefit both parties.

## **International Expansion:**

abroad, and through distributors. Butterfly has already created partnerships and distributorship for its iQ+ devices in the following countries: "Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Ireland, Italy, the Netherlands, New Zealand, Norway, Poland, Portugal, Spain, Sweden, Switzerland, and United Kingdom" (Business Wire). The organization also recently partnered with Abdul Latif Jameel Health, in order to introduce the Butterfly iQ+ device to the Middle East, Turkey, North Africa, and India (Abdul Latif Jameel).

Butterfly Network endeavors to grow their business beyond the United States by forming partnerships with companies

Usually, globalization is one option for companies to expand their footprint to increase revenues and market share. For this reason, Butterfly Networkforged a partnership with a conglomerate in Saudi Arabia to cover the Middle East and North Africa. A year has passed since the signing of the partnership, yet insignificant revenues have been made from Butterfly Network's overseas partnership with Abdul Latif Jameel Heath. Butterfly Network has various projects, similar to this one, where they are gaining no value, simply because "it is a new product and market" and the sector is "unpredictable". In this case globalization of Butterfly is damaging the profitability of the company, instead of increasing profits.

On the contrary, some analysts attribute the poor performance of Butterfly Network to their lack of focus and spreading too thin (Patrick Bafuma). Rather than going overseas during a time they were struggling to gain market share, they should have focussed locally. The market is dominated by whales who have been in the market for decades and have deep pockets to crush new entrants. In addition, it is not a surprise if companies like; Siemens, GE Health, or FujiFilm, would introduce medical imaging devices of their own that are of greater quality than that of Butterfly Network. For that reason, Butterfly should concentrate on developing the right products, and customer base

in the US, before expanding into new markets abroad and taking part in globalization. Moreover, it is evident that currently Butterfly Network is not profiting much from its overseas partnerships and distributions, which is immensely damaging to the earnings, profitability, and market share of the organization. Furthermore, expansion into global markets comes with its own challenges besides the potential increase in sales and brand equity. The complexity of scaling up could place significant strain on management, operation, financial resources, control, and systems. Failure to manage growth effectively could have a negative impact on reputation and financial performance. In other words, at this point, globalization will do more harm than good for Butterfly Network, hence they should focus solely on the medical imaging sector in the United States for the coming years, until they are financially stable and capable of globalizing.

## **Butterfly Network's Competition:**

Competition between corporations has a very positive impact on the performance of an organization, as competition ignites a company to work extremely hard, exceed their goals, and gain as much revenue as possible. However, competition can also have a negative impact on performance, because companies begin working solely to take out the competition, management begins to forget about their objectives, and start taking irrational decisions that cause more harm than good for the company. Butterfly Network is operating in one of the most competitive sectors, the medical imaging sector, because it's competing against highly profitable, and well recognized organizations such as, Simmens, Fuji Films, GE, and many more (Mukund Mohan; Conor Stewart). A major advantage of Butterfly having competitors is that the company can compare its own performance and financial statements with its competitor's performance and financial statements. For instance, Butterfly Network can be compared to Simmens, in order to figure out their weaknesses, what they are doing wrong, and to predict the way in which they can improve their activities, to reach the same level or overtake Simmens.

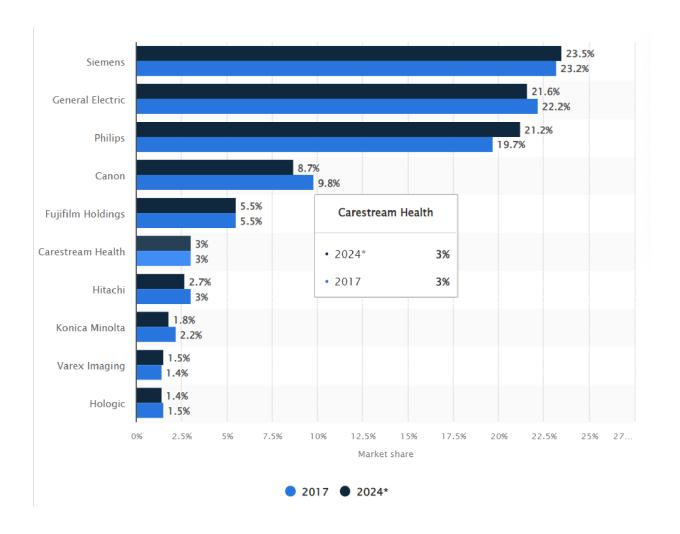


Fig 8. Medical Imaging Sector Individual Company Market Shares. Source: Conor Stewart.

Siemens has been dominating the medical imaging sector for several years. In 2018, Siemens took public their medtech division, Siemens Healthineers (SHL), to increase focus on this domain. A year later in 2019, the startup company reported very strong revenue growth by 6% with adjusted profit margin of 17%. The total revenue of Siemens Healthineers exceeded \$16 billion in fiscal year 2019 compared to Butterfly's revenue of only \$27 million for the same period. Then in 2020, Siemens Healthineers's revenues grew to \$17 billion marking the beginning of the second phase of the Siemens Healthineers Strategy 2025, in which the company set a target to increase dominance in the point of

care space leaving limited opportunities for small players like Butterfly Network (Healthineers). In fiscal year 2020, Butterfly Network suffered significant negative performance despite an increase in revenues reaching \$46 million, a year-over-year increase of 68%. Yet, Butterfly Network suffered huge losses of \$61.2 million due to the impact of Covid-19 causing a significant increase in the cost of revenue and non-recurring charges. In 2021, Butterfly Network recovered by increasing its revenues to \$62.6 million and generating gross profit of \$17 million; which is a significant progress in its first year as a public company. For the same period, Fiscal year 2021, Siemens Healthineers grew its revenues by 19.3% exceeding \$18 billion with gross profit exceeding \$3

billion. Thus it is evident that Siemens is on track to achieve their strategy 2025 (Yahoo Finance).

Similarly, if Butterfly Network is compared to other competitors; such as GE, Fujifilm, and Canon, it would demonstrate the dominance of these long-time market leaders. Figure 9 shows that the top 5 companies have a combined market share of over 85%. Therefore, Butterfly Network must make major changes in its management and operation in order to compete for a slice of the remaining 15% market share. However, Butterfly Network faces huge competition, not only from market dominators, but also from newly emerging start-up and organizations, which aspire to lead the medical imaging market one day, similar to Butterfly Network. The graph below, presents a visual representation of the market shares of companies in the medical imaging sector. Figure 9 clearly and visually indicates the competition that Butterfly Network faces, in addition to the 10 newly emerging companies who are also new to the medical imaging sector, and pose a threat to Butterfly Network's mission to increase profitability.

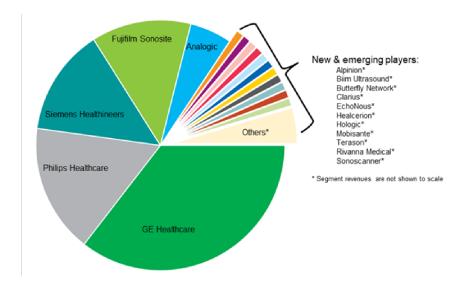


Fig 9. Medical Imaging Sector Market Shares. Source:. Mukund Mohan.

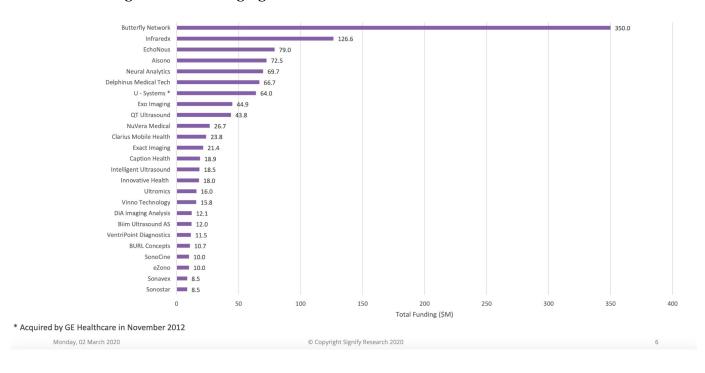


Fig 10. Medical Imaging Sector Funding Since Foundation till 2012. Source: Simon Harris.

Butterfly Network is a solid company, when compared to its competitors who are also new to the medical imaging sector. Out of all eleven companies, Butterfly Network, is the organization with the most patents for hand held medical

imaging devices, and sensor technologies. In addition, Butterfly receives the most funding, because by 2012 the company received around \$350 million in total funding since it was founded, while the rest of its newly emerging competitors received less than \$100 million in total funding. Furthermore, Butterfly Network provides its customers with very competitive and affordable prices; Butterfly Network's hand held ultrasound probes cost around \$2000 and an annual subscription fee of approximately \$500, while GE's handheld ultrasounds cost around \$5000 (Butterfly Network; GE Healthcare Systems).

## **Conclusion**

To conclude and answer the research question: "To what extent can Butterfly Network increase profitability through strategic changes?", it is perceptible that for Butterfly to increase profitability, and ultimately increase market share, they must implement three main changes. Firstly, they have to alter their marketing strategy to market penetration until they break-even, then market development to increase its customer base, and then after turning the company around, by making revenues rather than losses, they can begin to diversify. In addition, Butterfly Network should adjourn international expansion, because even though it's crucial for growth, their globalization is causing more harm than good at the moment. Hence, they should only start globalizing when their revenues are soaring, and they bear no losses. Furthermore, Butterfly ought to create a well thought out, focused plan for the upcoming 5 or 10 years, that is similar to Siemens Healthineers Strategy 2025, in order to effectively increase earnings, profitability, reduce its losses and successfully increase its market share.

Unfortunately, the playing field for Butterfly is extremely narrow and small, as its competitors are continuously growing their product and market lines, without harming their company's earnings or profitability. However, given the fact that Butterfly was the first company to manufacture point-of-care devices, they still have the potential to increase their profitability and market share, but in order to do so, they have to concentrate on a certain aspect of their organization, instead of diluting their efforts to produce and market several devices for different markets.

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## **Appendix**

SWOT analysis -> technique used by companies to examine internal & external factors that affect their activity.

Here is a SWOT Analysis I created for Butterfly Network:

Strengths	Weaknesses

- Supported by several major institutional investors.
- Low-cost handheld ultrasound devices.
- Strong management team.
- Revolutionary devices that meet the needs of medical imaging devices.
- Democratization; create value socially, clinically, and economically.
- Focuses on customer satisfaction.

- Newly emerging business in a new market.
- Inability to generate projected revenues.
- Devices have lithium-ion batteries, which are extremely flammable.
- The company is facing huge losses; their projected EBITA for 2021 is -135M US dollars.

Opportunities	Threats
<ul> <li>High demand for handheld ultrasound devices.</li> <li>Increase in the number of heart conditions in the US.</li> <li>Ability to create an application platform that connects to the device.</li> <li>Prolonged pandemic increases demand for handheld devices to be used for home use, to reduce visits to hospitals.</li> <li>Potential to expand the business outside of the US.</li> </ul>	Competition from legacy market leaders in the medical imaging industry.  Competition from smaller businesses that are also newly emerging.  FDA approval for future devices isn't guaranteed.  The healthcare industry in the US is undergoing structural changes.  Prolonged pandemic impact on reduced or cancelation of ultrasound orders from medical facilities and clinics.