Case Study: Whole World Enterprise (WWE)

Purpose

For MGMT576 course, I created a case study to compliment the learning. This case is organized by Section, and each Section corresponds to the corresponding Module in the course.

I. Introduction

A. Company Overview

Name	Whole World Enterprise (WWE)
Industries Served	Retail / Wholesale Internet Consumer Electronics Edutainment (Education Entertainment) Publishing

Geographic Area Served	Worldwide, with heavy emphasis in the United States. Current worldwide revenue is as follows:
	• North and South America: 51%
	  • United States: 70%
	  • Canada: 20%
	  • Mexico: 5%
	  • Rest of Americas (presence in Brazil and Argentina): 5%
	• Europe: 28%
	• Asia: 14%
	• Middle East & Africa: 5%
	• Australia: 2%

Headquarter	Saratoga Springs, New York
Current CEO	Darren (Wai Ming) Zhang
Revenue	US $80.1 billion (2016), increase of 12%
Profit	US $500 million (2016), increase of 340%
Employee	160,800 (2016), increase of 10%
Main Competitors	Alibaba Group, Amazon.com Inc., Apple Inc., eBay, Facebook Inc., Google Inc., Hewlett-Packard, Hulu, International Business Machines Corporation, Microsoft Corporation, Netflix, New York Times, Spotify, Times Inc., Wal-Mart Stores, and many other Internet and retail companies

B. Business Overview

Founded in 1997 at the dawn of Internet commerce, Whole World Enterprise started a virtual eCommerce company striving to dominate various educational product categories. It started with children's products (books, toys, videos and programs and even digital electronics). It then rapidly moved up the demographic curve including self-help, productivity enhancing tools and equipment, and eventually into professional office stationery and equipment including computing devices. It also developed a strong institutional market in which WWE sells directly to businesses and institutions on their entire range of products and services. As it achieved a significant market in the basic products, it started shifting, making much of its products including educational programs, documentaries, and featured films which largely address one or more of the social concerns of our time. In 2010, it also rapidly expanded into the digital space by offering cloud services for the educational market, software, and devices. By 2016, the company had achieved a revenue of over US $80 billion worldwide and was considered one of the fastest growing businesses in the world.

The company is guided by five principles:

1. Obsession with life-long learning and "maximizing human potential". Its motto "reach higher" resonates well with people who aspire to achieve more
2. Passion for solving problems. A vast majority of its products and services are designed to address challenges and to make life more efficient and effective. Its documentaries are full of ideas to solve problems
3. Strive to "do good". While the company is a for-profit organization, social missions such as educating the most vulnerable citizens in all countries that it serves is a strong indication of its commitment to "doing the right things", even at the expensive of profit. Until recently, the company had largely been unprofitable, even though its investors believe in the mission of the company.
4. Desire for creativity and innovation. The company focuses on the future and has a long-term outlook. Hence, it encourages its people to think differently and look beyond the near-term.
5. Fixation on getting things done. The balance towards a long-term outlook is the preoccupation with achieving results. The firm views its ability to execute its strategies, deliver its projects, and bring value to its shareholders and customers as a vital competitive advantage.

The company serves its retail customers largely through its retail website and focuses on quality products, price, trustworthy reviews (only purchasers who have a complete profile can provide product reviews), and convenience such as fast delivery. In 2014, it also started some retail stores that serve as an educational hub that serve largely as a community hangout spot with product demonstrations and quality speakers. For institutional customers, the company developed strong supply chain management tools to interface with the institutional customer's purchasing and inventory management systems that seamlessly connect WWE as a part of their business customer's value chain.

WWE competes head-on with Amazon.com and Alibaba in multiple product categories. Comparatively, WWE products are more expensive and somewhat slower in shipping speed once Amazon.com introduced Sunday shipping. WWE's product selection is also more limited with about 20 million stock keeping units (SKU) versus Amazon's 340 million. But WWE views its more limited SKUs as a positive

because WWE rigorously selects its products and this has created a strong following. WWE understands that most of its customers are confused by product varieties. By providing fewer but higher quality selections, studies have shown that WWE has a more loyal customer base while retaining a higher price. From a transaction perspective, it is estimated that Amazon.com experiences about 53 orders per second or about 4.5 million transactions per day. For WWE, the volume is significantly less, but it still achieves about 17.5 orders per second or 1.5 million transactions per day. This works especially well with its institutional customers. But the competitive pressure has always kept the company on its edge.

While the first four guiding principles are vastly interesting, this case study primarily focuses on the fifth principle – "getting the right things done".

C. The Burning Platform- The Need for Project Management

In 2007, shortly after the ten year anniversary of the firm's founding, WWE experienced a near-death experience. Due the rapid growth of the company, in March 2006, the company decided to integrate the firm by implementing an Enterprise Resource Planning (ERP) tool to break down the barriers across the various areas of the company. The goal was to improve internal efficiency and communication and also to centralize the management of its products, people, and customer accounts. Unfortunately up to that point, the company focused mainly on expansion and not internally on its management capabilities, especially project management. Its internal systems and processes are stitched together by a huge list of patchwork items and it was breaking at the seam. An example was orders taking longer to fulfill and in some worse case scenarios, customers and orders were mixed up. There was a severe inventory management issue that occurred in the holiday season in 2007. When the company selected the ERP tool and consulting services, WWE was led to believe that the implementation was relatively easy. The truth could not be any different. In short, after working on the system for almost 18 months, the ERP launched on September 30th, 2007. Immediately, there was a series of near-catastrophic errors – inventory issues, customer records mixed up, accounting errors, employee records went missing, etc. By late December 2007, in its busiest season, the CEO, Mr. Zhang, made the tough decision of reverting to the former set of systems (luckily the firm kept the new and old systems in parallel operations just in case of a disaster) and ended its first attempt at implementing the ERP solution. (Consequently, it sued the ERP firm and eventually settled out of court. The internal stories suggested that the settlement was hugely in favor of WWE.) Nonetheless, the company suffered immeasurably. Due to the delays, miscalculations, and customer service issues, the revenue for the 2006 holiday season was actually below 2006 expectations, and it was the first major setback for the firm. The stock dropped nearly 30% from its high in 2007, and the Board demanded immediately management's attention.

To be fair to the upper management team, they were already doing everything they knew at the time to stem the losses and resolve the problems. But the optics was bad even though the situation stabilized after terminating the ERP solution. Under Mr. Zhang's leadership, the senior management with the support of the Board, agreed to create a new role in February 2008 – Chief Project Officer (CPO) for the company at the enterprise level. The CPO's primary responsibility is the successful execution of strategic initiatives. WWE hired Korn Ferry and conducted a worldwide executive search. After six months of intense search and selecting from a pool of over 300 candidates and a shortlist of 15 highly qualified

business executives, Mr. Zhang and the Board agreed to hire Ms. Adriana Holmes. Ms. Holmes has a long list of successes as a CEO of a smaller regional retail chain in Massachusetts. Through acquisition, she went to become a COO for a significantly larger retailer in the Northeast where she was responsible for a successful turnaround of the organization's operations and sales from being an industry laggard to a leader. In her spare time, she became heavily involved in a number of non-profit organizations as Board members, taught in some of the local schools, and became a champion of education and learning across the entire spectrum from K-12 to adult and life-long learners.

What follows in the rest of this case study are the various projects and challenges that Ms. Holmes and her team had to confront.

II. The Current Situation

A. State of Project Management in 2008

When Ms. Holmes arrived at WWE in September 2008, the timing was both fortunate and unfortunate. Fortunate because the company is now reconstituting the ERP project and she started at the very beginning of the planning. It was unfortunate because of the historical failure leaving no room for mistakes. Ms. Holmes, even before having a chance to bring in additional help, decided to conduct a high-level review of the state of project management in the company.

Through primarily by interviews with internal project leaders who worked on the failed ERP project as well as other project sponsors and managers, she learned the following:

- There was no standard methodology or approach for project management, from project selection, through project approval, through implementation, and closure
- There was little consistency of tools and processes. Of the three major projects that Ms. Holmes reviewed only two tools were consistently applied: email was the most popular communication and knowledge management tool and nearly all project documents are literally dumped into multiple shared folders in SharePoint. Even the project status reporting had three different ways of gauging project performance.
- There were a few certified project managers in the organization, but their voice was largely muted. From speaking with many others on the project team, project management was largely viewed as bureaucratic (e.g. so many processes and firms and not sure of their value) and a lower priority than doing the actual work (e.g. the teams were so busy doing the work that there was little time for planning).

III. Global Information Store (GIS)

After much deliberation and with the project team in deadlock over which system to implement (including a consideration to build it in-house), it was recognized that one of the previous biggest challenges was the inconsistency in the data design from the earlier attempt that led to so much confusion. Even though the actual ERP application is still under investigation, everyone agreed that the company needed to launch a project to build a Master Data System (MDS) that can establish and enforce clarity of important data elements across its customers, products, and people. The Global Information Store project was born.

The first phase of the GIS system includes the three most important types of data: People, Products, and Customers. The GIS People brings clarity to how the organization and its systems view and manage its employees and contractors. This role-based system will eventually be used by other systems, including the ERP, for authentication and access control. Plus, in a future phase of the ERP, this GIS People will be an invaluable input to the human resources system. The GIS Products formalizes the product and services categories of the 20 million (and growing) SKUs throughout the organization. By standardizing the product and service categories, the organization can assign proper product management processes including service delivery. GIS Customers is required for the ERP system to better manage the supply chain. It also has a strategic importance for another project under consideration - Customer Relationship Management (CRM) in which the GIS Customers will be an important foundational component. There are additional GIS components being planned for future phases. This includes: WWE Retail Store, distribution center, and vendors and suppliers.

After much deliberation, the project team agreed with these strategic business drivers for the GIS system:

- Single Source of Truth – GIS system will be the system of record for the information in its system
- Reduce Redundant Data – GIS system will be the only system for these records, to avoid confusion
- Single Point of Accountability – Once done, the GIS system will have one global team to manage the system and govern the processes for data identification, categorization, cleansing, use, and termination
- Continuous Improvement – This team will be responsible for the ongoing management of this application and its data as a strategic asset of the organization

Phase 1 of the GIS System is estimated to be $10 million and requiring one year to complete, after the signoff of the project charter. Given the importance of the project, Ms. Holmes will be the project sponsor, and she will also be forming a Governance Committee in which Mr. Zhang will also be participating. The ongoing operating budget for maintaining and improving the system is estimated at $2 million per year. Both the budget and schedule are approximations and refinement is expected. However, given the past history, the need to produce a quality system is the highest priority. Mr. Zhang has also suggested that WWE should use this project as a way to develop its employees.

Note to students: To learn more about master data management (MDM), refer to a list of credible resources in Appendix C of the case study.

IV. Class Discussions

M2. Project Communication Management

From a communication perspective, the post project evaluation also showed major concerns. Clearly, the project communication was ineffective. There were a lot of issues raised throughout the project and groups were essentially talking "over" each other and not "with" each other. Furthermore, there were concerns with the timeliness and accuracy of the information. Even though the previous project manager raised the awareness of communication importance, the project executives thought little of the concerns and they were rarely followed through with credible actions that remedied the situations (For these reasons, the management team blamed itself and did not blame the previous project manager).

To summarize three major groups of communication issues were raised:

1. Timeliness: Even though there should have been weekly performance reports, the information in those reports were infrequently updated. For example, the budget almost always lagged the current information by about a month. The progress on activity completion was lagging the actual. Some concerns were raised, but band aids were applied, and there was no systemic change.
2. Accuracy: The ERP vendor and project manager painted a far more optimistic picture of conformance to the standard project performance metrics than was happening in reality. The previous internal project manager raised a series of concerns when there were disconnects between the reports and the actual deliverables. But the Management Team, including Mr. Zhang, was too busy dealing with other company activities to push the ERP vendor. Plus, the ERP vendor had an effective engagement manager that at least appeared to address any escalated issues. The previous project manager was so frustrated and felt disempowered that he left the company shortly after the launch (which created more internal turmoil).
3. Chaotic management of information: Since the ERP was the largest project of its kind, WWE did not have the tools and processes to manage the information. There was no single Project Management Information System (PMIS) and there was general confusion, even amongst the project team members, on the location of the latest information.

There were other considerable issues too. Most of the project team worked from the Saratoga Springs office, even though there were offices and distribution centers around the world. Project meetings were poorly attended. Some of the remote project team members felt disconnected with the project.

Discussion:

1. Why is project communication important?
2. Given the situation above, what would you have done differently to improve project communication?
3. Should the company implement a PMIS for this project? Why or why not?
4. What are your recommendations to improve communication management with remote teams? What would you do to engage the remote team members more?
5. How do you manage communication effectiveness? Identify two ways to measure communication.

M3. Project Risk Management

Given the failure of the previous attempt to implement the ERP system at WWE, the project experienced a high number of risks. Many of these risks happened due to significant issues for the project that eventually doomed the first attempt.

But much of the risk remains with this latest attempt to implement the system.

Discussion: As the Project Manager…

1. What approach would you take to identify the risks?
2. What are the likely risk categories to consider?
3. How would you evaluate the risk priorities?
4. How would you implement a process to navigate risks to this project?
5. Since the company has learned much from the previous experience, is risk management still important to this project? Why or why not?

M4. Project Quality Management

As stated in Section III, the quality of this system is the single most important aspect of this project. Project quality does not occur by accident. Project managers work hard from the project inception to make sure quality is planned into the very fabric of implementation. As described in the textbook, there are two important considerations: Fit for Purpose (utility) and Fit for Use (warranty). For the GIS Project, they are as follows:

I. Fit for Purpose (utility) – Refers to the ability of products/services to meet the intended needs. For GIS Project, each of the master data types serves as the definitive categorization of the data. The application is the repository for the specific data, which is used by all other information systems requiring People, Products & Services, and Customer data.

II. Fit for Use (warranty) – Refers to the performance and accessibility of these three types of data. It can also refer to the security, maintainability, scalability, and availability of the data. As this is a master data servicing all systems eventually, a particular concern is service disruption, for example. To address disaster recovery, there is a plan for active mirrored sites throughout the world in which the availability is essentially 100%. It would take a global catastrophe to simultaneously shut down all backup sites around the world.

As mentioned in Section III, WWE experienced about 17.5 orders per second or 1.5 million transactions per day. Each of these transactions has the potential to touch one or more of these data types.

Discussion:

1. Why is quality management important for this project?
2. Discuss a likely case in which a quality issue can lead to a customer problem.
3. Which is a more important aspect of quality: Fit for Purpose or Fit for Use?
4. If you are the project manager, what would you do to manage the project quality?
5. On this project, who is ultimately accountable for project quality?

M5. Project Procurement Management

One of the early planning activities was to determine whether WWE should build the product or purchase an existing product. After a thorough analysis of the available systems on the market, including master data systems that are a part of SAP, Oracle, Microsoft and other ERP solutions, the project team determined that it makes more business sense to build the system, instead of spending heavily to customize an existing product, pay the initial licensing fee and ongoing maintenance fee. WWE would still be responsible for compatibility issues with future upgrades. Strategically, utilizing an existing product also means too many compromises on ease of upgrade and performance.

Building the system possesses its own risks, starting with the software development capabilities. Luckily, on an unrelated project, WWE has developed a strong partnership with Centaura. After a cursory process of vetting competing vendors, Centaura was selected to build and integrate the GIS Project. After a series of negotiations, WWE and Centaura agreed to a Cost Plus contract type with a cap of $10 million. Centaura was contracted to assist with collecting the business requirements; designing and building the system; designing and validating the business processes; developing and testing the system; creating training materials; deploying the system; and providing up to a six-month warranty to fix any defects. WWE's primary responsibilities included providing the requirements; conducting training; performing organization development activities to improve adoption, establish the supporting organization (with the help of Centaura) and implement the business processes to support the GIS.

Discussion:

1. When should a company build versus buy a product or service?
2. Do you agree with the decision to build a new system? Why or why not?
3. For the GIS Project, should the project team conduct a thorough due diligence before hiring Centaura? Why or why not?
4. The contract type of Cost Plus was controversial. Ms. Holmes, for example, wanted a fixed cost contract, but Centaura disagreed citing the previous failure. Mr. Zhang eventually made the executive decision and agreed to the Cost Plus contract. What do you see as the pros and cons of Cost Plus?
5. Given the past issue with the ERP vendor, what will you do differently with Centaura?

M6. Project Integration Management

One of the noticeable failures of the previous attempt with the ERP implementation was treating the project as an information technology project. As such, the previous project team, including Mr. Zhang, was viewing the project through the lens of technology challenges – how to make the systems talk to each other. But ultimately, the failure was not so much that the systems did not "talk" with each other, it was that the systems were "talking over" each other. Furthermore, there were significant employee issues – not knowing why the system behaves the way it did or why some tasks that were very simple in the legacy system now take three times longer to perform. Apparently, there was also poor alignment between the system and the business processes and in the second week after the launch, there were 1,000 incident tickets generated. The project and the operational teams were so overwhelmed as they were designed to handle just 100 tickets per day. Thus, many incidents "fell through the cracks" and the resulting problems impacted customer service and delivery.

Learning from past lessons, Ms. Holmes has insisted on better integration management. Working with the project manager for the GIS System, the team agreed to implement the following processes:

1. Integrated Change Management – All changes will be deliberately managed after their approval
2. Dependency Management – Project Manager is responsible for overseeing the dependencies across multiple teams within the project
3. Reports – Detailed project performance reports will be shared across the entire project team. All team leads and above are required to read them
4. Meetings & Communication – Project meetings and broader communication are planned in advance with mandatory attendance of every manager and above, of impacted departments

Ms. Holmes and the project manager believe that through these activities conducted regularly throughout the project, the GIS project will be able to achieve a strong degree of integration across the various project teams within the overall project.

Discussion:

1. Why is project integration important?
2. Do you agree with the four processes stated above to achieve sufficient integration? Why or why not?
3. What are some of the other activities you would recommend to ensure even better integration?
4. Based on your understanding of the project, what are some of the areas that are more susceptible to change?
5. If you are the project manager, will you implement a less or a more rigorous change management process? What are the pros and cons of each? (Hint: You can also suggest a tiered process in which the rigor depends on the type of change)

M7a. Executing Project

Five months after the start of the execution phase and at about mid-way through the project, the project is experiencing significant challenges. Three recent challenges are as follows:

- Constantly Making Trade-Off Decisions: A recent incident illustrates the challenge. The original intent was to develop an automated process of matching and merging data of the same entity (e.g. when the system suspects two accounts, they are the same person; they may have most of the data identical but not all of the data). After multiple attempts, the business owners cannot agree on the business rules and refused to accept any compromises. The business owners want a 99% assurance that the merged data is indeed belonging to the single entity, but 99% is a tall order especially for the first phase of GIS when there's no previous experience. At best, the predictive model anticipates a match rate of 94%-96%.
- Engaging Stakeholders: The good news is that the stakeholders are engaged. The bad news is that given the impact of the system, the stakeholders are too engaged. They demand involvement in nearly every decision and thus are significantly slowing down the pace of the project. There is also a perception that the vendor is encouraging more involvement than necessary. Since the contract type is Cost Plus, it is in the vendor's interest to prolong the project.
- Integrated Change: Technically the process is working well. The actual changes submitted were diligently managed. But the project managers and most of the team leads feel that the interpretation of the requirements somehow is all leaning toward greater complexity or quality than originally planned. When the project team suggests using the integrated change process to evaluate the interpretation, both the business stakeholders and the vendor (Centaura) resist and urge for the adoption. This further increases the suspicion that the vendor is making its recommendation at least in part due to the Cost Plus contract type.

Discussion: If you are the Project Manager…

1. Discuss how you can effectively make trade off decisions.
2. How can you convince the business to accept a more realistic match rate?
3. The project is experiencing a number of significant delays due to stakeholder involvement. What can you do to address stakeholder needs but also accelerate project progress?
4. Change is another area of concern. What can you do to better define the integrated change process so all parties can agree when to invoke the change process?
5. The suspicion of vendor bias is increasing. What should you do to ease this suspicion or to address it?

M7b. Controlling Project

One of the significant changes from the past ERP Project is to implement a more rigorous process of controlling the project. Despite some of the execution-related issues, the project is largely on track and the changes are being diligently managed. However, in the last status meeting, Mr. Zhang raised the idea of conducting a project audit. What should you do?

Discussion: If you are the Project Manager……

1. On what basis should you welcome or resist a project audit?
2. Assuming you are against the project audit, how can you assure Mr. Zhang that the project is being properly monitored and controlled?
3. Assuming you are for the project audit, should you recommend an internal or external audit? Discusses the pros and cons of each.
4. What are the benefits that you envision as a result of the project audit?
5. Centaura offered to perform the project audit for a very reasonable fee, and Mr. Zhang almost agreed before you and Ms. Holmes objected. What is your rationale for rejecting Centaura as the auditor?

M8. Closing Project

Looking back, the last year passed like a flash. The GIS Phase 1 is done, and even though there were some initial issues and long hours, the project was largely successful. The system performed as designed and while the performance required constant tuning, it never performed below the designed specification. The business owners for the most part had a positive review of the system, even though there were a lot of mixed messages. For example, in a survey on project communication frequency, about an equal number of respondents all agreed that there were too many communications, too few communications, and the frequency of communications was just right.

Discussion:

1. Identify three important closing activities to complete before closing the GIS Phase 1 project.
2. Before closing the project, you want to conduct a thorough project closure process including updating all the relevant project documents, but the project team and even Mr. Zhang pushed back, because the project team is all anxious to be reassigned to work on another urgent project. Luckily, Ms. Holmes agrees with you. Why is it particularly important in this case to update all the project documents?
3. In the post project evaluation meeting, there was a particularly intense segment when a number of project team members discussed a particularly difficult business contact and insisted that her name be captured in the official evaluation. What should you do? Should you include named individuals in the final report?
4. How do you interpret the mixed message on communication survey results? What can you do to better understand the situation?
5. Ms. Holmes believed that the project vendor Centaura benefitted significantly from the Cost Plus arrangement and this should be reconsidered in the future. Yet Mr. Zhang and others in the Management Team are thankful for Centaura's positive performance (which is not disputed) on the project and would like to continue the arrangement. What is your view as the Project Manager?

Appendix A: Characters in the Case Study

Name	Role	Description	Chapters
Darren (Wai Ming) Zhang	Chief Executive Officer	Mr. Zhang is the founder and CEO of the firm. He is well respected and liked by all. As a consummate professional, he is courteous, respectful, and courageous. With an engineering background, he encourages experimentation, calculated risk taking, and systems thinking. Perhaps his biggest handicap is his stubbornness, occasional distrust of consultants and industry best practices, and impatience with over-analysis.	All
Adriana Holmes	Chief Project Officer	Ms. Holmes started with the firm in September of 2009. She is a "self-made" executive, being the CEO of her firm and became the COO of a much larger retailer (through acquisition). Even though she did not have a formal education or certification in project management, Ms. Holmes has built an incredible reputation as a great project leader. She prides herself on the ability to learn, and as such, she is heavily vested in the education industry.	Chapter 2 and Beyond
Ben Alvarez	Head of PMO	Hired by Ms. Holmes in late 2009, Ben has more than twenty years of experience building and managing project management offices. He is certified in Project Management Professional (PMP), and he is planning to pursue additional certifications such as the Program Management certification (PgMP).	Chapter 3

Appendix B: Time Frame for the ERP Project (Past and Present)

Date	Event	Description
March 2006	Launched ERP Implementation	To manage growth and to integrate the company into one system, the company launched a major ERP initiative in March of 2006.
August 2007	Mr. Zhang's preparation for the town hall	Up to this point, the project performance reports indicated that the project was healthy. But as Mr. Zhang was preparing a town hall meeting with the employees to prepare them for the ERP systems launch, he was shocked at the poor responses to his questions. This is the first inkling that something major is wrong. He immediately allocated $500k extra per month to keep the legacy systems in operation for as long as needed for the new ERP system to stabilize.
September 30, 2007 – late December 2007	Launch of the new system	The system launched on time, but it immediately faced unexpected challenges and errors. Thankfully, the legacy system remained in operation, and every night, the analysts reconciled the various data points between the legacy and the new ERP system. The expectation was that the number of errors would rapidly decline as errors are identified and fixed. Unfortunately, the error rate did not decline, and it affected the overall operations. Even though the legacy system was in operations, visible mistakes still occurred because everyone was so busy. With no end in sight, Mr. Zhang terminated the new ERP system in late December.
February 2008	CEO and Board agreed to create CPO	Given the catastrophic failures, WWE executives and the board agreed to create a new executive officer – the Chief Project Officer (CPO) to oversee all enterprise projects.
September 2008	Ms. Adriana Holmes started	Ms. Holmes started as the Chief Project Officer.
October 2008	Start GIS System project	Shortly after Ms. Holmes started at WWE, the executives agreed to re-start the ERP systems planning. From the lessons learned, everyone also recognized that for the ERP to work, a master data management application is going to play a crucial role - the Global Information Store (GIS)
December 2008	You are assigned as the project manager	Your first job is to create a project charter, which was completed in March 2009.
March 2009	Stakeholder Analysis	Your next assignment is to create a stakeholder analysis and a communication plan for the GIS project.
March 2010	Target Completion of the Project	The duration of the project is estimated to last one year after the approval of the project charter.

Appendix C: Additional readings on Master Data Management (MDM)

1. Wikipedia is a good source to start the understand of MDM:
https://en.wikipedia.org/wiki/Master_data_management

2. This Wall Street Journal article, sponsored by Deloitte, provides a summary business case for MDM.
http://deloitte.wsj.com/cio/2013/07/24/the-business-case-for-master-data-management/

3. Even though this article positions the Microsoft solution, it provides valuable information on the "what, why, and how of MDM". https://msdn.microsoft.com/en-us/library/bb190163.aspx