Strategic Decision Making
At Enterprise Resource Planning:
Chief Financial Officer At The Crossroads

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ABSTRACT

Following delays in the production of the company's annual accounts, the Chief Executive Officer is livid. He summons the Chief Financial Officer to explain circumstances surrounding the delay. The Chief Financial Officer, after consultation with the Directors of the Materials Management System and Power Sales departments, reckons that the acquisition of an Enterprise Resource Planning (ERP) system will permanently address the issue. This case provides students with an opportunity to apply knowledge in accounting, accounting information system, and project management to analyze business issues.

Keywords: Enterprise Resource Planning; Programming Language; Business Process; Protagonist

INTRODUCTION

A visibly disturbed Ms. Angelina Perkins, Chief Financial Officer (CFO) of Hybrid Gas Company (HGC) walks slowly and quietly down the stairs to her office from the Chief Executive's office on the afternoon of March 4, 2013. As usual, the annual account was late and Mr. Leslie Brown, the Chief Executive Officer (CEO) was livid.

The Hybrid Gas Company (HGC) was established on January 24, 2004. The company's Head Office is located in the Electra Voron Building in Rosedale, Maryland, in the United States. The core business of the company was to generate and supply electrical energy for industrial, commercial and domestic use. The company had branch offices all over Maryland. As of December 2013, the company had close to 800 employees. An extract of the company's organizational chart is provided in the Appendix.

HGC utilized three main business applications: 1) The Financial System (FS), 2) the Materials Management Information System (MMIS), and 3) the Utility Billing and Receivables System (UBRS). The Oracle-based FS was acquired from a Canada-based Software Manufacturing Company, Perfect Solutions International Limited for purposes of recording the company's financial transactions and producing annual accounts. The FS consisted of the following modules: accounts payable, accounts receivable, fixed assets, job costing and general ledger. The software also had two in-built report writer features for generating quick reports: EPIC and Focas 1000. In addition, the software ran on the SUN Enterprise 3500 Microsystems Server located at the Head Office. Linux was the server operating system. The server had been partitioned into "live" and "test" environments. The test environment allowed programmers to test amendments they made to the financial system. HGC had a hardware support agreement with SUN Microsystems Inc. based in Denmark for the maintenance of the hardware. Annual maintenance cost for the hardware is $125,000, and $95,600 for the software.

The MMIS was acquired from Proliant Systems International (PSI) based in Switzerland. The software was developed using Common Business-Oriented Language (COBOL) programming language. The software which handled all procurement activities of the company ran on the Wang VS 5440 mainframe system. The VS 5440

proprietary system is located in the Silver Spring office of the company, about 100 miles from the Head Office. The VS 5440 was experiencing frequent breakdown over the past few years. Proliant was also de-supporting applications written in third-generation computer languages such as COBOL. Proliant had advised HGC to acquire its Oracle-based MMIS applications. The cost of the Oracle application is $75,000.

The UBRS was acquired from Glenn Sanders International (GSI) based in Michigan, United States. The software developed using Report Program Generator (RPG) programming language, is used for billing purposes and runs on the Wang VS 8430 mainframe computer system, located in the Bowie office, about 75 miles from the Head Office. The Securities and Exchange Commission (SEC) of the United States has recently filed a securities class action against Glenn Sanders International for intentional manipulation of the financial statements. The stock price of GSI had plummeted in recent months following the securities class action and the company had to lay off its workers. GSI indicated to its numerous clients worldwide that technical support would be temporarily affected by the recent developments. The VS 8430 Computer System had also been experiencing frequent hardware failures in recent years and required upgrade. HGC had a hardware maintenance agreement with Wang International for the maintenance of the two Wang mainframe computer systems. Annual maintenance cost for both machines is $89,300.

HGC had set up a Wide Area Network (WAN) using fibre-optic cable. HGC requires that all software companies provide periodic technical and user training to staff of HGC. HGC also required that both in-house and off-the-shelf applications had customized technical and user manuals. HGC also required all hardware foreign companies providing hardware services to the company to have local presence in the Unites States. The company had in place, a comprehensive disaster recovery plan. A fire drill was conducted every quarter to ensure that members of staff were in readiness in the event of any disaster.

THE BUSINESS PROCESS

The policy of the HGC was to have all purchases routed through the MMD. The MMD maintained a database of vendors. Vendors underwent thorough screening by the department before being accepted to supply goods to the company. The purchasing section of the MMD made all purchases while the receiving section received goods when they arrived. The MMD sent copies of purchase orders and receiving reports to the accounting department.

When the MMD received goods from the vendors, the items were taken into stock. The department then updated the inventory levels on the MMIS. The MMIS produced a report of journal entries showing the appropriate inventory accounts debited and the stores' suspense account credited. Staff of the accounting department used the hard copies from the MMIS to update the financial system. When departments made store requisitions, the MMIS generated journal entries debiting the appropriate cost centers and crediting the appropriate inventory accounts. HGC used the perpetual inventory system of accounting. Before making payments, the accounting department sets up invoices on the payables module of the financial system. The stores suspense account was debited and the creditors' control account was credited. The particular creditor was also credited within the payables System. In 2013, the MMIS generated an average of about 1,200 journal entries per month, an increase of about 40 percent over the previous year.

The UBR was used to bill customers who received electrical power from HGC. The UBR was also used to receive payments from customers. The Power sales department determined electrical power consumed by individual and commercial customers and generated a consumption proof report which was reviewed by the commercial officer of the department. The consumption proof gave a listing of customers, the previous electricity reading, the current reading, and the electricity consumed (the difference between the current and previous readings). The UBR also generated an exception report for quick reference. If there were no issues with the consumption proof report, the UBR generated the Billing Register. The billing register showed how much each customer was to be billed. When the billing register had been reviewed and approved by the billing manager, the general ledger was updated. The update involved debiting accounts receivables and crediting power sales revenue. Hard copies of the general ledger postings were sent to the accounting department for entry into the financial system

TECHNICAL SUPPORT

The Management Information Systems of HGC had been experiencing high employee turnover in recent years. The department had a staff strength of 40 comprising of programmers and technicians. In 2012 and 2013, the department lost 15 highly-skilled staff to local companies due to less comparable financial remuneration. The department provided first-line of support to all software applications including those purchased off-the-shelf. The MIS department escalated issues beyond its capability to the vendors for support. The director of the MIS department had expressed concerns with the turnaround time with respect to issues that have had to be escalated to software vendors, particularly vendors of the MMIS. The MIS director had expressed his concern with skill set due to the high attrition rate facing the department.

THE PROTAGONIST: MS. ANGELINA PERKINS

Ms. Angelina Perkins is a Certified Public Accountant (CPA), with experience in both industry and practice. She joined the HGC as CFO in February 2011 from Binaries Chartered Accountants. At Binaries, she was the Manager in charge of audit, assurance, and advisory duties.

TACTICAL AND STRATEGIC DECISIONS

Ms. Perkins solicits the assistance of the Directors of Materials Management, Management Information System, and Power Sales in an attempt to deal with the delay in the financial statements. The CFO and the two directors agree that the way forward is to acquire an Enterprise Resource Planning (ERP) System. They also agree to constitute a team to prepare a requirements document to capture the limitations of the existing computer systems in the company. Preparing the requirements document will require interviewing users of the software. Ms. Perkins expects that the ERP system will be operational by December 2015. She thus needs to formulate both short and long term solutions to the problem. Ms. Perkins reckons she would have to make a presentation to the CEO about the tactical and strategic directions.

COMPANY POLICIES

The policy of HGC was that all acquisitions would go through a competitive bidding process to ensure transparency. The bidding process included evaluation of requests for proposals (RFP). The policy also required that staff of HGC to visit the reference sites of short-listed vendors before a final decision was made. HGC required that all projects follow standard project management procedures. All expenditures beyond $500,000 would require board approval.

INSTRUCTOR'S MANUAL

Case Overview

This case deals with the evaluation and selection of an Enterprise Resource Planning (ERP) System by the Hybrid Gas Company (HGC). The company has been in operation since 2004 and its core business is to generate and supply electrical energy for industrial, commercial, and domestic use. Following a delay in the production of its 2013 annual accounts, a livid the chief executive officer, Mr. Leslie Brown invites the Chief Financial Officer, Ms. Angelina Perkins to explain the delay. MS. Perkins solicits the advice of two key directors: Director, Materials Management and Director, Power Sales. A decision is reached to acquire an Enterprise Resource Planning (ERP) System. Considering the importance of the situation, Ms. Perkins decides to formulate a short and long term solution. She expects to make a presentation to the CEO when the plan is completed.

Objective of the Case

o   To provide students with an opportunity to think critically by analyzing a non-deterministic problem.
o   To provide students with an integrative learning environment.
o   To enable students to apply concepts learned in accounting, accounting information systems, and project management classes in assessing real-life business decisions.

Teaching Methods and Target Audience

o   Students must have introductory knowledge of accounting, accounting information systems, and project management to effectively analyze this case.
o   The Case is designed for a 50-minute class session. The class should be divided into groups of about three to five students and the case assigned to the groups. The case should be assigned about a week in advance for students to familiarize themselves thoroughly with the issues involved.
o   The facilitator should begin by asking students to:
   o   List the issues facing HGC. (10 minutes).
   o   Outline short term measures to deal with the problems facing HGC? (10 Minutes)
   o   List and discuss steps that the Chief Financial Officer should take to ensure that HGC acquires the appropriate ERP system? (30 minutes)

Suggested Responses

1)   List issues facing HGC
   •   Different hardware platforms and software applications
   •   Different hardware and software vendors to deal with
   •   Frequent breakdown of VS 5440 and VS 8430 Computer Systems.
   •   De-supporting of third generation applications by Proliant Systems International
   •   Security class action against Glenn Sanders International and its attendant ramifications
   •   Effectiveness of in-house support for applications by MIS staff
   •   Huge hardware and software cost
   •   Lack of integration of different applications resulting in manual journal entries.
2)   Outline short term measures (if any) to deal with the problems facing HGC
   •   Inviting Wang International to conduct thorough maintenance of the Wang VS Machines.
   •   Having workers do overtime to complete the over 1,200 journal entries every month.
   •   Ensuring that hardware and software vendors provide acceptable turnaround time.
3)   List and discuss steps that the Chief Financial Officer should take to ensure that HGC acquires the appropriate ERP system?
   •   Obtain management buy-in
   •   Prepare a Request for Proposal (RFP) with the involvement of users
   •   Send out RFP for competitive bidding
   •   Evaluate bids received
   •   Conduct reference site visits for shortlisted vendors
   •   Select software

SUMMARY AND CONCLUSION

This case seeks to augment what students learn in the classroom with a real-life scenario (names have been changed to safeguard confidentiality). The case seeks to teach students the importance of having integrated computer applications. Indeed, many of the issues that culminated in the delay of the company's financial statements could have been averted if the company had in place an ERP system. For instance, duplications in the setting up of vendors on both the MMIS and the FS would have been averted. The huge expenditure incurred by the company in maintaining separate computer hardware and software could have been channeled into other areas. For instance, additional servers could be acquired for backup purposes to enhance the company's disaster recovery plans. In

addition, effective training could be provided to the MIS staff to enhance the quality of support for the staff of the organization. Furthermore, frequent breakdowns of computer hardware such as VS 5440 and 8430 would not result in significant delays as backup servers will be available to ensure uninterrupted operations.

HGC is well positioned to implement and operate an ERP system because the company has in place a high-speed fiber optic network. An ERP system installed on a central server will allow users from all geographic locations to log into the central server and access the application. The use of an ERP system will facilitate operations because of its numerous advantages including but not limited to the elimination of duplication of tasks such as vendor-setup. Furthermore, the company would have to deal with a single hardware and a single software vendor instead of multiple vendors which could be problematic.

To ensure that HGC acquires a system that will fit its needs, it is very important that a task-force is set-up headed by a project champion. The project champion should sell the benefits of the project to management and the entire staff of HGC. It is also extremely critical that users of the system are adequately involved throughout the process. For instance, users should be heavily involved in the preparation of the systems requirement document, demonstration of the various software from the vendors, vendor site visits, and ultimately the selection of the software. When the users are heavily involved in the evaluation and selection process, they will normally feel comfortable owning the system.

RECOMMENDATIONS

Based on the afore-mentioned, the following recommendations are provided:
1. HGC take steps to de-emphasize the use of the proprietary systems such as VS 5440 and VS 8430 Computer Systems.
2. Take steps to convince management to acquire an ERP system with the following modules: Financial, Materials Management, and Utility Billing. Other modules could be implemented in a modular fashion.
3. A high-capacity central server should be acquired to house the ERP system. This process will require that the Chief Financial Officer conduct an initial assessment of the cost of the software, hardware, training, etc. She will then have to "sell" the idea to the Chief Executive Officer of the company and possibly make a presentation to the board of directors depending on the cost of the project. All expenditures in excess of $500,000 require board approval.
4. If approval is received for the acquisition of the software, a team should be set-up. The team should include representatives from the user departments. Regular feedback should be given to management and staff on the status of the task.

AUTHOR INFORMATION

Isaac Bonaparte is an assistant professor at Howard University in Washington, DC. Isaac teaches Accounting Information Systems and Financial Accounting. Isaac is a Chartered Accountant and a member of the institute of Chartered Accountants, Ghana. He was Operations Manager of the Volta River Authority, Ghana and acted on several occasions as Director, Management Information Systems of the Volta River Authority, Ghana. He has been instrumental in the successful computerization of several computer applications. His current research interests include earnings Management, Open Source Systems, IT governance, Systems integration, cloud computing and electronic commerce. E-mail: isaac.bonaparte@howard.edu

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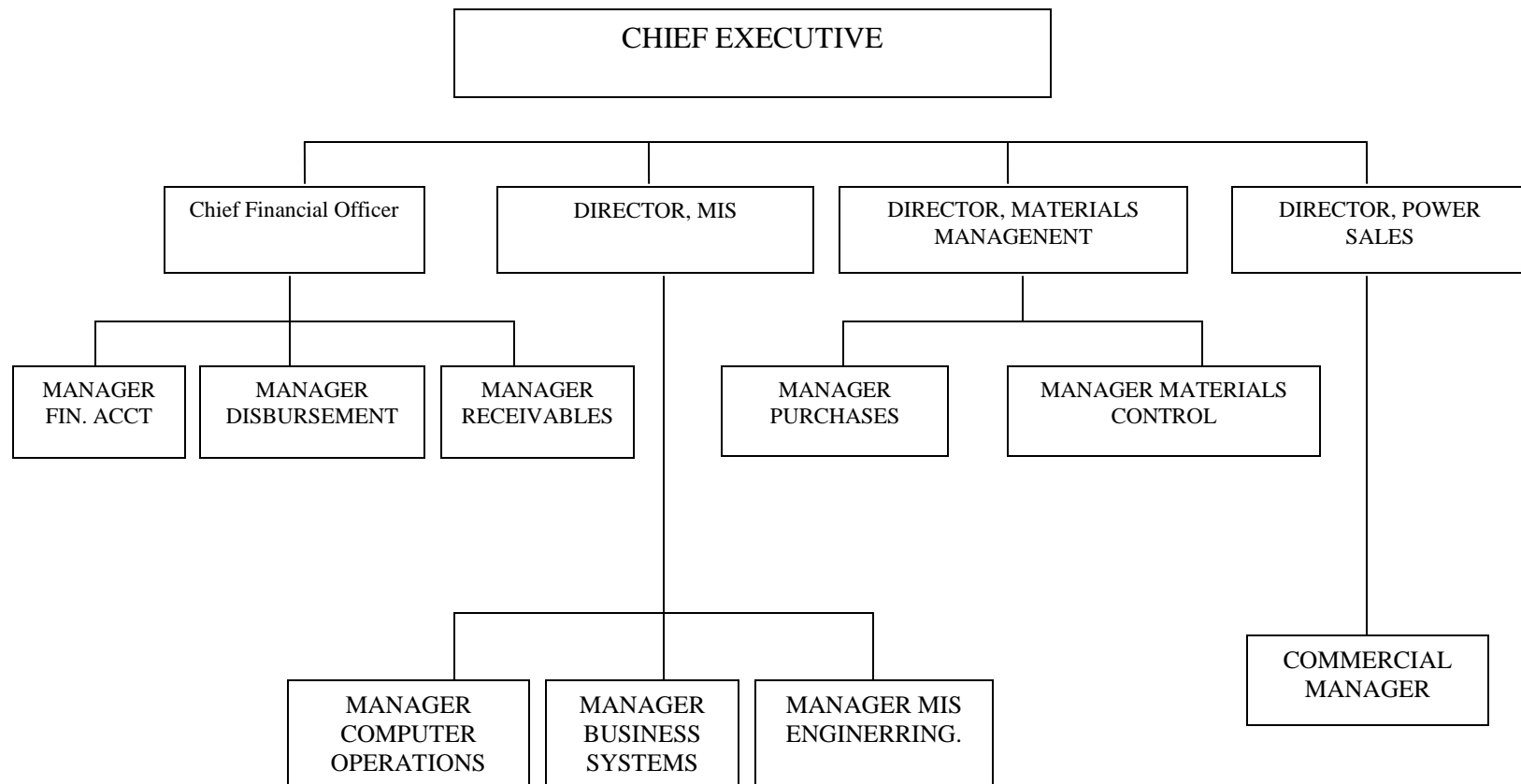
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APPENDIX

ORGANIZATIONAL CHART (EXTRACT)
Hybrid Gas Company

CHIEF EXECUTIVE

- Chief Financial Officer
  - MANAGER FIN. ACCT
  - MANAGER DISBURSEMENT
  - MANAGER RECEIVABLES
- DIRECTOR, MIS
  - MANAGER COMPUTER OPERATIONS
  - MANAGER BUSINESS SYSTEMS
  - MANAGER MIS ENGINERRING.
- DIRECTOR, MATERIALS MANAGENENT
  - MANAGER PURCHASES
  - MANAGER MATERIALS CONTROL
- DIRECTOR, POWER SALES
  - COMMERCIAL MANAGER

NOTES