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A Strategic Audit of Garmin LTD

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A Strategic Audit of Garmin LTD

An Undergraduate Honors Thesis
Submitted in Partial fulfillment of
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Abstract:

Garmin is a consumer electronics company that has been designing, manufacturing, and selling GPS products since 1989. Recently, however, Garmin has experienced growth well below the market average. This report examines Garmin past and present business situation using analysis techniques such as SWOT, PEST, and Porter's Five Forces. The information obtained from these analyses will then be used to propose a business strategy that would bring Garmin's growth back into line with the market average.

Keywords: Strategic Audit, Garmin, Engineering, Electronics, Business

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Background

Company History

Garmin was founded in Kansas in 1989 by its namesakes, Gary Burrell and Min Kao. While Garmin is probably best known today for its consumer automobile navigation systems, it originally designed them for the US Army. This was largely due to the Global Positioning System (GPS) being designated a military asset at the time, and not available for civilian use (Johnson-Freese). Once the US Government allowed the commercial use of the network, Garmin rapidly expanded into the company it is today, with products in the aviation, marine, automotive, and fitness industries.

Products and Industries

Core competencies

Garmin has two core competencies that have contributed to its success in every industry it has entered.

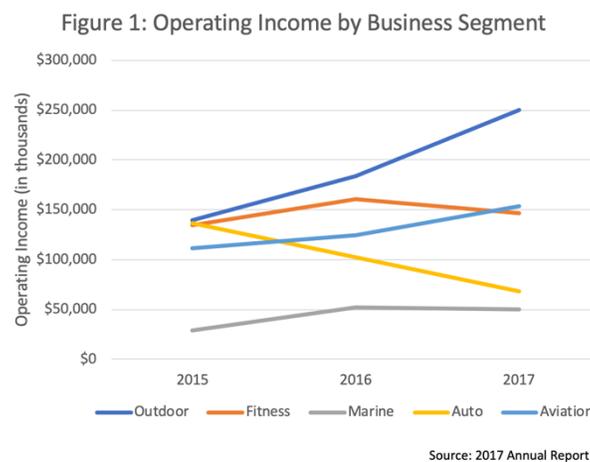
The first of these is its GPS technology. Because Garmin has been working with the technology since the early days of commercial availability, Garmin has refined its GPS products to a level difficult for new entrants to replicate. This is due to a combination of Garmin's hardware, dead reckoning algorithms, and cartographic data collection. Garmin uses this advantage to disrupt new industries with

navigations-based innovations in existing products.

The second core competency Garmin possesses is its vertical integration. On nearly every product line it offers, Garmin was responsible for the manufacturing, mechanical design, circuitry design, and software development. This amount of in-house development allows for faster prototyping and greater collaboration between designers and manufacturers. As a result, Garmin's products are typically developed faster and are of a higher quality than its competition. Doing everything in house also has the added advantage of making Garmin's operating profit margins quite high (CSI Market).

Automotive

The automotive business segment contains many of Garmin's first and best-known products. Garmin produces a myriad of consumer dash-mounted navigation devices as well as a number of OEM console-integrated navigation devices. With the recent ubiquity of mobile devices and their built-in navigation capabilities, Garmin has scrambled to diversify this segment with other automobile devices, such as dash cams, rear-view cameras, and tire pressure sensors ("Garmin Product Page"). This diversification has done little to stave off this segment's atrophy in recent years (see Figure 1).



Aviation

Aviation was the second major market Garmin entered after its initial success in the automotive segment. It initially offered panel-mounted navigational devices for small consumer aircraft. After it made a name for itself in the industry, it created product lines for auto-pilot systems, HUDs and panel-mount displays, Traffic Alert and Collision Avoidance Systems (TCAS), and various communication systems (“Garmin Product Page”). This segment has seen steady growth of operating income recent years despite the massive development costs incurred due to the highly regulated nature of the industry (“2017 Annual Report”).

Marine

Garmin’s marine division featured a beginning quite similar to its aviation division. Garmin entered the market by releasing a panel-mounted navigation unit for small consumer boats and yachts. Once name recognition had been built within the industry, Garmin released a plethora of other products such as chart plotters, fish finders, entertainment systems, and communication systems (“Garmin Product Page”). Marine has more than doubled its recent operating profit due to gains in market share. Some of these gains can be attributed to technologies such as Panoptix – an industry-first imaging technology Garmin recently introduced into its product lineup (“2017 Annual Report”).

Fitness

Garmin’s fitness division started from a single product line of running watches that were developed in the early 2000’s (Garmin Forerunner). These were largely successful due

to the inclusion of GPS in the devices, which gave them a tremendous advantage over traditional devices that tracked activities primarily through step count. Since then, the segment has expanded to include a wider range of fitness watches in addition to devices made for bicycles. Many of these devices contain additional sensors such as optical heart rate, ECG monitor, and accelerometers that can be used to provide a variety of health metrics to the user. Aside from GPS, Garmin’s core competency in this industry is its battery life. The battery life of Garmin devices can be measured in weeks whereas the battery life of competitors such as the Gear S3 or the Apple Watch are measured in days. This is done through a combination of hardware and a proprietary operating system Garmin has been developing since the original Forerunner was released (“Garmin Product Page”).

Outdoor

The outdoor division is perhaps the most promising in terms of operational profit. It makes hand-held navigation devices, dog trackers, bow sights, golfing rangefinders, and durable smartwatches (“Garmin Product Page”). The last of these, Garmin’s Fenix smartwatch line, also represents Garmin’s premium smartwatch offering. The Fenix is developed in conjunction with the fitness division and produces a majority of this segment’s revenue (“2017 Annual Report”).

Situation Analysis

Business Model

Garmin is a consumer electronics company, and consequently makes its money from the design,

manufacture, and sale of consumer electronics. These sales come in three primary forms: direct sales via the Garmin website, indirect sales via third party vendors such as Walmart, Bass Pro, or Best Buy, and product integration sales from manufacturers such as Honda, Fiat, or Toyota.

The value in Garmin products lies in the unique innovations it is able to create by drawing upon the technology and experience of its mature product lines. This can be seen in Garmin's smart watch lines, which are able to utilize GPS tracking without compromising battery life – a feat Garmin's competitors struggle with. Additionally, Garmin is able to bring new technologies to market faster and in better products due to its vertically integrated nature. This can be exemplified in Garmin's industry-first use of Panoptix in its fish tracker lineup. These two advantages often give Garmin products feature sets that are impossible for competitors to replicate.

The majority of the costs Garmin incurs come from manufacturing, development, advertising, and sales/product support. Because Garmin does most of its development and manufacturing in-house, it is able to avoid some of the additional expense that would be incurred

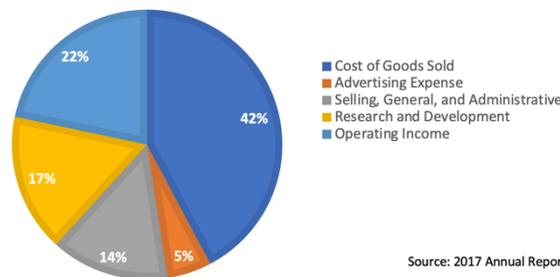
had a third party been contracted to perform these actions. As a result, Garmin is able to maintain relatively high operating profit margins - as high as 35.8 percent in some segments ("2017 Annual Report").

Internal

Financials

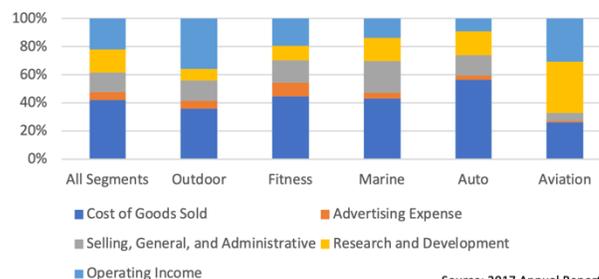
Garmin sells its consumer electronics with a high gross profit margin. This can be seen in Figure 2, where the annual gross profit is 1.78 billion dollars and the gross profit margin is 58 percent. While all of Garmin's products have relatively high gross profit margins, the breakdown of costs after costs of goods sold can vary quite erratically depending on the business segment in question.

FIGURE 2: 2017 EXPENSES AND INCOME AS A PERCENT OF NET SALES



Source: 2017 Annual Report

Figure 3: 2017 EXPENSES AND INCOME AS A PERCENT OF NET SALES BY BUSINESS SEGMENT



Source: 2017 Annual Report

This can be clearly seen in Figure 3, which breaks down the costs by business segment. Possibly the largest outlier is the amount the aviation division spends on research and development. This is largely explained by the stringent regulations placed on the avionics industry. Any product developed by Garmin in this business segment must undergo rigorous testing, and as a result, will require far more engineering and development hours to complete. Another interesting irregularity is the amount the fitness and outdoor divisions spend on advertising. This is due to the products of

these segments being marketed towards the general consumer rather than a niche market.

Garmin's capital structure is equity based. Total shareholder equity account for 3.8 billion of Garmin's 5 billion dollars of liabilities, with the remaining 1.2 billion being comprised mainly of operational debt ("2017 Annual Report"). As a result, Garmin does not incur any interest expense when calculating its net income.

Garmin pays a dividend of approximately 2 dollars per share, and its net income per share for 2017 was \$3.70 ("2017 Annual Report"). Consequently, only 45 percent of Garmin's net income was invested back into the company in 2017.

Leadership

Garmin's current CEO is Clifton Pemble. Pemble has been with the company since its founding in 1989 as a software developer. He served as President and COO of Garmin in 2007 until being promoted to CEO in 2013 ("Garmin Leadership Page"). Pemble's background makes him well known and respected by most of the company's engineers.

Pemble's leadership style could be classified as "nurturer" as he has overseen steady growth of the company during the last 5 years. However, it may be time for a leadership change, as drastic changes need to be made in the auto business segment (see Figure 1), and Pemble might lack the emotional separation needed to make drastic changes to Garmin's oldest business segment. Garmin may need a "surgeon" type leader to either divest itself of this rapidly

shrinking business segment, or to bring about significant product line changes.

SWOT: Strengths and Weaknesses

Strengths:

- Engineering Talent – Garmin is first and foremost an engineering company. This reputation coupled with its well-known good treatment of its employees make it a destination for embedded systems developers and engineers throughout the Midwest.
- Vertical Integration – Garmin's vertical integration allows for it to create better products faster. It also results in higher operating profit margins.
- GPS Technology – Garmin's experience in GPS technology has been a driving force in its entry and subsequent growth in all its business segments.
- Capital Structure – Garmin incurs no interest expense as it is entirely financed with stockholder equity.
- Diverse Product Offerings – Garmin has product lines in numerous industries. Even when certain markets decline, Garmin can still experience steady growth.

Weaknesses:

- Location – Much of the best engineering talent is employed on the west coast. Despite Garmin's success in the Midwest, it is still missing out on quite a bit of talent by being located in Kansas.
- Dividend Payments – Garmin pays around 55 percent of its net profit out as dividends. As a result, it is not able to

invest as much back into research and development as it would otherwise.

External

Competition

Garmin faces unique challenges and competitors in each of its different business segments.

Automotive

Garmin's main competitors in its automotive segment are TomTom and MiTac for dash-top solutions and Harman and Panasonic for in-dash solutions. Garmin led the dash-top market with an 80 percent market share in America, but lags behind its competitors in in-dash solutions. This could be problematic going forward as in-dash solutions are becoming a much larger slice of the market ("2015 Annual Report").

Aviation

Garmin's main competitors in its aviation segment are Honeywell and Rockwell Collins. Garmin dominates the market in retrofit and small aircraft solutions, but has failed to enter the market for large passenger aircraft and military aircraft ("2017 Annual Report").

Marine

Garmin's main competitors in its marine segment are Furuno and Johnson Outdoors. Garmin's cartography and first-to-market Panoptix technology make its products highly competitive in this industry despite its relative newness ("2017 Annual Report").

Fitness

Garmin's main competitors in its fitness segment are Apple, Fitbit, and Samsung. Apple and Samsung produce more generic smartwatches and have the power of their brands and platforms supporting them. The

competitor with the most similar offering to Garmin is Fitbit, which has better brand recognition. While Garmin's revenues have still grown due to overall industry growth, it faces issues with receding market share ("2017 Annual Report").

Outdoor

Garmin's main competitors in its outdoor segment are Vista Outdoor and MiTAC for its handheld navigation offerings and Apple, Fitbit, and Samsung for its wearables offerings. Garmin dominates the handheld market, quite similarly to how it does for dash-top navigation devices. Unfortunately, Garmin also faces the same issues with market share that the fitness segment suffers from ("2017 Annual Report").

PEST Analysis

Political

The largest political factor Garmin faces by far is federal regulation on the avionics industry by the FAA. Regulations increase development time and costs. High profile accidents like the recent Boeing 737 MAX crashes could potentially prompt further regulation of the industry. This may eat into Garmin's operating profit in this business segment.

Garmin manufactures most of its products in facilities in Taiwan and China. Therefore, changes to labor regulations in these countries or changes in import laws could impact Garmin ("2017 Annual Report").

Economic

Garmin products are mostly luxury products. Therefore, any large downturns in the economy would have an exaggerated effect on Garmin's sales numbers.

Social

With the ever-growing obesity rates world-wide, fitness and health has become one of the fastest growing markets. Garmin should try to capitalize on this growth in their fitness and outdoor segments.

Technological

The most pressing technology issue Garmin faces is the ever-growing prevalence of smart phones. Smart phones have drastically reduced the revenues from Garmin's dash-mounted navigation devices as well as its handheld navigation devices. This trend is likely to continue, and Garmin will need to further differentiate itself in order to compete with the built-in navigation of smartphones ("2017 Annual Report").

Porter's Five Forces

Supplier Power

While Garmin faces far less supplier pressure than its competition due to its in-house manufacturing capability, it still has suppliers. These suppliers are the companies that manufacture the raw components of Garmin's electronics. Some of these components, such as NAND flash memory, have relatively few suppliers. Consequently, prices of these components can, and have been, artificially inflated (Hruska). Fortunately, while these increases in component prices may affect gross margin, they do not hurt Garmin's competitiveness, as all of Garmin's competitors are exposed to these same pressures.

Buyer Power

Buyer power is greatest in segments that utilize OEM partnerships. Because Garmin is dealing with only a handful of customers, their leverage

in this situation is great. The majority of Garmin products, however, are strictly marketed to the mass consumer. The result of this is far less customer leverage. Garmin has taken advantage of this by driving up their prices.

Threat of Substitutes

Many of Garmin's products' value is centered upon navigation. The greatest substitute for these products is a mobile device. To prevent mobile devices from overtaking Garmin's offerings, Garmin must pair new features with its navigational devices to give them additional value over simply using a phone.

Threat of New Entrants

New entrants to the navigation industry face an enormous barrier of entry. New entrants must build their own cartography databases in order to be competitive with existing players. This, coupled with the prevalence of smart phones, makes expanding into the navigation industry unappealing for most companies.

Garmin products that don't require the use of navigational technology, such as fish finders or bow sights are far more susceptible to competition from new entrants. Fortunately, these products form a minority of Garmin's offerings, and the impact of any loss in market share would be minimal.

Competitive Rivalry

Garmin's products face a large amount of competition. Nearly every product Garmin offers has a direct analogue produced by another company. Garmin must continue to offer superior value or lower prices on all of its products in order to remain competitive.

SWOT: Opportunities and Threats

Opportunities:

- Growth in the fitness and health industries
- Expansion into avionics for large/military aircraft

Threats:

- Decrease in competitiveness as the ubiquity of smartphones makes navigation a less useful product feature
- Complete replacement of automotive navigational products by smartphones
- Increase in development cost for avionics as the industry becomes more regulated

Strategy Alternatives

Goals and Evaluation criteria

All publicly traded companies have a duty to serve the best interest of their shareholders – usually by making the most money. In Garmin's case, this must be done carefully, as while engineering talent is one of its strengths, it is still a very much limited resource. Therefore, any strategy chosen will be judged on its ability to maximize operating profit margin. This will assure that Garmin's engineering hours are spent in the most profitable way.

Another strategic goal Garmin should have is to trigger new growth in one of its stagnant or dying business segments. Industry diversification is one of Garmin's greatest strengths, not only for its added financial stability, but also for the innovations cross-industry experimentation can inspire.

Finally, all strategic options will be judged on their feasibility given Garmin's resources and current market conditions.

Proposals

Expand Avionics Segment to New Markets

Garmin currently dominates the market in retrofit and small aircraft avionics. While admirable, this segment of the market represents a small piece of the avionics industry as a whole. The real money is in large commercial and military avionics. The most reasonable of these for Garmin to disrupt is commercial. This market is projected to bring in 209 billion dollars in annual revenue (Sonawane), far more than the 3.1 billion projected for the small aircraft market ("Global Light Aircraft...").

Increase Vehicle Integration of Auto Products

Garmin's auto segment has been rapidly deteriorating as smart phones commonly replace dash-top navigation units. To combat this, Garmin could switch focus to its in-dash OEM units. Garmin could increase its competitiveness in this market by designing more fully integrated solutions. The easiest way to do this would be through a combination of adding sensor-based features and merging existing console functionality such as media and climate controls into the navigational unit. The seamless user experience a solution like this could provide would be far more appealing to auto manufacturers than Garmin's current offerings.

Use Growing Health Concerns to Expand Fitness

With obesity on the rise globally, weight loss has become a massive industry, particularly in America. Garmin should capitalize on this trend by adding weight loss centric products to its fitness device lineup. This could be done simply by shifting the focus of its training optimized programs to weight loss and creating a new marketing campaign.

Strategy Recommendation and Justification

In this section, each of the proposed strategies will be evaluated according to the goals laid out in the Goals and Evaluation Criteria section.

As stated in the strategy outline, expanding into the commercial aircraft market has the potential to net Garmin billions of dollars in new revenue. However, breaking into this market would require millions of engineering hours to develop and test the complex systems required for large commercial aircraft. Garmin has little experience building avionics for aircraft with large fuselages or jet engines, so it would also need to poach engineers from rival firms. Consequently, while this strategy fulfills the operating profit criteria, it would require an enormous upfront investment that Garmin cannot currently support, making it infeasible.

Tailoring a fitness wearable towards weight loss would be a simple engineering feat as Garmin would simply have to adjust existing algorithms. The necessary changes to their advertising could have negative side effects. Increasing advertisement expenditures could potentially lower the operational profit margin and splitting

the message in their ads could damage Garmin's brand as a performance sport company. Additionally, the fitness segment has been experiencing solid growth over the last few years, and consequently should not be the focus of a strategy change.

Designing a more integrated in-dash navigation system would require relatively few engineering hours. Much of the functionality that would be implemented in such a system has already been built in existing Garmin products. This makes this strategy attractive in terms of both feasibility and operational profit. Additionally, although sales of dash-top navigation units will likely continue to drop, revenues from in-dash units are projected to grow at 8 percent annually. This steady growth would be key in turning around the decline of Garmin's auto business segment (Kulkarni). Because this strategy meets all three criteria, it is the best solution of the three.

Implementation Timeline

Because this product would mainly involve changing the form factor of existing Garmin technologies, the projected timeline for its implementation is relatively short. Work on requirements and specifications would begin in Q2 of 2019. After an agreement has been made with the auto manufacturer, work could begin on mechanical and circuitry prototyping in Q3, with early development models being made available to software developers in Q2 of 2020. Software development and testing should be concluded by Q4 of 2020. This would put Garmin in position to start manufacturing by Q1 of 2021.

Contingency Plan

This strategy may fail to resuscitate the auto division through either lack of sales or unforeseen engineering issues. If this occurs, Garmin should seek to sell the auto division or simply stop developing new auto products. Auto is currently the division with smallest operational profit margin, and if this strategy cannot improve that, then Garmin's developers are better off working within one of its other divisions.

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