
LUMIÈRE: SUPPORTING A VIRTUAL WORKSPACE ON THE CLOUD

Deepa Ray and L. S. Subramanian wrote this case solely to provide material for class discussion. The authors do not intend to illustrate either effective or ineffective handling of a managerial situation. The authors may have disguised certain names and other identifying information to protect confidentiality.

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It was late at night, and one of the market research projects that Deepa Soman, chief executive officer (CEO) at Lumière, had been monitoring was finally coming to an end. In fact, she had just finished signing off on one of the key deliverables. The clients were very happy with the results and with the solutions that Soman and her team had provided. Additionally, they were very impressed with the way Lumière had used technology to give them 24/7 access to project progress and documentation. The clients appreciated the fact that, despite being a small firm, Lumière was as competitive and quick to respond as any other big market-research company. Milind Soman, the chief information officer (CIO) and director of the company remarked that this kind of service was the reason 80 per cent of Lumière's business came from repeat customers.

The firm's journey to adopt cloud technology had begun in 2011, and now, in early 2015, Milind reflected on the impact of the technology on Lumière's business performance. What were the factors that had made this adoption easy? How much of the firm's efficiency could be attributed to the cloud? So far, most of Lumière's applications on the cloud had been sourced from Google Marketplace, but with other players like Microsoft getting into cloud technology aggressively, should Lumière start to explore these new offerings as well? Given the trade-offs that Milind had made while choosing the cloud, would this technology continue to pay off in the future?

EVOLUTION OF LUMIÈRE

Lumière Business Solutions was a research and consulting firm that worked closely with clients in the areas of market research (both quantitative and qualitative), online research, and consulting. The company positioned itself as a partner to its clients in providing insightful and innovative business solutions. Soman, an MBA graduate from one of India's top business schools, founded Lumière Business Solutions in 1996 to give women professionals the option to have both a career and a family, instead of choosing just one of these paths. Lumière's mission statement stated exactly that: "To provide customized business solutions

that enable our clients' growth, while providing a platform to attract, develop, excite, and retain professional talent who seek to integrate work and life" (see Exhibit 1).¹

Lumière's foundations were based on flexible work processes that allowed women with specific competencies to receive training and then work in the field of market research. Most team members at Lumière were women who worked remotely, taking advantage of flexible work hours. In fact, Lumière had only one corporate office. Since Lumière provided virtual workspaces, the concept of a "branch" did not exist. Still, Lumière had expanded its presence in terms of virtual teams to multiple locations all over India (see Exhibit 2), and the company was rapidly expanding to international locations as well.

The Business Need

Although Lumière belonged to the small-to-medium enterprises (SME) bracket, it competed on par with other big market-research companies. But Lumière was much more than just a small business. At its foundation, Lumière supported the social cause of giving women the chance to have a career by providing them with flexible work practices. The senior management at Lumière knew that this opportunity could not come at the cost of quality, and for that reason, Lumière had to overstaff its projects by 30 per cent (compared to the rest of the industry) in order to provide quality work and efficiency that equalled that of its competitors. Where could the company offset this cost? To stay competitive, Lumière had to improve its cost margins in other places.

A second issue related to the industry in which Lumière competed. Milind explained,

Lumière . . . does qualitative research. This is said to be an art and is generally people-centric. If Lumière, as a company, has to churn out great research, it is necessary to convert the art of qualitative research into a science. This can be done using structures, frameworks, and processes to ensure 80 per cent of what is expected of good qualitative research can be delivered. Twenty per cent can be left to divine intervention.

A lot of information was already being stored on the company's intranet. There was a huge knowledge base that existed in the form of digital repository of documents, information, etc., which meant that the infrastructure that was needed to convert the art of research into a scientific process was already in place. To enable its use, however, Lumière's work processes had to be restructured. For example, because the workforce was geographically dispersed, excuses such as "already e-mailed it," "forgot about it," "did not see it," and "did not receive it" often came up. These were not acceptable. Links had to be put into the work process that connected the workflows for better management and transparency.

Initially, Lumière's information technology (IT) solutions were based on using traditional data centres, a practice that came with additional fixed costs, like licensing fees and leased lines for connectivity. On an ongoing basis, Lumière built its own solutions to accommodate the changing needs and demands of the organization, but this approach resulted in some monstrous home-grown solutions that could not keep pace with the customers' changing demands in the effervescent and creative domain of market research. Milind knew that technology could be leveraged to reduce the firm's spending and improve its access to resources across geographies. He also knew that IT was not core to their business. Lumière needed to identify a way for IT to solve its problems without becoming resource-intensive.

¹ "About Lumière," Lumière Business Solutions, accessed March 30, 2014, <https://www.lumieresolutions.com/Aboutus.aspx>.

Cloud Computing: “Software as a Service” as a Solution to Business Needs

Simply put, cloud computing is the use of shared computing resources by multiple organizations to fulfil their IT requirements. According to the National Institute of Standards and Technology (NIST),² the “cloud” referred to actual hardware and software provided on a common platform that could be accessed from anywhere using the Internet. This technology had five important characteristics:

1. On-demand self-service: Any consumer could obtain the computing capabilities as needed, with zero to minimal human intervention.
2. Accessibility: All cloud-based services were available over the network and could be accessed using multiple network-enabled devices.
3. Elasticity: Cloud computing resources could expand or contract to closely match the actual requirements of an organization.
4. Pay-per-use: The services consumed on the cloud could be measured and billed on a pay-per-use basis without a huge upfront commitment.
5. Resource pooling: Resources owned by the vendor were pooled and allocated among multiple users, thus providing efficiencies of scale.

Cloud computing was a form of utility-based computing, where companies could use and pay for technology services as needed. Cloud computing enabled organizations to concentrate on their core business processes without worrying about how to manage the technology.

IT providers offered cloud computing through a variety of service models, depending on the organization’s needs:³

- Software-as-a-Service (SaaS), where users within the organization accessed application-level services hosted on the cloud using the Internet.
- Platform-as-a-Service (PaaS), where infrastructure as well as a development platform was provided, on which applications could then be developed by the individual organizations.
- Infrastructure-as-a-Service (IaaS), where basic computing services were provided to the organization on a pay-per-use basis.

Among these options, SaaS was the most popular in terms of adoption. SaaS applications were nothing but web-based software — applications that resided on the provider’s servers and that could be accessed by using the Internet.⁴ The provider managed the application, including the aspects of access, security, availability, and performance. SaaS had significant advantages for SMEs.⁵ It helped SMEs to quickly change and adapt tools to satisfy their firm-specific business needs. It led to lower costs (both in terms of software and hardware) because the organization paid only a monthly fee. It also improved accessibility because a mobile workforce could now access relevant information from anywhere, which led to greater efficiency and productivity. However, the cloud also had its own set of challenges. For one, using applications on the cloud meant that good Internet connectivity was always needed but was not always available. Also, security and lack of understanding of the legal aspects of data control represented a concern.

² Peter Mell and Timothy Grance, “The NIST Definition of Cloud Computing,” National Institute of Standards and Technology, accessed March 31, 2015, <http://csrc.nist.gov/publications/nistpubs/800-145/SP800-145.pdf>.

³ “IBM Cloud Computing: What Is Cloud Computing?” IBM, accessed April 2, 2015, www.ibm.com/cloud-computing/us/en/what-is-cloud-computing.html.

⁴ “What Is Software as a Service?” Salesforce, accessed April 2, 2015, www.salesforce.com/saas.

⁵ “How Small Businesses Can Use SaaS Apps for Competitive Advantage,” Sysnet, accessed April 2, 2015, www.sysnetgs.com/2013/12/19/how-small-businesses-can-use-saas-apps-for-a-competitive-edge/.

Additionally, the process of understanding and negotiating contracts related to cloud deployment could be overwhelming.

As Lumière's CIO, Milind kept abreast of the latest technology trends. He understood the pros and cons of cloud computing, and, even more importantly, he saw the cloud as an opportunity to reduce the operational costs of keeping the company's IT going. Cloud computing — and, more specifically, SaaS applications — could help Milind leverage technology to gain the efficiency and productivity he sought.

Some of the drivers for cloud adoption at Lumière included its provision of a virtual workplace and the fact that cloud technology reduced the time and effort required to deploy applications. The cost of bandwidth had also gone down significantly over the past few years, a condition that would improve the connectivity issues normally associated with cloud computing. As a result, cloud computing could improve the agility of the business, offering chances for better business development and growth.

Beginning of the Journey to the Cloud

As Milind recalled, “Our journey began when Google announced its free pilot of a cloud-based e-mail system for small-to-medium enterprises (SMEs). We had challenges with our e-mail provider with respect to junk and spamming.” As the CIO, Milind saw no harm in exploring cloud-based e-mail services for free simply as a way to understand the use of the cloud as an ecosystem. After the success of this experiment, the company moved to Google as a messaging system as well.

Milind explained:

Until 2011, we used only sharing space, but now we wanted to explore the use of this cloud-based ecosystem to work for our internal processes as well. For example, in an organization like ours, it was traditionally very hard to assess who had done what. Also, once individuals had filled out their timesheets, [the information] had to be consolidated. Was there a way to make things independent of people? Could we go beyond just messaging and look at collaboration? Also, could we support our work practices using apps on the Google Marketplace?

An application called Manymoon offered an example of what Milind was talking about. Manymoon was a social productivity application that made it simple to securely share information. It was a team-centric project management system that provided a workspace that integrated the team members and made life easier for the project manager. Further, Manymoon helped to manage tasks effectively, track progress, and organize complex task-sets into manageable milestones. Lumière's team found the interface similar to that of a social networking site, and there was scope for customization. By using Manymoon, the team members could avoid the chaos of e-mail and were able to communicate more effectively.

Lumière tested the Manymoon app in 2011, during a month-long trial run. The team received training on usage of the app and then went on to test live projects to assess its feasibility. Manymoon was the first social productivity application to which the team was exposed, and the members found it exciting to work together on a virtual set-up that enabled them to feel connected and to instantly know the work status of others. However, the team soon realized that the application could not provide a complete solution for the nature of their work; it did not completely support their project cycle and teamwork management processes. Additionally, Manymoon was being taken over by a bigger company and was undergoing functional updates, which resulted in the unavailability of certain necessary features. As a result, Lumière eventually dropped Manymoon in favour of other apps that provided better support.

By then, Lumière had also progressed to using the storage space as a way to store documents. Once the marketplace developed (i.e., around 2012), the company started wondering what else could be done on the cloud. For example, a lot of Lumière's research was stored in an internal repository, which meant that the knowledge that resided on the intranet could be leveraged for future projects. Clients could access this repository to view past projects and performance. Lumière wanted to use this strong, complementary knowledge base to help its clients as well as its internal employees, but with some of the information on the intranet and some on its website, Lumière wanted to look at possibly integrating the two. Thus, the firm wanted something that could help it move from a "brochure website" to a "public content management system."

Just like most organizations, Lumière could choose between building or buying solutions to help its business. Milind explained, "For SMEs, building is not an option. We had a higher cost structure. We decided it was better to explore the best of breed and take it. This [decision] helped us retain focus on our core business."

Milind also explained his rationale behind adopting any solution to suit Lumière's needs:

Cost was not a deterrent. It was the quality of service that mattered. For example, we renegotiated our contract with our website provider to make sure that customers and internal employees could get more functionality and interactive options. This [process] was in line with our core value proposition of looking at "customer solutioning" rather than mere servicing. We retired a lot of non-value-adding features of our website, retaining only those that directly contributed to our goals.

Cloud Adoption: The Actual Move

The cloud adoption journey for Lumière began with selecting the right application. Next, the rationalization of the infrastructure and applications took place to foster an understanding of their compatibility with the cloud. Business needs had been identified and had to be satisfied before an application could be short-listed. Milind emphasized, "We did two or three trials before selecting any application."

Next, Lumière selected the cloud architecture, after which the costing and budgeting for cloud implementation and maintenance was performed to assess the value it would provide. Once justified, Lumière selected an appropriate vendor by using a very simple approach. Milind explained, "We had always used the Google Marketplace, and we were happy with it. We looked to apps listed on the Google Marketplace and how [they] would fit with our business needs. We also used a lot of trial and error to see what worked for us and what didn't."

Initially, Lumière chose three applications for cloud adoption, all of which seemed to be a good fit with the company's business needs. In terms of the completion of the entire project cycle, the applications that made sense were KShare, Mavenlink, and KiSSFLOW.

KShare

The members of Lumière's virtual team had two specific needs: to feel connected and to have instant access to information. It was necessary for each person to be aware of the latest projects and processes and to stay up-to-date with new formats and new templates; they needed a one-stop-shop for all information. KShare, or "Knowledge Share," offered a platform for storing and sharing important documents with the entire

team. It provided a repository of information and reports on past projects and it answered frequently asked questions (FAQs) on qualitative research, project cycles, and back-end processes. It also contained various other documents related to desktop research, templates, and formats.

Mavenlink

Most of Lumière's work involved market research projects whose payments were based on deliverables, and these deliverables had to be tracked in order to measure individual productivity as well as project completion and performance. To achieve these objectives, Lumière chose an SaaS-based application called Mavenlink (www.mavenlink.com), which was an online project-management tool that Lumière believed would work for its business. However, within a few weeks, the team members realized that Mavenlink did not adapt well to Lumière's business needs, so they quickly replaced it with another SaaS-based project-management solution called GroupCamp (www.groupcamp.com). Compared to Mavenlink, GroupCamp was equally effective, but it blended better with Lumière's business processes and needs. The migration happened within days, and it did not cost the company much to make the switchover.

KiSSFLOW

Lumière also needed to link its content with all activity related to the projects, and access to that content had to be managed as well. Lumière needed to co-ordinate several internal processes to improve overall efficiency, so the management team selected KiSSFLOW to define the company's workflow internally. Milind explained, Using KiSSFLOW, business processes were streamlined to provide access as needed so that work got done without sending multiple emails. Together, these applications completed an entire project cycle from the triple perspective of knowledge, resources, and processes.

Moving to the selected applications on the cloud was a rapid process. Lumière completed the implementation in just seven days, thanks to the company's pre-existing infrastructure in the form of intranet and processes. The implementation started with a proper cloud migration project plan, after which the new applications were moved to the cloud. To ensure that the employees adapted to this move quickly, both Soman and Milind emphasized the importance of IT and the fact that computing was essential to their business. They focused on the value added to the team members in terms of the ease of collaboration and workflow benefits. The top management reinforced the need to adapt to change quickly. To make sure that adoption was not just an empty vow on the part of the users, Deepa and Milind put processes in place that measured team-member efficiency and contribution. The degree of progress was then linked directly to each team member's compensation.

Soon, residual applications were also moved to the cloud, but the cloud journey did not stop there. In fact, to keep innovating and reaping the benefits of the cloud, Milind constantly monitored Google Marketplace for cloud applications that could be easily adapted to support Lumière's processes (see Exhibits 3 and 4).

Red Flags: Cost and Security

Cloud computing was always associated with significant cost benefits, but Lumière's leadership did not take a one-dimensional view of this aspect. Milind said,

One always assumes that there are significant cost benefits to [the] cloud. However, we did do our math on the licensing and development fees, as well as the annual maintenance [costs] to keep it up and running, but what drove us was the cost of obsolescence. We could not be competitive in this market with obsolete technology and tools.

Security concerns represented another major point of contention for cloud users. Lumière acknowledged the reality of this risk as soon as the company started digitizing, storing, and inventorying information. When asked about security issues with regards to the intellectual content, Milind laughed and replied,

Even if our information was available on a private network, the vendor had access, the [Internet service provider] ISP had access, and internally, the two or three people who managed it had access to it. Then, the security of the information depended on the mechanism to access it. One could call the internal person and ask. At least now we have a structured process in place to allow that to happen. Again, it improved our monitoring of who uses what and why.

Milind explained the dilemma that Lumière faced. “Think about it: Information was good to keep, but more important was the ability to be able to use it. We wanted everyone to leverage the huge knowledge base, but there was so much intellectual capital that we could not open it up to all.”

To deal with this issue, Lumière adopted a tiered approach. The synopsis-level project information was accessible to a given set of people, while the complete project repository was made available on a need-to-know basis only. Access could be requested through the workflow system, and this process was strictly monitored.

Lumière used the Google environment and its security policies, and the team was very happy with the entire program. The firm also let its clients audit its systems for security concerns. As a result, security was no longer an issue for Lumière when clients came on board. On the company website, Lumière made information accessible to clients through PDF files, and these documents were further protected with multiple passwords. For example, a multinational company (MNC) had multiple projects going on simultaneously, each of which was related to a different business. Even though the entire spectrum of information for that MNC existed on the website, the tiered approach made sure that business A could not see the information related to business B. However, for senior executives within the company who had both the need and the authority to access documents related to both projects, the system could accommodate this requirement as well.

Benefits of Cloud Adoption

In general, cloud technology produced multiple benefits for Lumière, including cost effectiveness, ease of implementation and maintenance, scalability, flexibility, and a wider choice of business-ready solutions. Lumière realized multiple benefits from cloud adoption.

Business Processes

One of the key benefits that Lumière derived from the adoption of cloud apps came in the form of improvement in the efficiency of the company’s business processes. Lumière no longer used ad-hoc approvals; everything had a rationale behind it. KiSSFLOW provided the history of all requests, which also helped to identify the process bottlenecks and streamline the process for better efficiency. In the absence of

a decision-maker, requests could be rerouted through alternate channels, and work could be performed on short notice.

Another benefit of adopting the KiSSFLOW application on the cloud was that it helped to identify issues with Lumière's current processes. For example, at Lumière, the process of requesting money in advance often went through multiple levels of approvals, and although these approvals were not ad hoc, often the reasons for rejection were unclear. Employees often complained that this process took a long time. On inspection of the process, the team at Lumière found that a lot of time was being spent in explaining when the advance would be given or, in the case of rejections, why it would not be given. The first step towards improving the request process was to allocate a time period — say between, 3 p.m. and 4 p.m. — for disbursement of advance payments. Since the requests were processed by using an application on the workflow system, the applications and disbursements of payments were more tightly monitored and controlled. The new process also increased the level of accountability because both approvals and rejections had to be explained within the system.

Employee Insights

Using KiSSFLOW gave individuals within the organization an insight into their role in the process. As Milind explained, it was like “holding a mirror” up to them to make them understand their roles and their inefficiencies and how both affected the entire process. The new app increased the level of transparency throughout the company and resulted in a gradual culture change because it pushed people internally by putting the responsibility on their shoulders. It increased their accountability, which led each user to a better understanding of — and thus, better management of — their role in a given process.

Knowledge Management

The cloud-based knowledge-storage and retrieval application KShare helped by providing the necessary back end for project knowledge management. Articles searched and retrieved from public and private search engines were stored on KShare for the team to use for their respective projects. Lumière also subscribed to research-related website reports, which were added to the knowledge repository as well. Through their use of this platform, team members could easily build and leverage their intellectual property.

KShare helped researchers substantiate their own proposals, analyses, and reports with findings from available reports and articles. In addition, KShare acted as a repository for recording sessions from “Learning Monday,” which was Lumière's weekly practice of dedicating half of every Monday to knowledge-building. Prominent speakers, experts, and champions from various fields were invited to speak at these sessions, sharing their various experiences with the team. The Learning Monday sessions also worked as a brainstorming platform for the larger team. Recordings of these sessions were shared with the team for reference and stored on this platform. Information was stored by category, which made it easy to retrieve. Two resources managed the tool and processed document requests.

KShare was an important element at Lumière because it allowed the team to leverage past experiences and compete with established players, even though the firm did not necessarily hire research-qualified resources all the time. Lumière had been building up a repository of its outputs since 2008–2009, and creating a knowledge base had become an integrated part of the company's work processes. Business processes were defined by users' access to the knowledge repository. KShare was an intellectual asset, and access was provided on a need-to-know basis, with appropriate approvals.

Cloud benefits also included the ease of replacing business solutions that no longer met business needs. For example, Manymoon was quickly replaced by an alternative group-project-management application. In addition, the use of the Google Environment enabled the process of examining best-of-class collaboration tools and using them to support business objectives.

Cloud adoption benefits were reflected in the entire project management cycle. The cloud application GroupCamp helped assess project stages and next steps. It was used to assign project responsibilities, along with assessing deviations and compliance. At the front end, the cloud-hosted project-management tool provided access to relevant information for clients and internal teams. It assisted in the continuation of work through task relay. It also provided clear and immediate communication on the status of tasks. At the back end, it supported various team roles with content, as well as processes for desks with specialized responsibilities.

As development started and sharing became possible, Lumière's leadership realized that internal discipline was required to achieve the kind of collaboration they were aiming for. At this point, they decided to step back and hire an external person to review it. In September 2013, management did a refresh exercise, hiring an external coach to help the internal staff understand what was working and what was not. The coach examined Lumière's business processes using business process re-engineering. In the end, efficient systems, processes, and procedures were put in place. The hiring of the external coach also led to an ongoing dialogue to continuously examine and monitor the success — or failure — of the new practices.

Next Steps

Lumière had come a long way since their first move to the cloud. As cloud technology matured, Milind thought about the future of the cloud at Lumière. Would it continue to pay off? How would cloud technology scale up as Lumière expanded to newer locations? Other players like Microsoft were getting into cloud technology aggressively. Milind wondered whether Lumière should start to explore them as well.

EXHIBIT 1: LUMIÈRE'S CREDO AND MISSION

Credo: Light and Insight

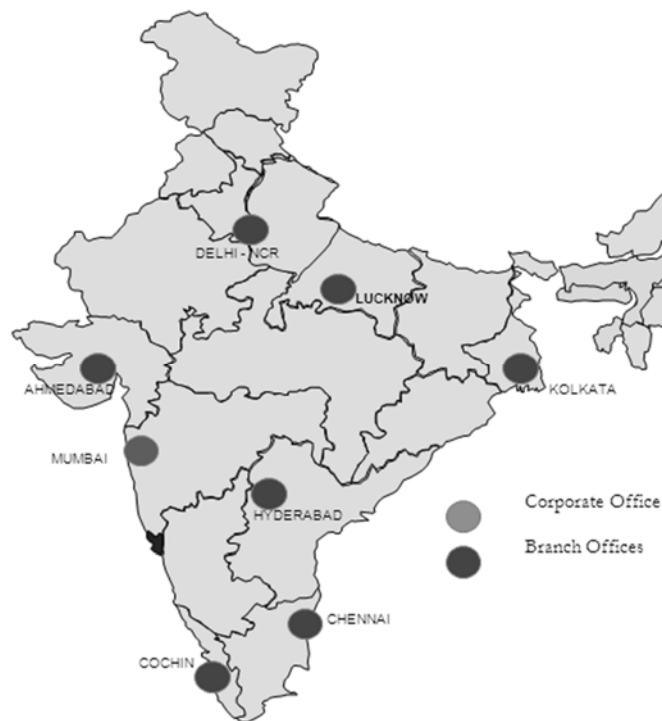
Mission: To provide customized business solutions that enable our clients' growth while providing a platform to attract, develop, excite, and retain professional talent who seek to integrate work and life.

Strengths: Qualitative Research, Quantitative Research, Consulting, Social Media Research and Mobile Research

Performance: Customer satisfaction resulting in 150+ projects a year with 80 per cent repeat business; quality work within agreed timelines and recommended MR codes

Source: Created by authors based on company files.

EXHIBIT 2: LUMIÈRE'S INDIAN PRESENCE



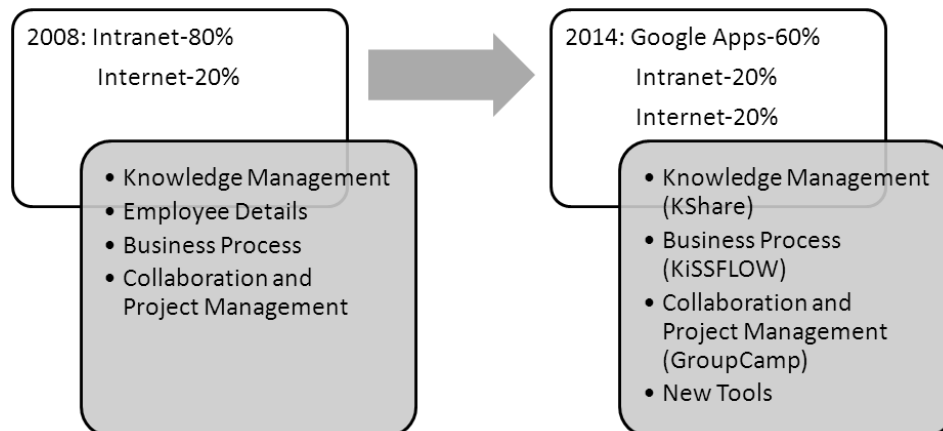
Source: Company files.

EXHIBIT 3: LUMIERE'S ROADMAP TO CLOUD ADOPTION

- 2008: Business relies extensively on the intranet
- 2011: Adoption of Google email: Taste of cloud benefits
- 2011: Explore use of applications online for supporting business need
- 2012: Continued use of online storage extensively but business need for many other applications emerge
- 2012-2014:
 - Examine the various applications available on the Google Marketplace
 - Select applications to match business need
 - Examine the costing and budget for the cloud application
 - Draw up the cloud migration project plan for individual application
 - Move application to the cloud
 - Train users and begin using the new application on the cloud
 - Migrate residual application to the cloud
- 2015: Keep monitoring the Google Marketplace for emerging applications to support business innovation

Source: Created by author based on company files.

EXHIBIT 4: THE CLOUD JOURNEY AT LUMIÈRE



Source: Created by authors based on company files.