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FOR

BoldFlash 

CROSS-FUNCTIONAL CHALLENGES IN
THE MOBILE DIVISION

BOLDFLASH: CROSS-FUNCTIONAL CHALLENGES IN THE MOBILE DIVISION

Presented to:

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May 3, 2018

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May 3, 2018

Dr. Dan Pryor
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Department of Management
Red McCombs School of Business
2110 Speedway
Austin, Texas 78705

Dear Dr. Pryor:

As Danoitte Consulting, we are pleased to submit the report you requested on March 3, 2018, containing an analysis of BoldFlash, a flash memory producer. We created this report by collecting information from business articles, flash memory publications, and personal interviews.

BoldFlash has been plagued with interdepartmental and intradepartmental problems, making product delivery difficult. The contributing factors to these issues include a lack of communication within the organization, unclear goals of departments, and inefficient quarterly meetings. To remedy these problems, Danoitte Consulting advises that BoldFlash implements the matrix business structure, redefines roles of personnel, and enforces accountability within and among the different departments. By employing these solutions, BoldFlash will regain its position as a leader in the flash memory market.

Danoitte Consulting would like to thank Mr. Vikas Gurugunti, Chief Operating Officer at Sonata Software, for his insight regarding business structures, and you, Dr. Pryor, for investing time in our success as great communicators.

If you have any questions, I can be contacted at (713) 870-8007 or by email at kmatthews@utexas.edu. We look forward to hearing your feedback.

Sincerely,

Kendall Matthews
Team Representative

EXECUTIVE SUMMARY

Purposes of the Report

The purposes of the report are to 1) describe the current state of BoldFlash in the flash memory industry, 2) analyze the issues currently faced by BoldFlash, 3) provide solutions to these issues, and 4) present an implementation timeline for these solutions.

Background

BoldFlash operates within the flash memory industry. Though it began as a pioneering company of the industry, BoldFlash has since fallen behind its competitors. BoldFlash is vertically integrated to respond quickly to the market's everchanging demand. Recently, the Mobile Division within BoldFlash has experienced reduced growth, despite positive market factors.

Current Issues

BoldFlash currently faces three predominant issues that impact its overall performance including a lack of communication among and within BoldFlash's departments, unclear goals for each department, and a lack of accountability among departments. These issues contribute to BoldFlash's main problem of not being able to get products to market quickly.

Solutions

Danoitte has proposed three solutions to remedy these issues including employing a matrix business structure, redefining the roles of each department, and implementing accountability protocols. The matrix structure can foster more positive and effective communication. By redefining roles based on the tasks rather than the goals, each department can become more efficient and effective by having clearly defined responsibilities. Through implementing an amiable accountability structure, employees can provide and receive more constructive criticism to move the company forward.

Implementation Schedule

The implementation of the proposed matrix solution will be initiated through an experimental stage. In this stage, employees will be informed of the benefits that the matrix structure will provide and be guaranteed that they will not lose their jobs because of the restructuring process. Within the first month, BoldFlash employees will be transferred to more focused roles that will better fit their skills and experience.

During the company rollout stage that follows the experimental stage, employees will be officially informed of any policy and role changes. Moreover, Danoitte will continue to assist BoldFlash in hiring new talent to facilitate communication and accountability among departments.

BOLDFLASH: CROSS-FUNCTIONAL CHALLENGES IN THE MOBILE DIVISION

INTRODUCTION

BoldFlash, a producer of flash memory components for electronic devices, has fallen behind its competitors over the past few years. Recently, the company has decided to reevaluate its core practices to streamline operational efficiencies. In January 2012, Robert Cahill began his role as Vice President of the Mobile Division after his predecessor, Jim Harrison, passed away suddenly. In his new position, Cahill faced a host of issues, including:

- **Inability of BoldFlash to push end products to market** — Cahill needed to find a way to solve inefficiencies that previously caused BoldFlash to develop redundant customized chips for their mobile market as well as to completely miss the tablet storage market.
- **Divergence in leadership** — Harrison ruled the company as an autocrat with a culture of secrecy, ultimately leading to a breakdown of communication. Cahill worried that his accommodating leadership style would be too much of a shock to company culture.
- **Lack of experience** — Cahill worked in the company for over twenty years as a research scientist in the Consumer Division, leaving him with a lack of experience in his new role. Furthermore, he had no idea what to expect from the differing sectors of BoldFlash, including Product Development, Marketing, Sales, and Manufacturing.

Though he had only spent a few weeks in his new position, Cahill quickly realized that the two main underlying problems in the company were ineffective product development meetings and a lack of communication among upper-level management.

For over a decade, the Vice President of the Mobile Division did not attend the product development meetings. This left the Marketing team in charge of new idea generation, though the team did not have a complete understanding of the product chain. Often, meetings lasted for over two days, and attendees were expected to meet afterwards if problems had not been resolved. This left many leaders in BoldFlash unsatisfied with the meetings' ineffectiveness, thus wasting time and resources.

Additionally, there was an immense lack of communication and respect between the leaders in upper-level management. Many individuals refused to accept constraints demanded by other departments, slowing the time it took to bring products to market.

INDUSTRY

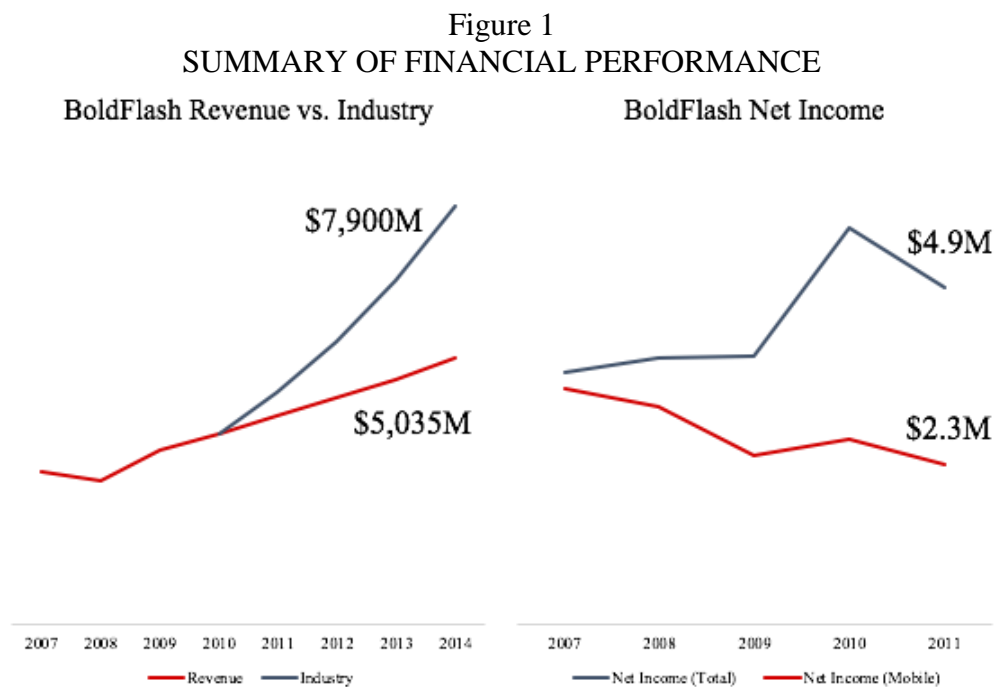
BoldFlash competes in the flash memory industry, which produces a new type of memory based on semiconductors instead of typical magnetic or optical storage, including tapes, compact disks, or hard disk drives. The industry contains three main sectors: research and development (R&D), marketing, and manufacturing. BoldFlash operates in all three of these sectors, complementing its in-house development teams with its own manufacturing and marketing departments. Compared to other mediums of storage, flash memory is faster, smaller, and cooler, which makes it ideal for the mobile industry, where devices are expected to work quickly but also remain

small (Kay, 2010). Moreover, flash memory is taking over desktop and laptop markets because its comparative lack of moving parts allows it to improve reliability and performance.

Due to the huge growth in demand, the flash memory industry is booming, as reflected by the projected sales growth of \$20 billion in 2011 to \$44 billion in 2014 (Beer & Shelton, 2012). The highly competitive market demands technology manufacturers to produce higher quality products at lower prices, necessitating continuous innovation. Since it plays a part in every aspect of the flash memory industry, BoldFlash should theoretically perform well. However, BoldFlash often fails to capitalize on its competitive advantages, allowing its weaknesses and problems to control its performance.

BoldFlash in the Industry

As Figure 1 shows, BoldFlash is falling far behind the industry. In fact, the company has only experienced 6.47% annualized growth over the past four years while the industry is expected to grow 30.06% each year (Beer & Shelton, 2012). Moreover, BoldFlash's net income is constantly weighed down by increasing R&D costs, and despite increasing revenue, net income in the Mobile Division has decreased.



PROBLEMS

BoldFlash's success as a company has been plagued by its weak communication, its undefined goals, as well as its unproductive quarterly meetings. These issues are concerning and must be addressed if BoldFlash aspires to dominate the flash memory market.

Lack of Interdepartmental Communication

The four BoldFlash departments suffer from a lack of communication, which decreases efficiency. This issue manifests in two ways: 1) the relationship between Product Development and Manufacturing, and 2) the relationship between Sales and Manufacturing.

Product Development and Manufacturing

Product Development previously ordered Manufacturing to run trials of new potential company products; however, Product Development did this without asking Manufacturing if it could handle the new products while maintaining its daily production level. This not only lowered margins for Manufacturing, but also jeopardized delivery dates for BoldFlash's existing orders.

Additionally, Product Development did not ask for Manufacturing's opinion of the feasibility of new products prior to testing them on the manufacturing lines. A Manufacturing employee stated, "The Product Development department's actions send us down the wrong track with products that we could have told them cannot be manufactured at the cost required to make a profit." In other words, Product Development ignored Manufacturing's knowledge regarding profitability and viability of products. If Manufacturing had communicated these concerns to Product Development, BoldFlash could have saved a significant amount of money and time.

Sales and Manufacturing

Sales and Manufacturing also experienced communication issues. In order to meet revenue goals and satisfy customers, Sales would sell products at unprofitable prices and make poor decisions, regardless of the impact on other departments. As a result, the Manufacturing department was forced to fully expend its resources and stop the production of other projects in order to avoid disappointing customers. Ultimately, Sales' decisions resulted in falling margins for the company, which led to a loss of credibility in all of BoldFlash's departments.

Unclear Departmental Goals

Another hurdle BoldFlash faced was the lack of defined roles for each department. This created problems between Marketing and Sales, as well as within Product Development.

Marketing and Sales

Cahill split the Marketing department into two separate departments — Marketing and Sales — with the intention of reducing the original department's workload. The intention was to have Marketing do research and find new products to deliver, while having Sales push the products to consumers and negotiate contracts with large buyers, such as original equipment manufacturers. However, in practice, Marketing and Sales both analyzed the market, made projections, and pushed the products to end markets, which created unnecessary redundancies.

Marketing is currently unable to push many key innovations to the market because it is overwhelmed with the extraneous task of pushing products to consumers on its own. Sales unnecessarily creates market reports and projections, even though these are the specific responsibilities of the Marketing department. This overlap has led the Vice President of Product Development, Karl Melzer, to ignore market research from the Marketing department in favor of those from the Sales department. Additionally, the Sales department wastes resources by making deals based on “educated instincts” in order to meet revenue incentives, stunting BoldFlash’s overall profits (Beer & Shelton, 2012).

Product Development

Product Development lacks guidelines for which projects to focus on. This leads to bloated R&D expenses, as performance evaluations are based on the number of patents approved. These may advance technology but often had little impact on BoldFlash’s financial performance.

Product Development’s lack of communication with the Marketing and Sales departments led it to create innovations that Marketing did not ask them to produce. Additionally, Sales did not know how to properly sell these innovations to consumers. Overall, these unclear departmental goals not only negatively impacted the company’s bottom line, but also led to the breakdown of relationships among departments.

Undisciplined Quarterly Meetings

The third issue that BoldFlash faced was ineffective and undisciplined quarterly meetings. The bulk of the time spent in these meetings was on updating employees on information they should have already known. Additionally, the wrong people were invited to the meetings. A few years ago, invitations were extended to middle management, resulting in an excess of people at the meetings. Though there was a higher attendance, there were no significant gains in efficiency.

Furthermore, product experts employed by BoldFlash were not invited to these meetings, though their skill sets were vital in assisting the decision-making process. Time was spent contacting these individuals during meetings rather than actually solving the problems at hand. The lack of productivity forced individuals to meet afterwards in attempts to accomplish what could not be completed in the meetings. Ultimately, these meetings comprised of two days of ineffectiveness and served as a breeding ground for further conflict.

Current Demand Projections

As previously mentioned, BoldFlash has experienced stunted growth compared to the rest of the industry. Given that BoldFlash does not currently own a large portion of the market share, the company needs to increase growth in order to compete as an industry leader.

While the company’s net income saw moderate growth, the Mobile Division experienced extreme losses. This is a result of both inflated R&D costs and stagnant mobile device revenues. These figures indicate that BoldFlash is not properly allocating resources in the Product

Development department, interpreting the demand in the Marketing department, or generating product sales in the Sales department.

SOLUTIONS

Danoitte Consulting has proposed a three-pronged plan to remedy BoldFlash's existing managerial issues and increase the company's overall efficiency. These solutions include instituting a matrix business structure, redefining roles of personnel, and implementing accountability across the four departments.

Matrix Business Structure

BoldFlash's overall issue is that products are not getting to market fast enough due to a lack of communication among the differing departments. In order to remedy this problem, Danoitte Consulting proposes a restructuring of BoldFlash using the matrix business structure to foster cross-functional coordination among departments.

According to the Project Management Institute (PMI), a matrix organization occurs when there is dual or multiple managerial accountability and responsibility mechanisms (Stuckenbruck, 1979). In today's ever-competitive market, individual departments have difficulty solving complex problems because of a failure to employ a comprehensive perspective to view the total system, as well as a tendency to only work within their disciplines. By using the proposed matrix structure, BoldFlash will be able to better avoid communication conflicts and maintain more efficient relationships among departments.

Specific BoldFlash Implementation

As referenced in Figure 2, Danoitte recommends that each Product Development team reports to both a Product Development Manager, as they do currently, in addition to a Project Manager. The Project Manager not only has product development logic, but also knowledge regarding the entirety of the supply chain. The goal of the Project Manager is to guarantee that all departments are considered when making a decision. If the Project Manager does not agree with the Product Development Manager due to a manufacturing issue, the Product Development Manager and the Manufacturing Manager must communicate in order to come to an equitable and ultimately more efficient solution. Also, this matrix structure will aim to ensure that every decision made will benefit the entire supply chain and not just a singular department.

Danoitte Consulting believes that the restructuring of BoldFlash will greatly benefit the flash company; however, Danoitte also realizes that these structural changes may not be immediately accepted by the BoldFlash community. If employees are not compliant with the matrix structure, then the structure itself will fail. Danoitte plans to fully explain the benefits of the reorganization to each employee in hopes that they will understand that Danoitte's plan will aid BoldFlash within the next five to ten years. Additionally, Danoitte will continuously promote the matrix structure and emphasize its necessity within BoldFlash to enhance company morale.

Figure 2

PROPOSED MATRIX BUSINESS STRUCTURE IMPLEMENTATION

		Vice President of Product Development	Vice President of Marketing	Vice President of Sales	Vice President of Manufacturing
Cameras	Project Manager				
Laptops	Project Manager				
Personal Computers	Project Manager				
Mobile	Project Manager				
Storage	Project Manager				

According to Rialto Consulting, many companies have been successful with a matrix structure, such as IBM, Spotify, and Boeing (Rialto, 2013). Boeing has benefitted from the implementation of the matrix organization through clearer objectives, more efficient resource utilization, and enhanced horizontal and vertical flow of information (Scalmo, 2009).

Redefine Department Roles

To develop a strong matrix structure comparable to those of Spotify or Boeing, BoldFlash needs clearly define the roles of each department. By redefining roles based on expected tasks rather than goals, department productivity will increase and redundancy will decrease.

For example, Marketing and Sales suffer from vague roles because they have the same goal: to sell and advertise products. By redefining roles, Marketing's tasks will be simplified to understanding demand and conducting market research. Sales' tasks will be to negotiate with original equipment manufacturers for larger orders and to sell more products to the consumer market. By preventing the overlap of Sales and Marketing's roles, BoldFlash can reduce redundancy, leading to lower total expenses. Additionally, through decreasing each department's workload, overall productivity will increase, leading to higher revenues.

Product Development's goal would shift from making patentable discoveries and innovations to developing viable end products based on trends derived by the Marketing department. The greater focus on market trends will reduce the bloated R&D spending that has depressed BoldFlash's net income. Strategic concentration on consumer demands will increase the sales of

BoldFlash products. The mobile device flash industry will especially benefit because R&D will be more targeted, thus allowing BoldFlash to produce better end products.

Throughout the process of redefining of roles, Danoitte Consulting will evaluate employees based on their ability to execute the tasks of their department. As a third party, Danoitte Consulting can act as an unbiased arbiter for decision-making related to maximizing company productivity in turn increasing revenues, decreasing expenses, and ultimately improving the health of the company.

Implement Accountability

The third recommendation is the implementation of accountability in BoldFlash through establishing an accountability committee and conducting weekly and quarterly internal audits.

The accountability committee will be made up of the various department heads in the matrix structure of BoldFlash. This committee will increase the communication and connectivity among the departments in hopes of removing grudges. Historically, problems were left unresolved due to a lack of communication and respect. However, by creating an official institution that allows dialogue to flow freely and frequently, BoldFlash will solve problems in a timelier manner.

The second accountability recommendation is the implementation of an internal auditing system conducted on a weekly and quarterly basis. The quarterly audits will be a more comprehensive review of performance compared to the weekly audits. By requiring departments to outline their goals and update the rest of the company, departments can be held accountable for their actions in a checks-and-balances system. The overall productivity and performance of BoldFlash should increase as departments are required to formally report projections and actively work to meet goals. Additionally, if forecasts on the quarterly basis are not met, they can be reviewed in the quarterly meetings or by the accountability committee to avoid miscommunication.

Both processes are necessary to ensure departmental responsibility. The accountability committee will be comprised of a group of people aimed at resolving problems among the departments. This will increase the flow of communication and establish a legitimate way for employees to resolve disputes. In parallel, by establishing a self-performance auditing system, the departments will be informed of everyone's goals and expectations. The accountability committee will also provide formally written outlines to any employee detailing the expectations of his or her specific department in case of confusion.

MATRIX STRUCTURE IMPLEMENTATION

In order to restructure BoldFlash, Danoitte Consulting has proposed a timeline detailing how to implement the matrix organization. This timeline will begin with an experimental phase, which will incorporate the structure in the immediate future. Upon completion of this phase, Danoitte Consulting advises a full company rollout in which the matrix business structure slowly begins to reach each portion of the Mobile Division.

Experimental Phase

According to industry expert and Chief Operating Officer of Sonata Software, Vikas Gurugunti, it is important to focus not only on the implementation of the new matrix structure, but also on the impact the matrix system will have on the company as a whole (personal communication, March 28, 2018). This includes a well thought out implementation process while simultaneously keeping the company completely informed in an attempt to maintain BoldFlash's productivity.

In order to implement the matrix business structure, Danoitte Consulting believes it best to begin with an experimental phase, which encompasses the first quarter. This phase is experimental because Danoitte Consulting will only begin implementation of the matrix structure with a few management changes and only one product to see if the matrix is helpful to get that specific product to market faster.

In the first week of the experimental phase, BoldFlash leadership would issue a company-wide statement, which would detail the matrix business structure, list its positive impacts on BoldFlash, and explain how the structure will help get BoldFlash's products to market more efficiently. This statement would promote transparency and trust within the company, which is very important as BoldFlash implements this new system.

In the second week, the Product Development Vice President, who is currently focused solely on research, would be promoted to Senior Vice President. In this new role, he would lead Product Development research and would no longer be concerned with the business side of the department. In the third week, BoldFlash would promote a new Product Development Vice President who would then be in charge of the business side of the department. In this way, the Product Development department would have a strong focus on both research and business which would help products reach the Manufacturing department more proficiently.

Company Rollout

After the implementation of the experimental phase, the Vice Presidents will convene to create a formal policy outlining the roles and duties of the current and newly hired management. This policy would then be sent out to the rest of the company, continuing the culture of transparency in upper-management changes and ensuring employees of their job security.

Danoitte Consulting recommends that BoldFlash hire Project Managers one at a time in three-month increments. Each Project Manager will undergo training, in which he or she will shadow the existing Project Managers and Vice Presidents of his or her respective department. Allowing for this training period is critical to ensure a smooth transition, wherein a newly hired Project Manager feel equipped to handle the challenges of his or her new position. Three months after each new Project Manager is hired, Danoitte Consulting will identify and make minor adjustments depending on performance throughout the quarter. This model allows for flexibility, as the implementation process can be accelerated or slowed based on the company's needs.

Over the course of fifteen months, Danoitte Consulting will assist BoldFlash in the selection, training, and implementation of an accountability committee. While the committee is being

formed, Danoitte Consulting will serve to field complaints and resolve internal disputes as an unbiased, third party arbiter. Danoitte will work with Cahill to transform the culture at BoldFlash to facilitate better communication. The objective is to allow BoldFlash to have an independent mechanism for internal conflict resolution to ensure long term self-sufficiency and success.

CONCLUSION

BoldFlash currently has three problems including a lack of communication both within and among departments, unclear goals within departments, and ineffective and undisciplined quarterly meetings. These issues have remained in BoldFlash's culture due to its poor management. Through the proposed matrix solution, Danoitte Consulting believes that BoldFlash can become more efficient, and in turn, profitable, allowing the company to become a strong competitor in the flash memory industry.

BoldFlash has many issues but has much room for improvement with the help of Danoitte Consulting. When Cahill enters his upcoming meeting filled with upset personnel and a poor agenda, he should present the matrix structure in order to turn the company from turmoil to triumph. This recommendation should be accompanied with evidence supporting the implementation of the matrix structure, and references to other successful companies who also have utilized this style of management, such as Boeing and Spotify. With the help of Danoitte Consulting, BoldFlash can correctly utilize its resources and personnel to regain its position in the flash memory sector as an industry leader.

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APPENDIX

Interview
March 28, 2018

Vikas Gurugunti
Chief Operating Officer
Sonata Software
19 Player Vista Place
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1. What is your opinion of the Matrix Business Structure? Is it effective?
2. How do we go about restructuring BoldFlash's management without halting current production?
3. What type of metric can we use to evaluate each department's productivity level?
4. How should we deal with personnel who have a skill set that is no longer applicable to their current position? Do we demote them or find a new, higher position for them?



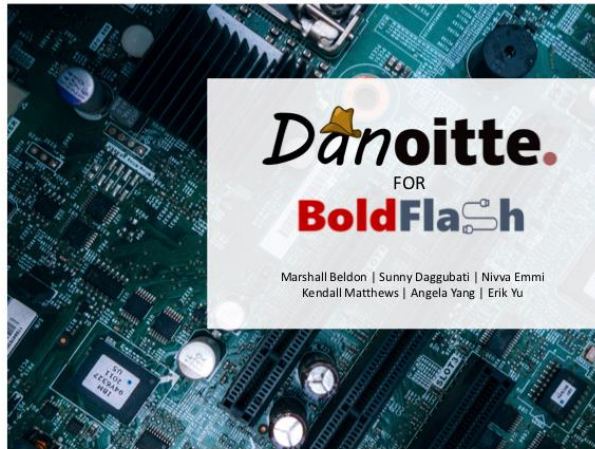
Danoitte.

FOR

BoldFlash

SECTION II

POWERPOINT SLIDES



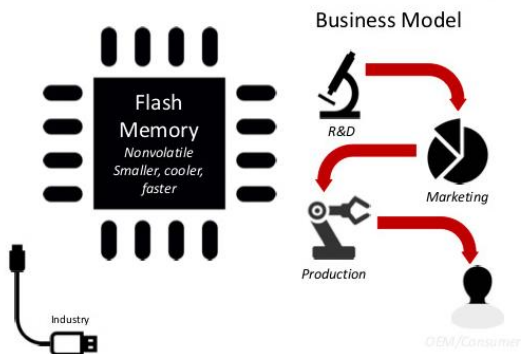
Initial Challenges

BoldFlash



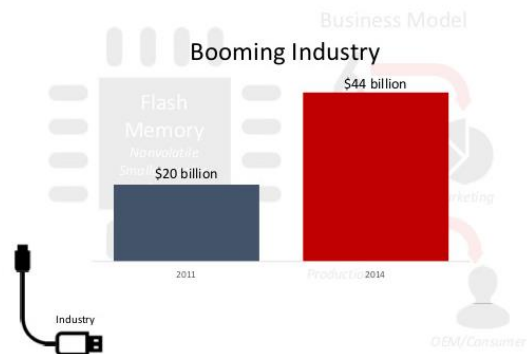
Flash Memory Trends

BoldFlash



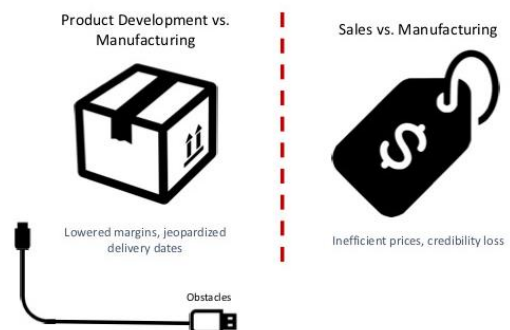
Flash Memory Trends

BoldFlash



1) No Communication

BoldFlash



2) Unclear Goals

BoldFlash



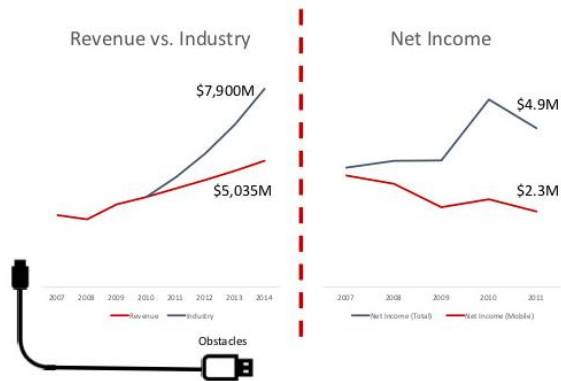
3) Ineffective Meetings

BoldFlash



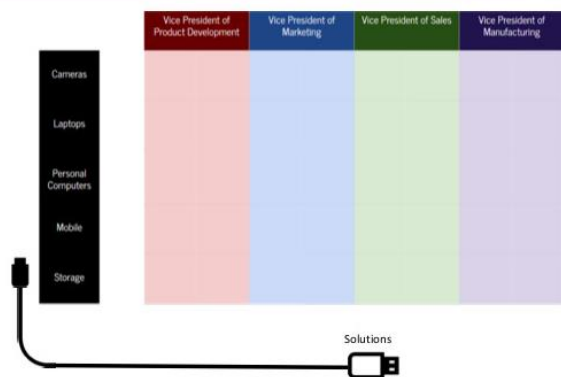
4) Lagging Demand

BoldFlash



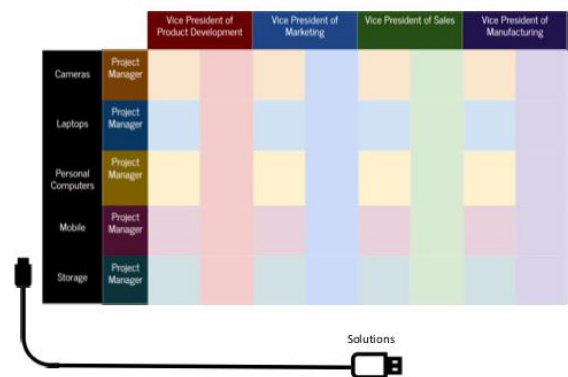
1) Matrix Structure

BoldFlash



1) Matrix Structure

BoldFlash



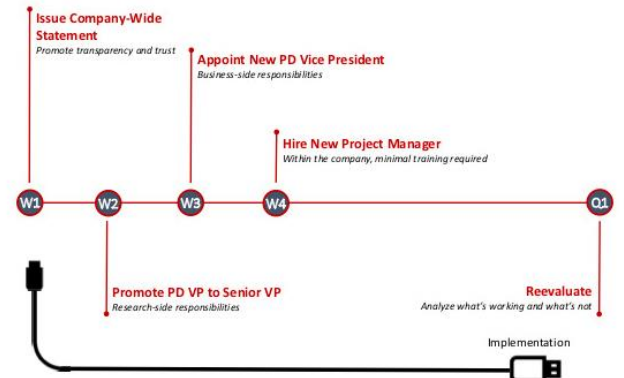
Experimental Stage

BoldFlash



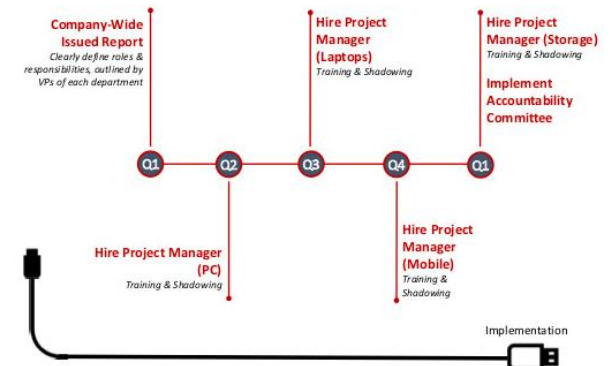
Experimental Stage

BoldFlash



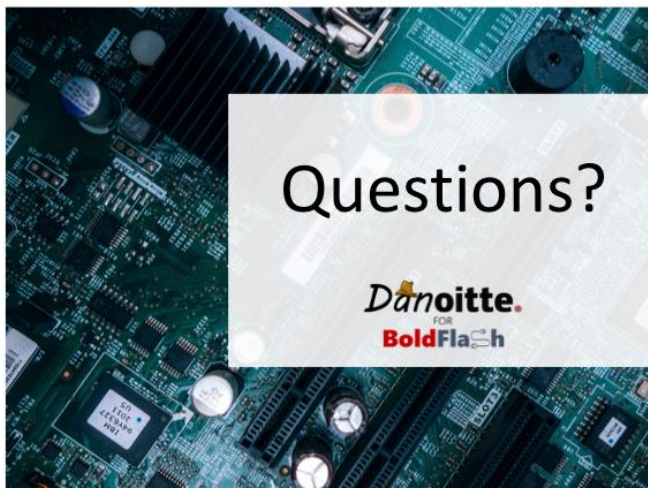
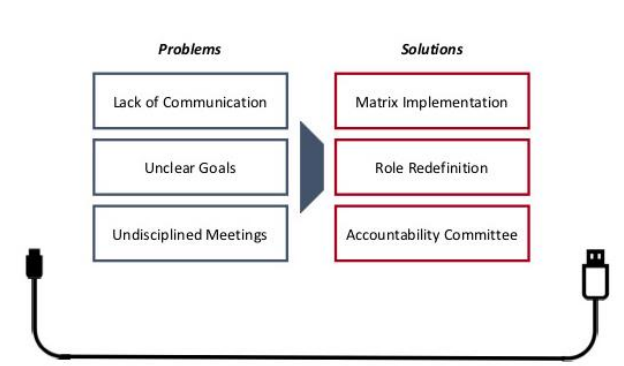
Company Rollout

BoldFlash



Final Thoughts

BoldFlash



GROUP SUMMARY OF ORAL PRESENTATION

One of the most important aspects of a presentation is not the presentation itself, but the reflection of the performance. Reflection is crucial in order to understand our strengths and weaknesses so that we may improve in the future. Upon analyzing the presentation video as a group, we identified aspects that pleased us and those that can be refined.

Improvements that could be made include:

- During the presentation, one of our classmates walked in late and all of our group members reacted to the disruption, interrupting the flow of delivery. In the future, we will all strive to not be distracted by minute interruptions.
- We had several poor physical transitions between speaking parts. In the future, we plan to be more conscious of the space around us in order to enhance these transitions.
- As a group, we can also improve our hand gestures to be more natural and aid the message of the presentation, rather than being stiff and distracting.
- Generally, we need to move around less, whether it be while we are speaking or listening.
- During the questioning period, we should have let one or two people answer each question, rather than all of us trying to add input for each response. The abundance of answers gave the impression that the first answer was inadequate, resulting in necessary additions, even when the original response was sufficient.
- We should have asked, “What are your questions?” instead of “Do you have any questions?” at the end of the presentation.

Some of the points that we performed well in include:

- We moved tables prior to the presentation to allow for transitional movement and ensure adequate room for everyone.
- Each person presenting stepped forward and “took the stage.” These transitions helped the audience focus on the person speaking and not be distracted by the other members.
- As each individual from our group presented, we remained attentive to each other. This awareness allowed for smooth verbal transitions that supported each speaker’s content.
- Throughout the preparation of the project and our actual presentation, we each worked with a partner, which led to two partners walking up and presenting together. The back and forth between partners allowed for a more conversational tone and prevented prolonged monologues.
- There was a moment in the presentation when one member accidentally skipped ahead and presented the wrong data. Our team recovered well by adjusting the slides and adapting to bring the presentation back to where it was supposed to be.
- Our group transitioned well between presenting from the projected slides to displaying the physical visual of the matrix structure. We creatively came up with the visual depiction of the proposal and integrated it smoothly into our overall presentation.

By identifying these strengths and weakness, we are now able to grow as presenters and implement these suggestions into our future presentation

INDIVIDUAL GROUP LEARNINGS

Marshall Beldon

- I learned that I can have an effective delivery if I speak slowly, maintain smooth transitions, and enunciate my words more clearly.
- I learned that I need to be more confident in my gestures and nonverbal cues in order to avoid being a distraction to the audience.
- Next time I work on a similar group project, I will cooperate more effectively with my team members so that each individual is able to utilize his or her strengths.
- When working in a group environment, it is extremely important for each team member to voice his or her ideas so that the overall presentation lacks minor mistakes, such as weak transitions and overlapping information.

Sunihith Daggubati

- I learned that meeting as a group in person increases accountability and the likelihood of achieving pre-set goals. Additionally, re-evaluating the schedule at the end of each meeting increases the efficiency of completing the project.
- I learned that I enjoy and work better in a structured and scheduled group environment.
- Next time I work on a similar group project, I will try to integrate more ad-lib phrases to loosen up the presentation and avoid scripting out specific phrases for the oral presentation.
- I also learned that group projects work best when all members are aligned with team goals and are willing to put in similar levels of effort.

Nivva Emmi

- I learned that it is acceptable for people to have different presentation preparation styles. Personally, I like having a rough outline of my speaking points and using that to guide my presentation. I became hesitant as some of my group members scripted their presentations; however, their portion was still well-versed, clear, and concise.
- I learned that I prefer working on my individual parts alone and then meeting with my group to put all of the different parts together. I tend to get distracted in groups, so my overall productivity is better when I am alone.
- Next time I work on a similar project, I will remain cognizant of people's individual styles and work ethics. Most of my peers care about these projects as much as I do and will get the work done to the best of their ability, and I should trust my teammates more.
- I realized that the most imperative part of having a strong group dynamic is making sure that everyone realizes the weight of the project and understands their individual responsibilities. If the boundaries of our duties are unclear, it leaves room for gaps in communication and cripples the completion of the project.

Kendall Matthews

- I learned that in working with a team, it is beneficial to delegate tasks and to clearly define what these tasks are so that individual responsibilities do not overlap with each other. If one person tries to carry the weight of a project, it will not be completed as effectively as it would be if tasks were equally delegated to all group members.
- I learned that I can deliver a message effectively without using a script, and that if I speak slowly, people will be able to better understand that message.
- Next time I work on a similar group project, I will make an effort to identify the strengths and weaknesses of each team member prior to assigning responsibilities in order to capitalize on the strengths of each member.
- Additionally, I learned that it is important to create a comfortable environment within the group so that no group member ever feels intimidated and everyone is comfortable with asking questions.

Angela Yang

- I learned that it is extremely important to come to each meeting having already generated ideas and with the work you committed to already completed. This will enhance the effectiveness of the meeting and reduce opportunities for distractions.
- I learned that I enjoy working on the aesthetic elements of presentations in order to ensure that deliverables look polished and professional. Because it is difficult to control everything that will happen during the presentation itself, it is necessary to control for as many aspects of the presentation beforehand as possible.
- Next time I work on a similar group project, it would be strategic to establish the roles of each group member early on, in order to minimize overlaps in work and clarify responsibilities so that no one is confused.
- The best way to improve in terms of the actual presentation is to practice consistently out loud. It is necessary to do this both individually and as a group, no matter how redundant it becomes.

Erik Yu

- I learned the importance of communication when I cannot attend a meeting; without effective communication, our project would have likely gone much worse.
- I learned that I do not have to practice as much as I usually do (around 15 times instead of 30+) as long as I have a strong level of confidence during the presentation.
- Next time I work on a similar group project, I will remember how important it was to establish rapport with my teammates, and to be comfortable with meetings not being completely productive, as some unproductivity is needed to create camaraderie.
- My skills in analyzing complex systems, coming up with solutions, and evaluating these solutions grew from working on this project.