

Lumiere: supporting a virtual workspace on the cloud

Name: Qian Chen Student ID Number: 1005740548

Question 1

Swot analysis

- **Strengths:** a strong relationship with customers and high customer retention; flexible work hours; virtualization; providing 24/7 services
- **Weakness:** overstaffing by 30% compared to the rest of the industry; limited budget and lack of resources to build IT solutions; lack of internal control
- **Opportunities:** Expansion and customer growth; possible high end-IT solutions:
- **Threats:** International regulations and laws; security concern; high cost of obsolescence:

Business needs: As a customer-oriented company and willing to provide flexible work practice for its employees, it is inevitable that the staff cost will be more than 30% of the average level. Therefore, it is necessary to improve the cost margin in other fields and efficiency in all aspects.

Recommendation: stick with the cloud: the application of the cloud brings significant cost benefits and increase the efficiency

- Through the cloud, some data storage and computing can be finished entirely on the internet. Some unnecessary infrastructure costs can be avoided or reduced.
- The cloud applications fit well with Lumiere's concept of virtual workplaces and the use of one corporate office. It also uses some algorithms and functions to supervise employees and enhance the role of the accountability system. The only one corporate office used, and a cloud management system is applied to reduce administrative costs.
- Similarly, the adoption of the cloud improves the efficiency of a company's business processes. That indicates some redundant, repetitive steps are more likely to be reduced. The cloud is more conducive to increasing accountability, better management and transparency. Some excuses, including "forgot about that" and "did not receive that," can be better avoided so that some work mistakes can be effectively avoided. These help increase cohesion and continuity of the work process and reduce the time cost and losses.

Business needs: due to the determination and necessity of virtualization and digitalization in the Lumiere, some security issues and risk management are required.

Recommendation: enhance the security system and manage the risk

- Tiered approach is adopted to figure out the dilemma regarding how and to what extent to open up the data. According to the different needs during the work, employees' different permissions are granted to access the corresponding data. Furthermore, the access records will be monitored. And multiple passwords will be applied when customers use the PDF document.
- Likewise, Lumiere also needs to properly analyze and prioritize potential threats and some problems that may occur in the cloud adoption. Based on these analyses, a reasonable solution can be simulated. For example, if there is a possible power outage, what measures should be taken to minimize the impact. Apart from that, whether the data need to be backed up, which ones and in what kind of form should be taken into account. And whether there is access to legal means when faced with a large number of materials and information being plagiarized.

Business needs: Lumiere is a people-centric company; high-quality qualitative research is considered critical. During the process of converting the art of research into a scientific process, the company needs to reformulate the work process to keep the work's connection and continuity. More comprehensive, convenient and transparent management on the cloud need to be considered to keep all processes under control.

Recommendation:

- Deliberately select the appropriate cloud application. More research and analysis are needed. In addition, whether the application is compatible with the work cycle and can be put into practical use need more tests and trials.
- Lumiere keeps track of the latest technology trends and stores a large amount of research data in an internal database for possible future use. When considering replacing the cloud application, It is recommended that Lumiere can make a final decision by comparing different aspects of the apps and analyzing the strengths, shortcomings and risks.
- From the perspective of management, some systems or applications used by similar cloud-based SMEs can be taken into consideration. Likewise, a cloud computing system can be built based on Lumiere's situation. Some professional consultants are needed when necessary.

Question 2

Success factors

Lumiere initially used the IT solution based on the traditional data centers. That causes the high fixed cost. During cloud adoption, several factors make them adapt and apply more quickly.

- Lumiere keeps abreast of the latest technology trends: Lumiere is highly sensitive to IT technology which is regarded as a key to providing a good customer experience and maintaining its competitiveness. Lumiere keeps abreast of the latest technology trends and has a clear understanding of the pros and cons. Through taking most of the cloud computing, Lumiere succeeds in enhancing efficiency and productivity.
- The nature of the cloud fits Lumiere's mode of work: Lumiere aims to provide a flexible work process for the employee and allows the employees to work remotely. This nature of work can be a good fit for cloud applications, match the organizational culture and be accepted and recognized by most employees as well.
- Ongoing development concerns: Lumiere keeps tracking on the ideas, solutions and some cloud applications that are beneficial to the company. And This research and analysis will be restored in the internal repository for future use. Likewise, through combing information both on the intranet and on the websites, a robust and complementary knowledge base is built for both clients' service and internal employees.
- Cost and efficiency analysis: In the process of cloud application, Lumiere can provide a good summary and feedback. For example, in the case of Monymoon, even though the software does provide better connection and precise positioning for the company's employees, it does not provide a good work cycle and teamwork management process, which does not match Lumiere's expectation. Lumiere dropped Monymoon in time to reduce the potential losses. In addition, when negotiating the contract with website providers, Lumiere focuses more on ensuring that employees get more functionality and interactive options and retiring non-value-adding functions.
- Selecting the appropriate applications: Lumiere realizes the importance of application selection. They rationalize the infrastructure and applications to make a reasonable analysis of compatibility with the cloud and then add to the list. After deliberative analysis, they will conduct tests and user trials.

Question 3

Benefits of cloud adoption for Lumiere

Business process

- Cost benefits and improved efficiency: cloud adoption reduces the cost: cloud adoption can help reduce unnecessary infrastructure and administrative costs. The application of cloud computing can assist in dealing with, processing and classifying daily data automatically. Likewise, it can be used to monitor daily operations.
- Enhance the connection within the company and continuity of the work: upload shared data progress through the cloud. It also allows simultaneous updates to the data so that employees know what's going on and where they are.
- Identify the issues: cloud adoption can record the operation processes increase the accountability so that some specific explanations and reasons for some problems can be cleared up and referred to.
- Internal control and management: similarly, accountability can help managers find out the source of the problems. And though analyzing the daily data and computer algorithm, some abnormal operations can be obviously revealed.

Employee's insight

- Help employee position their roles and have a clear understanding of the task progress: through data analysis and process presence on the cloud, employees can understand their position, the importance of the work and the degree of urgency to the overall project.
- Work remotely and flexible work hours: Lumiere aims to attract and absorb more talents by providing flexible work hours and opportunities of working remotely. The usage of the cloud can well help Lumiere achieve the goal.
- Adequate materials facilitate better learning and understanding: Lumiere combines both information on the intranet and other websites. Some relative lectures and research will also be posted in the database to help people further study.

Knowledge management

- Public and private search engines, reasonable knowledge distribution: A tiered approach is used for public and private search engines. That helps clients better know the company's service and will disclose the confidential document. Furthermore, some critical information will allow some key managers to access, which will help the whole company under control.
- Sufficient knowledge reserve and data for research reference: cloud adoption indicates plenty of storage space. All relative information can be uploaded and then classified by cloud computing, making it more convenient to search or apply.

Analysis and Feedback

- Ease of replacing not suitable business solutions: Due to the sharing feature, it can be easily shared and transmitted during software replacement.
- Help assesses project stages and next steps: when using some cloud computing, it measures and evaluates the stages synchronously according to the measurement used. And then, issues and forecasts can be provided and responded to quickly.
- Assist in timely communication and situation feedback: It allows employees to work together on projects, and progress is updated synchronously. When encountering difficulties, employees can communicate and demonstrate online through the cloud so that problems can be pointed out and solved in a timelier manner.

Benefits of cloud adoption for most SMEs

For most SMEs, when referring to IT technology, the cloud is always highly recommended. SMEs generally have a limited budget. Establishing IT solutions unique to their own situation requires certain investment and risks. And the results may not necessarily be as good as the IT software provided by companies which are specializing in IT areas. Compared with Lumiere, which is major in consulting services and highly dependent on the internet, some SMEs will not totally adopt the cloud. But they are preparing and partially applying cloud due to more or less of the above reasons and benefits. In conclusion, the benefits of cloud adoption for most SMEs are basically similar to the benefits of that for Lumiere.

Question 4

Moving concern and solution used

- Moving concern: high-quality internet connection and infrastructures
The solution used: due to decreasing cost of the bandwidth and improved connectivity, Lumiere takes advantage of this to deploy cloud applications within budget.
- Moving concern: secure and lack of understanding of the legal aspects of data control
The solution used: currently, Lumiere uses the Google environment and its security policies as the standards and references
- Moving concern: the overwhelming process of understanding and negotiating contracts related to cloud deployment

Solution concern: in the early stage, Lumiere experienced the free cloud-based email system and the experience of dealing with the junk and spamming emails as a transition and experiment. In the process of application, difficulties are inevitable. Lumiere paves the way for better application in the future through effective communication and timely stop-loss.

- Moving concern: licensing, development, maintenance and obsolescence cost

Solution used: Based on the employees' needs and the goal of enhancing communication between employees and clients, Lumiere determines which functions to be added and which should be dropped. Likewise, to reduce the obsolescence cost, more analysis, research and tests are used when facing the potential cloud applications.

- Moving concern: security concern

The solution used: Lumiere aims to maximize the use of these data resources and as much as possible to provide those to employees. But, at the same time, Lumiere also wants to keep the information secure. A tiered approach is taken advantage of. That is, the database will provide summary-level information for a set of people. While some important content or complete project repository requires authorization to access. Moreover, the process of access will be strictly monitored. Likewise, Lumiere uses the Google environment and its security policies as a reference. The company also allows the clients to audit the system and provides PDF documents for the clients with multiple passwords.

Recommendations based on the "safety in the cloud."

In the reading "safety in the cloud," cloud adoption is highly recommended to reduce the risk of cyberattacks. This is because of the strong and low-cost analytics ability to help identify suspicious activity. Likewise, due to the specific way cloud systems respond to the intrusion, where security technologies are fused together into an analytics platform, hackers are less likely to detect a vulnerability in the cloud system. However, some potential measures are still needed to avoid the cyber-attack:

- Choose the appropriate advanced cloud system: advanced system indicates the high level and dynamic approach and security system, which can protect the information securing when facing a cyber attack
- Analyzing both internal and external operations, especially for those core people who need to be protected: The location to use the cloud system should be paid more attention to, and the safe status of the users should be guaranteed.

- Analyzing pattern: analyzing your employee and clients' patterns can help the company detect potential criminal intruders before they do any damage.
- A single cloud-based analytics system can help monitor both the activity of customers, employees, and intruders simultaneously.

IT governance

- value delivery: Lumiere focuses on the customer experience. IT used should relate with the value delivery for the customer. The IT used helps Lumiere work remotely and provide 24/7 services, and thorough analysis of IT better meet the customers' expectations.
- Strategic alignment: Lumiere has only one corporate office. Cloud applications help companies increase connectivity and assignment distributions.
- Performance management: Cloud adoption increases accountability. As a result, employees' performance can be easily measured and managed.
- Resource management: Cloud adoption helps the company access and restore the information both from the intranet and other websites. That helps better analysis.
- Risk management: the usage of the cloud reduces IT security to some extent. The analytics are used to forecast and prevent some potential risks.

Question 5

	Alternative 1: Google Cloud	Alternative 2: Azure (Microsoft)
Required system	Host a number of different systems	Optimally with Windows-based systems
focus	Concentrate on public cloud computing	Interoperate with data centers
Charge	Usage by project	Usage by account
	Pay-as- you go pricing, billing to the per second of usage, offer discounts for long-term usage after first month	According to the product classification, from 0.099 to 0.149\$/hour

(Preimesberger et al., 2021)

When considering these two IT cloud platforms, Google Cloud focuses more on high-end computing products, including big data and machine learning (Preimesberger et al., 2021). At

this point, Google Cloud's app is more than comfortable with Lumiere's data processing. As Lumiere has used Google Cloud initially, employees are familiar with and master the Google Cloud system. Meanwhile, as a regular customer, Lumiere can get certain discounts in terms of payment. Similarly, its pay-per-use approach is in line with Flexible Hours supported by Lumiere, which can save a certain amount of money compared to Azure. On the other hand, one of the most attractive aspects of Azure for Lumiere is its ability to intercorporate with Data Centers, which helps Lumiere better integrate work processes with centralized management and enhance internal controls. But his limitations lie in the limited system, which, if applied, requires employee run-in. Azure provides more functions than Google Cloud, and Microsoft's corresponding Cloud Application can be used for the same Microsoft account (Preimesberger et al., 2021).

Recommendation: Thus, from my perspective, it is highly recommended to combine both cloud approaches. That is, using Azure for the daily operation and strategies makings. This can help better control and monitor the entire company, especially for Lumiere, which allows flexible work hours and remote work. And the Google Cloud can be used as the supporting cloud system. A vast amount of data can be analyzed and processed through Google Cloud.

Implementation:

- Consulting with some IT experts for their opinions and views on the future cloud
- Holding the meeting to conduct qualitative and quantitative analysis for both cloud systems.
- Risk analysis, Preparing some possible solutions to potential problems
- Presenting analysis and understanding employee preferences. Are there any technical issues?
- Determine which functions and features used in Google Cloud should be retained and which part of information should be retained in the Google Cloud.
- Implementation and timely reflection and figure out the problem.
- Employees training and learning for the new system
- Feedback and improvement

(Preimesberger et al., 2021)

Preimesberger, C., By, -, Chris

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