Product Archaeology: Unearthing Business Decisions

Joe Tranquillo*, Donna Ebenstein, Eric Kennedy, Kathleen Bieryla and Dan Cavanagh

Abstract: Product archaeology is a pedagogical technique for reconstructing the decision-making processes of an intrapreneur. For the past nine years we have offered a course in which students must unearth the business decisions in bringing a medical device to market. In the first half of the class, teams put themselves in the shoes of the company five years before a real product was launched. The challenge is to excavate information on topics such as FDA, consumer trends, supply chains, intellectual property, market dynamics, packaging, and distribution. Just as in real archaeology, they must piece together the decisions based upon what is publicly available. In the second half of the class, teams produce a business strategy document that projects the product forward five years. Their proposal is based upon consideration of all the topics above, but also on the value added given the costs of changes in business practices, manufacturing, marketing, and distribution.

1. Introduction

Engineering departments have many options for integrating entrepreneurial skills, knowledge, and mindsets into their curricula (Eisenstein, 2010; Fiet, 2001; Duval-Couetil et al., 2012; Shartrand et al., 2010; Standish-Kuon & Rice, 2002). Many programs choose to wait until the senior capstone experience. Mindsets, however, are rich mental objects that are learned through many concrete experiences (Dweck, 2006). Some programs sprinkle activities throughout the curriculum (Sheppard & Jennison, 1997; Reid & Ferguson, 2011). But a mindset is a coherent synthesis of abstractions, and such an approach typically leaves students with a disjoined set of skills and knowledge. A hybrid is to repeatedly sprinkle topics throughout the curriculum, with the senior capstone serving to integrate the entrepreneurial mindset (Ochs et al., 2006). This paper outlines a course that integrates entrepreneurial topics before the senior capstone, and therefore allows the senior capstone to be about the application and strengthening of the mindset (Tranquillo et al., 2014).

Other programs (Shartrand et al., 2010; Duval-Couetil, 2013; L. Neeley, personal communication, September 30 2012) have adopted a similar required pre-capstone experience. Our innovation lies in the way the course creates the binding experience through product archaeology on a real device (Ulrich & Pearson 1998; McKenna et al., 2011; Lewis et al., 2010; Lewis et al., 2011; Rasmussen & Sorheim, 2006). It is important to point out that product archaeology is very well suited to creating value from within an existing business structure (intraprenepreneurship as opposed to entrepreneurship). An overview of our specific course is provided, followed by a generalization of our approach. The intent of this generalizing is to aid other programs in tailoring product archaeology to their own unique needs.
2. Medical Device Assessment and Development (BMEG 408)

The BMEG 408 required course meets three hours per week (two content hours and one recitation hour) and is offered to our second-semester juniors. It has been offered every year since spring 2006 and has been taught by all of the authors listed. Over the past nine years, the course has undergone several modifications, and the course as presented below is its current state (spring 2014). The spring 2014 offering was the first time students were introduced to product archaeology as a pedagogical technique. Prior to that time, similar topics were presented but without product archaeology as a unifying framework.

2.1 Entrepreneurship and Design as a Curricular Thread

As mentioned above, entrepreneurship and design topics are highlighted throughout our curriculum in a series of experiences that begin in the first semester (Cavanagh, 2007). Figure 1 summarizes our curriculum and highlights where design and entrepreneurship enter in substantive and intentional ways. Included are citations to other publications from our department that provide details on the individual courses. Students entering BMEG 408 have therefore already experienced elements of both design and entrepreneurship, but they have not been woven together. The goal of BMEG 408 is to create a coherent design and intrapreneurship synthesis before the senior capstone sequence (BMEG 401/402).

![Figure 1: The Bucknell biomedical engineering curriculum highlighting the design and entrepreneurial experiences. Only courses taught by biomedical engineering faculty are shown](image-url)
2.2 BMEG 408 Course Overview

The BMEG 408 course consists of a series of topics that are summarized in Table 1. Within each topic there are subtopics covered. For example, in discussing legal and regulatory we discuss standards (e.g., ISO, ASME), government and other regulatory bodies (e.g., EPA, FDA, IRB, IACUC), and intellectual property (e.g., patent search, US and international patent process, trademarks, copyrights). As all students in the course are biomedical engineering majors, within each topic we keep the focus on those areas that are most relevant to medical device design. For example, within the FDA we cover pre-market approval, clinical trials, the 510(k) process and recalls, as well as the selections from multiple international device approval processes. The same treatment is performed for all other topics in Table 1; a broad overview followed by a more detailed consideration of the topic as it is related to medical device design.

**Table 1**: Content of our spring 2014 product archaeology course. Numbers in parentheses represent (class periods, guest lecturers) for each topic. The order within each phase is generally the order of presentation within the class.

<table>
<thead>
<tr>
<th>Backward Archaeology Phase I</th>
<th>Forward Archaeology Phase II</th>
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</thead>
<tbody>
<tr>
<td>Value Propositions (1,0)</td>
<td>Mechanical Dissection (3,0)</td>
</tr>
<tr>
<td>Customers and Stakeholders (2,0)</td>
<td>Brainstorming (2,0)</td>
</tr>
<tr>
<td>Marketing and Competition (3,0)</td>
<td>Technical Concept Generation (1,0)</td>
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<tr>
<td>Sales and Distributions (1,0)</td>
<td>Technical Solution Generation (1,0)</td>
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<tr>
<td>Legal and Regulatory (2,1)</td>
<td>Industry Standards (1,1)</td>
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<tr>
<td>Resource Management (2,0)</td>
<td>Solution Analysis (2,0)</td>
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<tr>
<td>Operations/Project Management (1,1)</td>
<td>Pitches (1,0)</td>
</tr>
<tr>
<td>Broader Impacts (2,0)</td>
<td>Industry Guest Lectures (0,2)</td>
</tr>
</tbody>
</table>

As BMEG 408 focuses on many business concepts, we also have embedded a number of other professional topics that include professional written communication (e.g., memos, agendas, one-page handouts), formal and informal oral communication (e.g., pitches, leading discussions), self-reflection on formal presentations (e.g., self-analysis of two videos), teamwork (e.g., Theories of group dynamics, team contracts, team reflections), and reflections on future career pathways (e.g., learning styles, self-SWOT analysis). Many of these assignments also appear in some form in other courses (Tranquillo & Cavanagh, 2007b), but are integrated in BMEG 408. They are ABET outcomes that could be assessed. We do, in fact, assess some subset of these possible ABET outcomes in BMEG 408, which has served to unload the assessment burden placed on our senior design capstone sequence (Ochs et al., 2006).

2.3 Semester-long Project

In BMEG 408, the topics in Table 1 are integrated through a two-part, semester-long project. For the first half of the semester, instructor-assigned teams of two or three students receive an over-the-counter medical device (e.g., digital thermometer or breast pump). The teams must imagine that they are the leadership of the company who created this device five years before the device has appeared on the shelves. Their goal is to find out as much as possible about the pathway the device followed from concept to the drugstore shelf. The assignments that correspond to the course topics are a guide to discovering the information they need. Along the way they find holes in the story and must attempt to fill them with further research or their best guesses. The final assignment in this first half of the
class is a formal presentation to the department. This first phase is traditionally known as product archaeology in the literature, but here will be called backward archaeology.

For the second half of the semester, the teams must project the development of their device forward five years—what will be called forward archaeology. They are asked to consider the value of these changes very broadly (e.g., technical, marketing, financial) and from multiple perspectives (e.g., the company, users, distributors). SWOT analysis, perception maps, white space analysis, and other techniques (Gray et al., 2010; Silverstein et al., 2013) are used to determine where maximum value will be gained. Through these exercises, many students realize that value can be created in a product through many pathways. They may also recognize that sometimes a technical change will alter some other dimension (e.g., marketability, user interface, packaging) that may, in sum total, decrease the value of the device.

In our implementation, teams of students complete the backward archaeology portion of the project with one device. Each team then hands off its device and annotated slides (see Appendix A) to a new team for the forward archaeology portion of the course. The makeup of the teams is also changed between the two phases. The result is that each student gains the perspective of two devices and works with two entirely different teams.

2.4 Bayer Contour Next Case Study

To illustrate with a concrete example, we will follow a particular device—Bayer’s Contour Next (blood glucose monitor). The Phase I team (three students) conducted a backward archaeology analysis on the product and produced the slides shown in Appendix A. These slides became part of a ten-minute presentation that was followed by ten minutes of questions from their peers. The team’s goal was to present a coherent narrative of the decisions that were likely made in bringing the Contour Next to market. To conclude Phase I, each member of the team performed a video analysis of their own performance in the presentation, and the team turned over all of their documentation to a new Phase II team.

The Phase II team (three different students) was tasked with performing forward archaeology on the Contour Next. They reviewed the slides from the backward archaeology and then performed a technical dissection on the product and packaging. Their next step was to develop multiple solution concepts and more specific solution implementations of what the product might become in the next five years. The remainder of Phase II was to use the information from the backward archaeology to make the best value-based decision on which solution to pursue. Throughout the forward archaeology phase, the team documented their process in a series of annotated slides (see Appendix B). At the conclusion of Phase II, the team presented a ten-minute pitch of their concept, justifying the direction for the product and linking it to how it would increase the holistic value for all stakeholders. Each member of the team performed a video analysis of their own performance in the presentation.

3. Pedagogical Foundations

The Medical Device Assessment and Development course (BMEG 408) is an instance of product archaeology. We present the evolution of its pedagogy uses so that others may adapt and improve upon our implementation.
3.1 Product Dissection

The pedagogical technique of product dissection has a long-standing role in engineering education (Sheppard, 1992; Mickelson et al., 1995; Ogot et al., 2008, Feuerstein & Shooter, 2008; Lamancusa et al., 1996). Before being formally introduced into engineering classrooms in the early 1990s, many future engineers would experiment with product dissection as children. This is the stereotypical pre-engineer who would take apart appliances, radios, and engines to understand how they work.

The formal pedagogical technique, however, is meant not simply to understand how an artifact works, but rather to get inside the mind of the designer. The goal is to understand the process by which technical decisions are made. In the context of a class, the student may take apart a device, for example an electric can opener, and ask why the gear ratio was set as it was, why the blade was angled away from the user, and why a handle was used instead of a push button.

BMEG 408 does provide students the opportunity to dissect a medical device and understand the technical features (e.g., specifications, user interface), but that is not the primary focus. In fact, students do not dissect their device until the second part of the project.

3.2 Product Archaeology

The pedagogical technique of product archaeology is a widening of product dissection. The goal is to understand more completely the business decisions involved in bringing a product to the marketplace. Just as an archaeologist must unearth artifacts and then weave together a plausible and consistent narrative (Renfrew & Bahn, 1991), students are challenged to collect as much data about a product and company as possible and then hypothesize the decisions that were made within the company to bring the product to the marketplace. For example, in the can opener example, students may discover that a handle was chosen for some non-technical reason. It may be that the first company who made can openers had core competencies (or intellectual property) in that area and later companies followed due simply to path dependencies. Product archaeology provides many opportunities for students to discover the complex interweaving of technical and non-technical concepts. More details can be found at the product archaeology website (http://productarchaeology.org).

BMEG 408 is an instance of product archaeology in that assignments in the first half of the project have students considering packaging, intellectual property, marketing, clinical trials, pathways through the FDA, distribution, and other non-technical aspects of their medical product (see Table 1). For example, a combination of economics and distribution may have driven the decision to package the device with some self-assembly required. Students can also be prompted to consider the wider economic, regulatory, and social environment in which decisions were made. For example, design decisions made for a device currently on the shelves were made as the uncertainty of the 2008 financial crisis was developing. Similarly, any device created after 2004 might have opted to use Facebook to market their product.

3.3 Forward Archaeology

Forward archaeology is based upon the ideas of product archaeology but projected to some future product archaeologist. Students propose technical and business actions that will be clear and justified by someone doing product archaeology on their product five years from now. Is there a rational course of action that will be coherent enough to be excavated in the future? Phrased in this way, not only are students able to draft a course of action but also to identify problems with their current proposals. The framework of forward archaeology is therefore a mechanism to make complex
decisions given the current and projected economic environment, regulatory landscape, bleeding-edge technology, and movement of competitors.

After experiencing the archaeology of their device in the first half of the project, students have many of the tools needed to perform a forward analysis. Along the way, they often discover new tools and concepts. For example, they may realize the power of leaving the path purposely unclear (i.e., secret knowledge and processes) to secure a long-term competitive advantage in the marketplace. Likewise, they may consider how new or emerging technologies might become powerful marketing tools (e.g., future tablet and smartphone technology).

4. Assessment

We have assessed the pedagogical effectiveness of product archaeology by surveying students in the spring 2014 offering at the conclusion of the course and halfway through their senior capstone the following year. We have also performed a preliminary investigation of the industrial applicability of product archaeology as a way to teach intrapreneurship by surveying six industry leaders. Bucknell University’s Institutional Review Board approved both data collection methodologies.

4.1 Course Assessment

All students in the spring 2014 offering of BMEG 408 (n = 15) were surveyed at the conclusion of the course as part of the university mandated evaluation. Students were asked to reflect on the strong and weak points of the course in open-ended questions. Below are representative comments, grouped by theme.

In general, students found the approach to be somewhat disorienting, but found the focus on value and the use of a real device to be helpful.

“I found the 408 [sic] to be extremely helpful in determining and thinking about value.”
“It was helpful to have an actual physical device to work with.”
“We had to do a lot of this ourselves, which led to strong comprehension.”
“Getting a hold [sic] of some information was found to be impossible. This was frustrating.”
“We had to call up companies to try to discover their distribution channels, which was a good experience.”

The focus on communication, and in particular the annotated slides, was perceived to be a strength.

“The phase I and II project presentations were a good way to incorporate all that we learned throughout the semester.”
“The annotated slides were a big help,”
“While they were time consuming the annotated slides helped me analyze and understand design at a much deeper level.”

Not all aspects of the course were appreciated, although many comments will help guide future improvements.

“The grading system was vague. Directions are sometimes hard to understand.”
“Have mini-device development case studies.”
“A little more information on annotated slides and pitches.”
“It would have been cool to have some professors from management or economics give brief lectures, maybe even psychology [sic].”
Nearly all students commented on how they expect to use the skills, knowledge, and mindset they learned in the future.

“Overall this has been my favorite class so far and the one that I think I will pull the most from after I graduate.”

“The course peaked [sic] my interest to explore other areas that I hadn’t through [sic] about before.”

“I learned a lot of practical skills and ways of thinking that I know I will use later,”

“I learned that business is much more complicated than I thought,”

4.2 Post-Course Evaluations

In fall 2014, the same 15 seniors were now engaged in the first semester of our senior capstone design sequence. They were asked through a Qualtrics survey to reflect on the following four questions.

1. What were your main take-aways from product archaeology?
2. In what ways has product archaeology informed your view of how engineers function within a company?
3. Have you used product archaeology, or elements of it, in other classes or projects? How? Where?
4. Do you anticipate using product archaeology again? How?

Many students echoed the comments above but now six months later.

“I reflected back upon the company as a whole and the mission of the company.”

“I have a greater awareness of how business works.”

“…consider all facets of business and how they relate to one another.”

“…seeing an over-reaching representation of the different considerations that go into making decisions.”

“It is rare for a business decision to be made for technical reasons, and product archaeology really helped bring this fact to light.”

“Markets in other countries got me thinking about engineering in other countries.”

Some students commented on the role an engineer plays within a business.

“They showed me what part of the puzzle the engineer fits into.”

“…realized that engineers play a smaller role in terms of how a company functions.”

“Product archaeology made me realize that engineers can really be involved in all activities associated with bringing a new, improved, and/or redesigned product to the market.”

Students are applying product archaeology to their senior design projects as well. Twelve of fifteen of our seniors said that they were actively using product archaeology as a way to drive their project forward.

“Each aspect of a product’s life cycle reflects back upon its proposed value proposition.”

“PA has helped our team identify where we need to perform more research.”

“Our team is using it to guide our faculty panels, as well as our presentations.”

“It is great to prepare for our presentations, because it gave us a good guide for how to move through the presentation”.

Some students also explained how they were using product archaeology in job interviews and hinted at how they might use it later in life.

“I have used a version of it [as a] Student Engineering Consultant at the SBDC [Small Business Development Center].”

“It set me apart from other candidates when applying for jobs and maybe later being considered for promotions.”
“….so that I can go into job interviews and know what I am talking about,”

We expect to follow up with these students after they graduate to obtain more data on the impact of product archaeology.

4.3 Preliminary Industry Assessment

The goal of product archaeology is to mirror the complex decision making process that occurs within real businesses. Preliminary industry input has taken the form of unstructured interviews of six industry leaders who are in a decision-making capacity that cuts across traditional business divisions (e.g., CEO, COO, board president). This was to ensure that the views expressed would not be myopic (e.g., asking a chief financial officer CFO how decisions should be made may be too biased toward finance). The initial response of industry leaders has been very positive. All six agreed that engineers with product archaeology experience would be highly desirable and would be in a good position to innovate from within an existing business structure. Four indicated that engineers with product archaeology experience (intrapreneurship) would be more desirable as new employees than those with a purely entrepreneurial experience. Two said that product archaeology maybe pedagogically useful in business schools and as a way to train new employees on how decisions are made within their company.

Some comments from these interviews

“I would say that all of the topics as a whole are appropriate. Depending on the specifics there would be priorities. Maybe weight some more than others.”

“We use a number of metrics within each area to determine how we are doing. We track good and bad customer feedback. Compliance with federal regulations is huge for us so we track metrics for individuals as well as the organization. Finance is an easy metric.”

“I might rename some things or add definitions that are more aligned with our vernacular.”

“I could imagine using this with all departments within a company. Make them go through all areas except their own. And then only later let them look for innovations in their own area.”

“Maybe this could be used as a training tool for new employees.”

A more formal study is ongoing and will be reported in a future manuscript.

5. Mindsets and Variations

The goal of product archaeology is to position the value proposition and holistic decision making as the two key components necessary for achieving product innovation within an existing business structure. What we present below is the type of mindset that product archaeology can foster. We also provide some considerations for implementing product archaeology within a classroom setting, as well as variations that may be worth pursuing in the future.

5.1 Mindsets

The overall goal of product dissection, product archaeology, and forward archaeology is to guide students toward an integrated intrapreneurial mindset. A mindset is a complex psychological object, based not on concrete skills or abstractions, but instead the attitude toward challenges. Dweck (2006) lays out two primary mindsets. An individual with a fixed mindset approaches a challenge as just that, an obstacle to be overcome. Results and success are therefore extrinsic, visible, and measured by how well the challenge is met. Dweck makes the observation that much of our education, parenting,
economic and other systems reward the fixed mindset. An individual with a growth mindset approaches the same challenge as an opportunity to learn something new that can be applied to some later challenge. Success is therefore less visible and more intrinsic. It is the growth mindset that forms the basis for life-long learning and self-efficacy.

No one has a pure fixed or growth mindset and clearly the same individual may adopt a fixed mindset in some areas and growth mindset in others. The claim of the growth mindset, however, is that the long-term focus on intrinsic learning ultimately leads to extrinsic success. The rationale is that those with a growth mindset bootstrap themselves to take on more and more difficult challenges. Perhaps the most important aspect of Dweck’s (2006) work, however, is that with some guidance, an individual can change from one mindset to another.

Although the growth mindset is used subtly throughout our curriculum, it comes into clear focus in BMEG 408. There are no right answers, no instructor-constrained domain of knowledge to draw from, and students must make their own decisions. Learning during the first part of the project is the pathway to success in the second half. Students must self-identify the areas in which they need the most improvement (e.g., video analysis of presentations, self-analysis of their writing). Whereas most courses in our curriculum are challenging because of the technical content, BMEG 408 is unexpectedly difficult for students who have succeeded in a fixed mindset environment. In fact, the course can reset the typical class hierarchy of who is “smart” and who is not. Lastly, not all students leave the class with a growth or entrepreneurial mindset. Sometimes we see the connections being made in the senior capstone. But we often hear back from graduates who have connected the dots back to BMEG 408 as the experience that set in motion a more holistic view of their education.

5.2 Implementation Advice

Product archaeology is a general framework, with our implementation being just one instance. In offering the course nine times we have discovered some internal best practices. The most important of these best practices is to cover the technical dissection after Phase I is completed. Doing so helps build a habit in students of not jumping immediately to the technical aspects of a product. The technical dissection is also the glue that binds together Phases I and II.

A number of secondary best practices were also discovered. We have spent varying amounts of time on each topic, depending on the instructor. We have found that product archaeology maintains its effectiveness even as the duration and timing of the topics is changed. It is important to recognize that product archaeology does not feel natural for many engineering students. Regular meetings with teams can help address questions and mitigate any frustrations. Smaller assignments are graded more qualitatively (written feedback instead of scores) on individual topics to help students develop. Numerical scores are reserved for the more significant assignments such as presentations and final documentation. In addition the small assignments are combined together into a larger whole. For example, student teams turn in one or two annotated slides per topic, which are then combined together to form the content in the Phase I and Phase II final presentations. Grades on larger assignments are based upon the information students unearth as well as the coherency and thoughtfulness of their hypothesized company decisions. The framework also provides many natural ways to bring in invited speakers as well as with speakers and events sponsored by other groups. Lastly, some of the most powerful learning takes place during the student-led presentation question and answer session that follow the formal presentations in Phases I and II. It makes clear to the students that they have learned how to find the merits and problems with a proposal and offer constructive feedback.
Variations and Future Work

There are likely to be many ways to modify our instance of the product archaeology framework but retain the underlying pedagogical value. There is no need to use a medical device; nearly any artifact could be used. The format could be changed as well, perhaps placed earlier in the curriculum, changed from being required to an elective, or possibly moved outside of the engineering curriculum (e.g., into arts or management). The make-up of the students could be interdisciplinary (either from within engineering or across colleges). In fact, interdisciplinary teams may further enhance learning. Likewise, product archaeology is already a form of inductive learning (Prince & Felder, 2006; Prince, 2004) and cooperative learning (Slavin, 2011), and so would most certainly benefit from more rigorously incorporating best practices from these pedagogical areas of research (Borrego et al., 2010). Product archaeology might also be combined with other entrepreneurship teaching techniques. For example, the forward archaeology phase could be driven by the business-model canvas (Osterwalder & Pigneur, 2010). In fact, our department has developed a product-archaeology canvas as a graphical tool to aid students in navigating the course. The use of a product-archaeology canvas will be more fully explored in a forthcoming conference publication.

Conclusion

Sprinkling entrepreneurial topics throughout the engineering curriculum is a place to start but will rarely result in a coherent entrepreneurial mindset. On the other hand, attempting to both introduce and integrate the entrepreneurial mindset in a senior design capstone is difficult because of the other demands of the capstone experience. We presented a transition course that ties together the two approaches into a coherent whole. The use of product archaeology in both a backward and forward pass is a mechanism for binding together topics in a way that can be useful to an engineer (Wei, 2005; Neck & Greene, 2011). Students leave BMEG 408 with more technical and non-technical tools, a new methodology for thinking about how to make complex decisions, and a new mindset. BMEG 408 primes students to approach their senior capstone as more than a course to be checked off to graduate.

Acknowledgements:

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References


Appendices

Appendix A: Select Phase I annotated slides from the Bayer Contour Next group. Presented slides were not as dense as the annotated slides.
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**Standards: Bayer Contour Next**

<table>
<thead>
<tr>
<th>ISO 15197:2018</th>
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<tbody>
<tr>
<td>- Specific requirements for 60-rc on-line monitoring systems, specifically those that measure glucose concentrations in real-time. Make sure they are complete and include procedures for the verification and for documenting and maintaining the performance of the systems.</td>
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<tr>
<td>- The test result for glucose concentration shall be displayed by the meter using a minimum of 2 digits, with or without a decimal point. For example, if the concentration is 9.8 mg/dL, the display shall show 9.8 or 9.80.</td>
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**Bayer Budgeting:**

An overview of the allocation of finances and resources for product development

<table>
<thead>
<tr>
<th>Research and Development</th>
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<tbody>
<tr>
<td>- $100 million invested in秧田 fund in 2017, 2018, and 2019. A total of $300 million was spent on all projects.</td>
</tr>
<tr>
<td>- $50 million contributed to the development of new technologies in the field.</td>
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**Marketing:**

Channels and Segmentation

<table>
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<tr>
<th>Brand Marketing</th>
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<tr>
<td>- Negative perception on Facebook due to comments made by CEO about a cancer drug in public image.</td>
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<tr>
<td>- Bayer’s market share is 6% in Germany, 4% in France, and 3% in Italy.</td>
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**Bayer Distribution Channels**

Integrating Supply Chain Management Vintage through end-to-end manufacturing to warehousing, followed by a three-step distribution system depending on local market conditions.

<table>
<thead>
<tr>
<th>Distribution Channels</th>
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<tr>
<td>- In Europe, Contour Next is currently available through retail pharmacies. Online, it is generally available through leading online pharmacies.</td>
</tr>
<tr>
<td>- Shipping methods include UPS on a weight basis and UPS ground on a time frame for needed delivery. Shipping rates vary from state to state and are not included in the price.</td>
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</table>

**Appendix B: Selected Phase I annotated slides from the Bayer Contour Next group.**

Presented slides were not as dense as the annotated slides.

- The slides were annotated by the Bayer team and included key points such as the importance of glucose monitoring, the benefits of real-time monitoring, and the potential market for the product. The slides were intended to provide a clear and concise overview of the product to potential investors and partners.

- The slides covered a range of topics, including the technology behind the product, its potential applications, and the market analysis. The slides were designed to be visually appealing and easy to follow, with clear headings and bullet points.
Appendix B: Select Phase II annotated slides from the Bayer Contour Next group. Presented slides were not as dense as the annotated slides.
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