

ISM 645 Strategic IT Planning Case Study Company Profile

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Company Information

MarkO Ltd. is an international cloud services treasury company headquartered in Costa Mesa, California with offices in New York, Chicago, Atlanta, London, Paris, Amsterdam, Minsk, Belarus, Tokyo, Beijing, and Dubai. It provides financial treasury services, via a cloud-based software solution, that customer's access via the web, without requiring hardware or special software. Customers pay a monthly fee for an *instance* (copy of the application) of the product, which is a representation of their treasury management system, but hosted by MarkO Ltd. In its data center, instead of in their own data center. Treasury management services includes cash and liquidity management, risk management, hub communication services to financial clearing houses (and transfer pricing centers for monetary exchange), and supply chain/invoicing services.

The company is comprised of 600 employees and 75 consultants in various areas of the business (although 80% of them are in information technology). Although now headquartered in Costa Mesa, California, the company was first managed out of Lyon, France for over 12 years. The company is now 15 years old and is considered to be an old start-up or what is sometimes called a *Maturing Scale-Up*.

The company is led by Jean Pierre Rochard, the CEO. He reports to a board of directors comprised of three French directors, four American directors, one German director, and one British director. He has eight direct reports that include EVP Sales, SVP Marketing, SVP Client Services, CFO, CIO, COO, SVP Channel Sales, and SVP Distribution. Legal and HR report to the CFO. Until recently, the information technology (IT) department reported to Rochard. Two months ago, Rochard hired a new CIO to run the IT department. This new CIO must quickly assess the business, specifically the IT situation, and develop a Strategic IT Plan for the company.

Financial Considerations of the Business

Annual revenues are 45M€ on a net operational cost of 60M€. The rise in costs is associated with the addition of three new product lines that have been in development for the last two years and are now about to be delivered. The CEO is considering capitalization via a venture capital insertion, which would be a second round of Venture Capital (VC) funding for the company and would be projected at 40M€. He also has an option of financing the next three years using a line of credit from his bank. He can capitalize much of his development and R&D work, with hopeful forecasted sales that will help him break even within the next three years. Either choice will allow him to splash his new products and project a positive margin over the next five years.

Strategic Business Goals

Rochard and the executive team have completed their five-year plan and have determined their top business goals are as follows:

- MarkO must have the production capability to house large companies (companies over 3000 users), not just small to medium businesses, with the same or faster speeds within the next year
- MarkO must be able to increase its revenue by 20% each year for the next five years while holding operational costs to a growth of 5% each year.
- Consolidate the Business CRM system for use by the entire company over the next two years

- Implement a new Business Enterprise Resource Planning system to include all financial, HRMS, Sales, Marketing, Operations, Professional Services, and Product Management.
- Implement a new Fraud Product Line, disruptive to the market, with a break-even revenue goal within 2 years
- Implement a Customer Business Intelligence Data Mart service with a break-even revenue goal within 3 years
- Establish a firm sales organization and regional scope in the Middle East within 2 years
- Establish a firm sales presence, including a sales headquarters, regional and professional support center in mainland China
- Segment the MarkO product into discrete modules with interoperable connections and the ability to integrate new modules quickly and accurately within the next four years
- Increase speed of new customer expansion (on-boarding new customers onto the closest regional data center) into regional areas from the current 3-5 month turn around to several weeks within the next two years
- Develop Application Program Interfaces with major ERP vendors for MarkO products to easily integrate within the next two years
- Introduce Cryptocurrency management to the core application of the MarkO program and to the various elements of the MarkO product offerings in the next year

The Role of the Strategic IT Plan

The Strategic IT Plan is a serious component of the company's strategic decision documentation and overall business plans for Jean Pierre and the Board. It will help them determine the various costs for growth of the products and services. It will also give them a one, two, and three-year projection of capacity, which will help them determine volume and price point. Jean Pierre would also like to have some simple and easy to view key performance indicators. These should be recognized values that tells him and the other executives that the plan is on track and achieving what it set out to do. These will figure strongly in the revenue projections for the company and determine how fast the R&D debt can be washed. Additionally, larger, more revenue generating companies have been asking MarkO Ltd for an IT plan to see if the cloud company can sustain itself and grow its services base through its technology plans and strategy. These larger companies want to know if MarkO Ltd. can continue to sustain its growth in product and service capability over the next several years. Only then will they be willing to hand over their treasury services to them.

The IT Environment

The IT environment is comprised of four traditional co-location data centers located in Phoenix, Arizona and Teaneck, New Jersey in the United States; and Paris, France and Pantin, France in Western Europe. The company has also contracted with a cloud services provider, Amazon Web Services (AWS), a franchisee of Amazon in mainland China. Each data center (not including the AWS Center) is comprised of eight racks of equipment including servers, routers, switches, mass-storage, and data replication and back-up equipment. All centers contain an InterNap solution (the presence of all major carriers coming into one accessible physical presence). MarkO Ltd. maintains a 300GB network, with internal 10GB to the desktop. User capability (access speed) varies based on the customer's internet speed, nodal population, and latency (mostly influenced by the software instance's point-of-presence location relative to the customer's website).

Company IT Products & Services

The MarkO Ltd. Treasury Management Service (TMS) product is a pure Software-as-a-Service (SaaS) play in the cloud. It is a monolithic application, built upon over the last twelve years. It

uses various versions of Java and Java scripts, including versions dating back to v1.5 through v7.1. Although there is a refactoring project that is done in the background, the primary development work has always been enhancement to products, followed by bug or engineering fixes to the product, followed by refactoring or core code clean up. Ultimately, the desire is to segment this monolithic application into four product areas: cash/liquidity, risk management, invoicing/supply chain, and hub communication. These areas can be segmented into modular code instead of existing in one monolithic stack. Additionally, the code uses the Python protocol as its communication interface. However, this will change to Java, one feature set at a time, until the entire hub communication interface's Python code is replaced with Java 7 code.

The Software Operating Environment

The application servers are virtualized using VMWare at a ratio of @ 18:1. The environment uses active – passive interfaces between server instance reflections in the cluster, and between reflections at a reflection site for disaster recovery (DR) purposes. Return to Operation (RTO) time is 4 hours, although most of the larger companies that are customer candidates would like to see this reduced to 10 minutes or less, indicating a major shift to an active – active environment. The operating system is Linux Red Hat. It is housed on Dell Blade servers that are currently two years old. There are five server slots open in two racks for each of the four data centers. Mass storage is rack-mounted EMC VX 600 virtual drives. There is a mixture of storage attached network drives, network attached storage drives, and serial advanced technology attachment (SATA) drives. Each center's local mass storage houses 3TBs of storage (raw). It also houses 500GB of solid state device storage (SSD) for maintenance utility, logging, etc.

Data is housed in an Oracle 11G data cluster, virtualized but segmented from the application clusters. Currently MarkO Ltd. uses the Standard Edition (SE) license base, but Oracle's move to a different licensing pattern and the shift in its licensing billing will force MarkO Ltd. to move to SE2 in 2017. At that time, MarkO Ltd. may need to make a decision to move to Enterprise Edition (EE) or stay with SE2. The difference in pricing and capability still need to be researched. Along with Oracle 12G, MarkO Ltd. is also planning a business intelligence capability, utilizing the database environment as one of the data sources. This may mean a movement to Oracle Business Intelligence (OBI) as a new application. MarkO Ltd. must conduct research to see if this is a BI tool for future use and monetization, or if another product is more financially and technically feasible. Some other candidates include Pentaho, Tableau Server, BizViz, Domo, Birst, and Qlik. The sales and marketing groups have indicated that a BI solution could be monetized (functionality sold to customers) in two years. It is important to determine what technology opportunities there may be to manage and leverage the possible Big Data potential at MarkO Ltd. The IT department has to research, finance, and plan the implementation of a solution in the coming year in order to meet that projection.

Internal IT Considerations

Internal IT has recently been moved from the finance department to the central IT department. The Internal IT Group responsibilities include the service and provisioning of laptops, cell phones, and technology peripherals including office automation solutions, network solutions, monitoring of wiring closets, WAPs, and facility-based infrastructure. IT has a staff of 12 people posted in its international offices to service company personnel. 95% of the company's personal computing is done on laptops. The company has not implemented Bring Your Own Device (BYOD) as of yet but will have to plan this for the future. The sales force is currently pressing the IT department for another alternative to laptops for its highly mobile sales force. Currently, the office automation software is Google Apps, with an Outlook translator for those that want an Outlook experience on the desktop. These were appropriate apps when the company consisted of 25 people, but lately, the company executive committee has questioned whether a strong suite

should be introduced. Recently, Microsoft Office 365 was introduced to the company. However, even today, there are applications running in Google Apps on the Google (Docs) Drive. There is currently no plan for rolling over these apps to a standard platform.

Business Applications

Additional business apps exist in the areas of enterprise resource programs (ERP), human resource management systems (HRMS), and sales automation and customer resource management systems (SA-CRM). The ERP for MarkO Ltd. is OpenERP. However, this was chosen nine years ago when the company was small and there may be a need to go to a more robust ERP system. It is a cloud-based system, but the company must consider whether it should go private cloud, instead of public cloud or inside the company's data center (an internally installed, or *In-Premise*, solution). The HRMS system is Bamboo. However, the HR department has taken on the job of selecting and implementing nine additional HR solutions to supplement Bamboo. These include everything from travel reservations, expense reporting, personnel management, evaluation systems, recognition systems, budgeting and headcount management systems, and benefits systems. There has been no implementation of single sign-on (SSO) or of extended active directory services.

The sales and marketing forces have taken it upon themselves to select Salesforce.com as a sales automation provider and as a CRM provider. Both groups have separate instances of Salesforce.com with a series of custom HTML5 and Force.com applications already written for their instances. At this time, there is no connection from Salesforce.com to the ERP system, nor is there a formal CRM ticketing system in place. Customer service is handled by an outsourced service manager (ServiceNow), which is a cloud-based customer service provider. Visibility into ServiceNow is somewhat limited, due to a lack of integration into MarkO Ltd. systems, not because of ServiceNow's API's, which have been provided to MarkO Ltd.

Software Engineering

MarkO Ltd. writes its own software in Java. It has two development centers: Lyon, France and Minsk, Belarus (Russia). However, one of the centers is agile methodology driven (Lyon) and the other (Minsk) is Waterfall or SDLC oriented. The IT team is segmented into three major groups:

- The software engineering team is comprised of all the developers and testers in both Minsk, Belarus and Lyon, France. There is a total of 82 people (45 in Minsk and 37 in Lyon). Each product engineering team is led by a technical team leader. Each team is comprised of several software engineers, quality assurance (QA) testers, test automation programmers, and Scrum Masters (Scrum is the Agile methodology currently employed). The cost of software development production in Minsk is approximately 76% of that in Lyon, with a majority of the cost being actual salaried labor. MarkO Ltd. hires few contractors and has a policy that a contractor that is projected to be in place for more than one year is converted (or the role is converted) to a full time equivalent (FTE).
- The product development team is comprised of product owners for each of the four products, and business analysts in each of the product silos. There are four product owners with four business analysts apiece. Currently, there is a VP over both of these groups as well as a product architect, who was also a co-founder of the company. Both of these VPs report to the CIO.
- The operations and infrastructure group are comprised of eight system administrators, one DBA, one systems architect, three network analysts, and a technical architect.

The Mission!

You are the new CIO faced with this environment. The CEO and the board are looking to you

and your Strategic IT Plan to solve some of the immediate issues as well as position the company for long term growth and scalability. You have some clean-up to do in many places, but there is a severe thirst for new functionality and features in the product. Both Sales and Marketing are complaining that the software development is too slow and that new features are not being implemented soon enough. There is a product steering committee that meets once a quarter, but records indicate that decisions made by this committee are often altered after the decisions have been made by the committee, vetoed by the CEO, or ignored by the sales staff. You, as well as the CEO, are hoping that your Strategic IT Plan will get a grip on this environment and control some of the things holding the company back from its potential. You have six weeks to produce this plan in whatever format you chose, keeping in mind the segments that must be addressed and the content of your company's internal and product/service systems.