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Jozzy Carter
University of Nebraska-Lincoln

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A STRATEGIC AUDIT OF MEDTRONIC PLC

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By
Jozzy Carter, BS
Biological Systems Engineering
College of Engineering

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Faculty Mentors:
Samuel A. Nelson, PhD, Business
Abstract

Humans will always have a need for healthcare, and as the world continues to innovate in the tech space, consumers will demand advances in medicine and medical devices. Medtronic is at the forefront of this innovation but faces intense competition in the medical technologies industry. This poses the question: what can Medtronic do to continue its growth and stay competitive in this space? This paper offers an analysis of Medtronic as a medical device company by offering insight to its competitive advantage, financials, business mix, and value chain. It also analyzes the forces that affect Medtronic using SWOT, PEST, and Porter’s 5 Forces analyses. Insights from these will be used to determine strategic goals, develop a recommendation, and propose an implementation plan that Medtronic may use to continue its growth and address its major issues: reliance on U.S. markets, inability to grow sales in emerging markets, and stagnant growth in its Diabetes Group operating segment.

**Keywords**: Medtronic, strategic audit, medical technologies
Background and Issues

Background

Medtronic PLC (Medtronic) is a medical technologies company that was founded in 1947 by Earl Bakken and Palmer Hermundslie (Medtronic, “History”). Headquartered in Dublin, Ireland, Medtronic is best known for its implantable cardiac devices and insulin pumps. It started as a medical equipment repair shop and has grown into the world’s largest medical device company (Schmidt, 2017). Its first device was a battery-powered external artificial pacemaker—the first of its kind (Aquilina, 2006). Medtronic began selling this device and others throughout the 1950s, and eventually established its operational headquarters in Fridley, Minnesota in the 1970s (Hawkins).

Medtronic has gone through numerous acquisitions to expand its products and expertise—its first being Physio-Control Corporation in 1998. In June 2014, leaders at Medtronic made history by announcing the largest medical device acquisition ever: Covidien for $42.9 billion (Cortez & Welch, 2014). The goal was to provide the breadth and depth of knowledge Medtronic is looking for to expand globally. Since then, Medtronic has continued to expand through acquisitions, attempting to achieve growth and improvement goals. With over 91 thousand employees in around 160 countries (Medtronic, 2018), Medtronic is truly a giant in the $400 billion medical technologies industry (Statista, 2018).

Products

Medtronic’s products range from implantable pacemakers and defibrillators to diabetes management solutions and drug infusion systems. It breaks down its operating segments into four main groups, which are further defined in “Situation Analysis: Business Mix.” Many of these products were designed through Medtronic research and development (R&D), while others were acquired through acquisitions of smaller medical device companies.

Vision and Current Strategies

The Medtronic Mission is stated in its 2017 Annual Report in six parts, but its vision is conveyed through the first tenet: “To contribute to human welfare through application of biomedical engineering...to alleviate pain, restore health, and extend life,” (Medtronic, 2018). Although it was written in 1960, it is still used to guide Medtronic’s everyday business and strategies. Its current chairman and CEO, Omar Ishrak, decided to focus the company on three major growth strategies:

● Therapy Innovation: Release innovative and meaningful therapies and procedures
● Economic Value: Become a leader in value-based healthcare
● Globalization: Confront inequity of healthcare access in emerging markets

In 2017, Medtronic released the Micra® Transcatheter Pacemaker and MiniMed® 670G hybrid closed-loop system. Both are promised to disrupt the market, thus addressing its Therapy Innovation growth strategy. The company hopes to lead the way in value-based healthcare, and
in 2017 had more than 130 contracts in place with hospitals to develop customized solutions and services. As for its globalization strategies, its China and Asia Pacific regions continue to execute and grow. However, its Middle East and Africa regions are experiencing a decline (Medtronic, 2018).

Issues Medtronic is Facing

Medtronic faces much of the same issues that any other company in the medical technologies industry faces, such as FDA concerns and potential lawsuits over faulty products. It also faces risks due to its high number of acquisitions, mainly the inability to integrate other companies. However, its major issues are its reliance on U.S. markets, its inability to grow sales in emerging markets, and its stagnant growth in the Diabetes Group operating segment.

Situation Analysis

Business Model

Medtronic is actively trying to change from a volume-based to a value-based healthcare business model (Kaiser & Lee). A volume-based approach is what typical healthcare businesses use: a consumer pays for the volume of service or product they receive. A value-based healthcare approach is one where the consumer pays based on the quality of service or product they receive (Medtronic, 2018). Medtronic is convinced that healthcare as an industry is moving in that direction and hopes to lead the way.

Business Mix

Medtronic has four distinct operating segments, defined below. Figures 1 and 2 show a breakdown of their net sales over the past few years.
Figure 2: Operating Segment Sales Growth

Note: Net sales for the Minimally Invasive Therapies Group in 2015 account for the fourth quarter of FY15 only, and contain the majority of Covidien’s operations (Medtronic, 2018).

Cardiac and Vascular Group

Accounting for $10.5 billion in sales, this is Medtronic’s largest operating segment (see Figure 1). It consists of products relating to the diagnosis, treatment, and management of heart problems. Examples include cardiac monitors, transcatheter heart valves, and endovascular stent grafts. Growth in this segment is steady (see Figure 2), and Medtronic hopes to cause a disruption in the pacemaker market with its Micra® Transcatheter Pacemaker, causing an increase in the profitability of this group. Competitors in this space include Abbott Laboratories (Abbott), Boston Scientific Corporation (Boston Scientific), and LivaNova PLC (Medtronic, 2018).

Minimally Invasive Therapies Group

As Medtronic’s second largest operating segment with net sales of $9.9 billion in 2017, the Minimally Invasive Therapies group began once Medtronic acquired Covidien. Despite having to integrate this segment into the Medtronic business, it was still able to experience revenue growth in 2017 (see Figure 2). Products include surgical instruments, swallowable endoscopy technology, and patient monitoring products. Primary competitors in this area are Johnson & Johnson, Boston Scientific, and Baxter International Inc (Medtronic, 2018).
Restorative Therapies Group

The Restorative Therapies group accounts for $7.4 billion in net sales for Medtronic. Its products include medical devices and implants used in the spine and brain, and it has grown the least out of the four operating segments, growing 2% in the last year. Specifically, the Pain Therapies division has continuously decreased in net sales over the past three years. However, Medtronic is actively taking steps to grow this group. Primary competitors in this segment include Johnson & Johnson, Boston Scientific, Abbott, and Stryker Corporation (Stryker) (Medtronic, 2018).

Diabetes Group

The smallest of the segments is the Diabetes group, with net sales of $1.9 billion in 2017. Its products include insulin pump therapies, glucose monitoring systems, and therapy management software. Medtronic released the MiniMed® 670G hybrid closed-loop system in 2017 after 15 years of development. According to Ishrak, it “has the potential to create new standards of care for diabetes patients under intensive insulin management,” (Medtronic, 2018). It has experienced minimal growth (see Figure 2). Competitors include Johnson & Johnson, DexCom, Inc, and Tandem Diabetes Care Inc.

Value Chain

Before a Medtronic product can be manufactured in one of its facilities, it must undergo multiple rounds of R&D. Devices must go through clinical trials and pass FDA approval, which can take years based on the number of revisions and resubmissions needed. Once it passes this approval, insurance companies, physicians, and the market all have to approve it for the product to be successful.

Medtronic’s medical devices are sold through direct sales representatives or through a limited number of independent distributors. Both its marketing and sales strategies are focused on quickly delivering high quality products to various different clients, including: hospitals and other medical institutions, physicians, and group purchasing organizations. In order to best sell and market to these diverse groups, Medtronic organizes its sales and marketing teams around physicians’ specialties (Medtronic, 2018). This allows the them to build stronger relationships with clients and build a strong brand image.

A Medtronic device starts as raw material coming from one of its many suppliers. Many of these materials come from numerous suppliers in various countries, while some only come from a specific partner. This may be due to quality, availability, and cost effectiveness. This is disadvantageous, because the FDA has strict requirements regarding manufacturing of medical technologies, which would prevent Medtronic from switching suppliers quickly if needed.

The company manufactures its devices in various locations around the world. At these locations, employees must follow strict guidelines and regulations to pass inspections. Once a device is manufactured, it is shipped to Medtronic’s various clients. End users can call a 24-hour
helpline or access an online customer portal with any questions they may have regarding the product (Medtronic, “3 Ways to Get Started”).

**Internal Analysis**

**Financials**

Medtronic’s total debt in 2017 was $33.4 billion, while its total shareholders’ equity was $50.294 billion. This gives a debt to equity ratio of 0.66, meaning Medtronic pays more with equity rather than debt, implying a conservative capital structure. This has the potential to lead to lower growth rates (“Capital Structure”, 2014). Both its operating income and operating cash flows were positive at $5.33 billion and $6.88 billion respectively. The majority of its expenses come from R&D and selling, general, and administrative expenses (consisting of salaries, professional fees, and marketing). **Table 1** shows these expenses as a percent of net sales. R&D as a percent of net sales has continuously decreased, while net sales and R&D have both increased. Cost of products sold in 2017 was $9.291 billion (Medtronic, 2018).

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<td><strong>Selling, general, and administrative expense</strong></td>
<td>34.1%</td>
<td>32.8%</td>
<td>34.1%</td>
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Table 1: Top expenses as a percent of net sales

Medtronic’s physical assets include its 370 properties in 160 countries, including areas under construction, its offices, and manufacturing facilities. The majority of its physical assets lie in its equipment, taking up 66% of its at-cost physical assets. As for intangible assets, Medtronic has acquired various other companies which has allowed it to accumulate over 4,600 patents. Its other intangible assets include trademarks, trade names, purchased technologies, customer relationships, goodwill, and in-process R&D. Overall, it has over $99.8 billion in total assets. Finally, Medtronic had over 91,000 full time employees as of April 28, 2017 (Medtronic, 2018).

**Competitive Advantage**

**Core Competencies**

To succeed in the medical technologies industry, Medtronic must have products that have been thoroughly researched, approved by the FDA, and accepted by both the market and physicians. To do this, companies in this industry must aim their efforts towards R&D, both in the marketplace and in the lab. They must also have the facilities and resources to manufacture these products.
Distinctive Competencies

Medtronic’s distinctive competencies are its growth strategies, large number of patents, and innovative products. One of its growth strategies involves spreading knowledge about value-based healthcare, and it is currently a leader in that space. This gives it the potential to solidify its brand name in the minds of consumers in a completely new area. It generally grows via acquisition, which allows it to enter niche markets by acquiring companies with top technologies in those spaces. These acquisitions, along with Medtronic’s R&D, contribute to its large number of patents. These patents create a barrier to entry for other medical device companies. A number of its products have an innovative edge versus other companies’. One example is its introduction of the MiniMed® 640G in 2015 which allows the glucose monitoring system to communicate with the insulin pump, creating more convenience for patients (“Innovation Milestones”). Although Medtronic is able to introduce these innovative technologies, other companies can work around its patents to create copycat products.

Comparative Advantages

Medtronic has few, if any, comparative advantages to other large companies in the medical technologies space. Those that it shares with large companies are economies of scale, product quality, and recognizable brand name.

SWOT: Strengths and Weaknesses

Strengths

A majority of Medtronic’s strengths lie in its numerous patents and intellectual properties. These allow it to create barriers to entry, as other medical device companies can’t make copycat products without finding clever ways to bypass them. Along with these patents come Medtronic’s core technologies that are widely used and trusted, which contribute to its brand name recognition. It has managed to develop economies of scale due to its large-scale operations, while expanding globally through acquisitions.

Weaknesses

Although it has managed to spread across the globe, Medtronic has a high reliance on the U.S. markets, generating around 56% of its revenue through U.S. markets in the past 10 years. The number of mergers and acquisitions it undertakes could also cause problems. It may take some time for each company to get fully integrated, which could cause performance issues. Since Medtronic is in the medical technologies industry, it is frequently involved in patent infringement cases, which can be extremely costly. Government investigations and various organizations can also ruin the company’s reputation. For example, PETA acquired small stock holdings to attend Medtronic’s annual meetings and boycott its testing of products on animals (Sarvestani, 2018), causing bad press for the company.
External Analysis

SWOT: Opportunities and Threats

Opportunities

Medtronic can expand into different markets and areas through mergers and acquisitions, by introducing completely new products, and by focusing on technologies and improving its research. One of its major opportunities is to expand its Diabetes Group, as the diabetes care market is expected to grow at a CAGR of 5.3% from 2017 to 2022 (BusinessWire, 2017). Another opportunity is to grow its sales in emerging markets: ones that are “in the process of rapid growth and industrialization,” (Kuepper, 2016). Its emerging markets contribute the smallest amount to its overall net sales--13% for the past 3 years.

Threats

Medtronic faces the same threats that most other medical device companies face:

1. Competition: It faces intense competition from other companies like Boston Scientific, Abbott, and Stryker. The company is treating this industry as a red ocean and must exploit existing consumer demand.

2. Acceptance into the market: Insurance companies, physicians, and the market must all accept its products for it to succeed. This creates a lot of barriers, which Medtronic needs to be thoughtful of throughout its products’ lifecycles. Along with this, companies and patients alike may sue Medtronic for faulty devices and ruin its reputation.

3. Government legislation: If laws and regulations change, it may become harder for Medtronic to develop new and innovative technologies and get them approved by the FDA. Because Medtronic is an international company, it is also exposed to trade regulations that may change over time, costing the company more money.

PEST Analysis

Many of the factors that can influence Medtronic stem from it being an international company, with different laws, regulations, demographics, etc. in each country it is located in.

Political

Laws and regulations vary throughout the world and can change over time. These include FDA regulations that medical device companies have to abide by, trade regulations, and patent protection.

Economic

Economic forces can change depending on the country that each facility is located in. Medtronic needs to be conscious of this, especially when expanding into new areas. If it develops a revolutionary new product, but no one can afford it in that economy, it will lose money. When
building facilities in other countries, Medtronic also must be aware of differences in labor costs for each country.

Social
The main social aspect Medtronic must consider is how attitudes can change towards specific devices or treatments. This can depend on the demographics and the social conventions of the country its products are in.

Technological
Technology has a significant effect on the medical device industry. New technological developments made by competitors can cause Medtronic to lose business if it does not also innovate. These advances can make an impact on Medtronic’s current product offerings by making them obsolete.

Porter’s 5 Forces

Bargaining Power of Suppliers
Medtronic has a variety of raw materials and parts that come from from a single supplier; this means that the suppliers’ bargaining powers are stronger than Medtronic’s. These suppliers can charge Medtronic more, which would decrease its margins overall. To combat this, Medtronic could experiment with different materials so that if the price of one material goes up, it is able to switch suppliers faster.

Bargaining Power of Buyers
Buyers generally want the lowest priced offering and will likely switch to another brand if it has similar offerings for less money. This threat is relatively low in this industry, however, because consumers want the best for their healthcare. To take advantage of this, Medtronic can come out with new products that will cause consumers to pay more for advancements.

Threat of Substitutes
Substitutes for Medtronic products is mitigated in some form from its use of patents. Other companies must work hard to find loopholes in order for them to create products that are identical to Medtronic products. Otherwise, different treatments from other companies for the same disease pose a threat for Medtronic. To mitigate this, it can increase the switching costs of customers through data collection and integration of different products and services.

Threat of New Entrants
In the medical technologies industry, new entrants are a positive for the general population because more innovative technologies are being developed. However, these companies could undercut Medtronic on price, or develop a more innovative product that Medtronic could not directly compete with. To handle this, Medtronic must put money into its R&D and establish industry standards due to its large market presence.
Competitive Rivalry

Medtronic’s industry is very competitive, which drives down prices that it can charge. Its major competitors also grow by acquiring smaller companies, so as a whole the market shrinks. Medtronic must have a distinct competitive advantage and remain large so that it can compete.

Strategy Goals

There are various areas in which Medtronic can improve as a business. One area is its growth in emerging markets. As of 2017, its net sales in emerging markets was only 13% of its overall net sales. An increase in marketing and sales efforts in these markets would allow Medtronic to expand its consumer base while creating barriers to entry for other companies by solidifying its brand in that market. Examples of emerging markets include Brazil, China, India, and South Africa (“Emerging Market Economy”, 2016). To measure if this goal is being achieved, one can look at the net sales in emerging markets in subsequent years to see if they are increasing.

A second strategic goal is to disrupt the stagnant growth of one or more of Medtronic’s operating segments. The segment with the lowest sales and most potential for growth is the Diabetes Group. According to the World Health Organization, “the number of people with diabetes has risen from 108 million in 1980 to 422 million in 2014” and will only continue to increase (WHO, 2017). Also, according to Business Wire, the diabetes care devices market will be worth $26.7 billion by 2022 (BusinessWire, 2017). This gives Medtronic some opportunities to expand its Diabetes Group in order to help this increasing population. If net sales increase in the Diabetes group, this strategic goal will be met.

The final goal is to decrease reliance on U.S. markets. This has been a problem for Medtronic throughout its lifetime, and it has been actively trying to confront this issue. Recently, its acquisition of Covidien allowed it to expand into non-U.S. markets, but 56% of its net sales were in the U.S. in 2017. If the U.S. percent of net sales decreases as a result of selling more products in non-U.S. markets, this goal will be met.

Strategy Alternatives

After evaluating each strategic goal, three alternatives could be chosen for Medtronic’s strategy. First, Medtronic could grow its Diabetes Group by introducing completely new products that it has not sold in the past, either through R&D or acquisition. This could include products like smart diabetes socks, such as the Siren sock, which monitors a patient’s temperature to find signs of diabetic foot ulcers (Siren, “Diabetic Foot Monitoring System”). This would address strategic goal number two, but fails to consider the other two goals.

A second alternative is to decrease reliance on U.S. markets by acquiring small companies in emerging markets. This would address goals one and three by allowing Medtronic to decrease its reliance on the U.S. while also stimulating growth in emerging markets.
A final alternative is to expand its Diabetes Group by increasing marketing and sales in emerging markets such as India. India is considered the Diabetes Capital of the World, with 8% of its adult population having diabetes in 2017 (“International Diabetes Federation”). As of 2017, emerging markets comprised the smallest portion of Medtronic's Diabetes net sales (see Figure 3). If Medtronic were able to increase sales in this segment, it would increase the Diabetes Group’s growth, decrease reliance on U.S. markets, and increase growth in emerging markets.

Figure 3: Net Diabetes Sales per Market, 2017

Strategy Recommendations

Of the three alternatives, the best option is the third. Medtronic should increase its marketing and sales tactics for its Diabetes Group in India, as it has an increasing diabetic population that would benefit from Medtronic products. It could utilize its distinctive competencies through a combination of acquiring Indian medical technologies companies specializing in diabetes treatments, pushing its idea of value-based healthcare to physicians in India, and showcasing its innovative diabetes technologies.

By acquiring companies already based in India, Medtronic won’t have to put as much time into market research. It would also most likely acquire the consumers of those products based in India, already adding sales once the acquisition is complete. This acquisition would affect its inter-org strategy, as it affects other companies outside of Medtronic.

By pushing the idea of value-based healthcare to physicians and health organizations in India, Medtronic will help grow its brand image in the mind of Indian consumers and physicians. Thus, physicians will be more likely to recommend its products, and consumers will be more likely to trust a Medtronic product. Its diabetes products are already at the forefront of diabetic product innovation, so showcasing them is only a matter of training marketing and sales departments to sell more in this market. These affect its business unit strategy, as they change how Medtronic will compete in the medical technologies industry.
These tactics will grow Medtronic’s net sales in emerging markets, its Diabetes Group, and decrease reliance on the U.S. market, thus confronting Medtronic’s three major issues.

Implementation Plan

A rough timeline of an implementation plan is shown in Figure 4. The plan will begin at the beginning of the 2019 fiscal year to ensure that the integration with Covidien and other recent acquisitions is complete. During this time, Medtronic’s marketing and sales teams will begin to reach out to physicians and healthcare organizations in India to start building relationships with them. This can be done through meetings, calls, and by attending conferences and networking events. Those teams will also be responsible for maintaining these relationships into the future.

It is also at the beginning of the 2019 fiscal year that Medtronic will be looking to acquire Indian diabetes research companies. Assuming there are enough options, and one is adequate, an offer should be made midway through 2019. Negotiations will continue, and finalizations will take place in 2021, when Medtronic officially acquires the smaller company. If there are no suitable options for acquisitions, Medtronic should put more efforts into growing its facilities in India. Specifically, the Medtronic Engineering & Innovation Center and Medtronic India Development Centre are R&D facilities in India that are not currently focused on diabetes research (Medtronic, “Locations”). Expanding their research into diabetes technologies will allow Medtronic to be at the forefront of diabetes care in India.
References


