# Unit 7 Assignment

# Amon-ra

# Herzing University

BU 630-7A Project and Operations Management

**Introduction**

“Project managers view change management as the process used to obtain approval for changes to the scope, timeline, or budget of a project. Infrastructure professionals consider change management to be the process for approving, testing, and installing a new piece of equipment, a cloud instance, or a new release of an application.” (Perkins, 2018)

Change management impact on operations management can be disruptive and requires controlling the situation to minimize or eliminate the risk to operations.

The 5 phases of project management consist of:

* Initiation
* Planning
* Execution
* Monitoring & Controlling
* Closure

 The initiation phase is the start of the project. During this time the business justification is stated, the project itself is given a name, the feasibility is measured, shareholders identified, and requirements are defined.

Planning is a roadmap. It is about how to get from where we are to where we want to be. The planning phase involves setting goals, a plan of how to achieve the goals, and assessing risks. The plan will include addressing the following:

* Costs and budget
* Scope
* Duration
* Deliverables
* Communications
* Measures of success
* Risk management plan.

Execution is the act doing what is planned. People and resources are arranged to begin the work of accomplishing the goals. Deliverables are completed, meeting are regularly conducted and progress is reported.

Monitoring & Controlling involves measuring the progress of the project and performance. One measurement for monitoring is the project schedule. Activities within the project schedule should completed on time and within budget. As monitoring takes place, it may be necessary to make changes to meet goals. This phase is takes place simultaneously with the execution phase.

Closure is the portion of the project where the project is considered complete. A meeting will be held to cover accomplishments, challenges and how they were rectified, deliveries will be relinquished to the owner of the project, and allocated resources are reassigned.

Upon review of all aspects of project management, the one area I believe would be the biggest challenge is the 4th phase of monitoring and controlling. Within the 4th phase, if performance is lagging there arises the need to make changes in order to set the project back on track to accomplishing the objective. Monitoring and controlling would be the challenge due to the controlling portion. When the need to for change arises, how will the decision be made to decide what is the best course of action to take? The decision can be put to a vote or it can be delegated to a team lead. Without a lead or the process of voting.

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| --- | --- | --- | --- |
| **Project Business Case** | | | |
| **Project Name** | Cloud Migration | | |
| **Project Sponsor** | InterTech | **Project Manager** | Presley Wright |
| **Date of Project Approval** | 02/01/2020 | **Last Revision Date** | 02/23/2020 |
| **Problem** | The cost of maintaining company owned servers is expensive | | |
| **Business Objective** | Decrease the cost of owning and maintaining servers | | |
| **Current Situation** | Servers are company owned and are the sole responsibility of the company | | |
| **Option** | Migrate servers to the cloud and decommission physical servers | | |
| **Benefits** | Ease of Management  Lower costs  Higher availability | | |
| **Deliverables** | Virtual machines in the cloud  Cloud accounts | | |
| **Risk** | Higher costs  Outage potential | | |

**PROJECT**

**Initiation**

InterTech is an information technology company that sells support services to medium and large enterprise customers. Customer base is located throughout the world. The company maintains a datacenter and global operations center that functions 24 hours a day 7 days a week on a follow-the-sun model. The company is taking a lean approach to cut expenses and maximize profits.

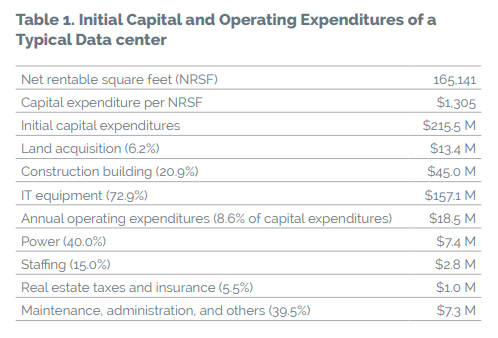
In the interest of innovation and the pursuit to grow the business, the company is taking a lean stance. The objectives of lean is to reduce waste. The first area that has been identified to undergo the process of becoming lean is the company owned datacenter. This will be accomplished via use of the cloud.

The advent of the cloud presents the opportunity to eliminate waste, cut cost and increase profits. Using the cloud will afford the company the following benefits:

* Lower I.T. costs
* Scalability
* Benefits of the cloud:
* Only pay for what you use
* No expensive upfront cost
* Business continuity
* No responsibly of hardware maintenance
* Increased data security

Currently in the datacenter, the company is maintaining 1000s of physical servers. These servers require

* Cooling – Hardware produces a lot of heat. Though each server has fans build in, the heat buildup within an enclosed environment from 1000s of servers can become very high and damaging to the equipment. Thus, additional cooling is needed in order to protect the equipment from heat-related damage.
* Electricity – Servers and other equipment require electricity. The amount of equipment and datacenter itself can generate a large electric bill.
* Physical Security – Datacenters require multiple levels of security, i.e. security personnel, building security, physical security, mantraps, retinal scans, fingerprint scans, I.D. badges, pin codes, closed circuit television, data security, network security, and server security.
* Patching – Servers require updates in the form of patching in order to mitigate vulnerabilities, address bugs and flaws.
* Repair – It’s not a matter of if a server part fails but a matter of when the part will fails. It is inevitable and when it happens the part must be replaced in order to restore server functionality.
* Upgrades – There are times when the server that was purchased it not up to capacity for the load it must carry. In order to increase server performance upgrades may need to take place to increase storage, RAM, network speed, and central processing units.
* Replacement – When the server is upgrades and repair, it will requirement replacement, which translates as purchasing a new server.
* Supporting network equipment to provide connectivity – Without network equipment a server cannot communicate with others or provide its services to clients. Network equipment is necessary to support the purpose of servers.
* Datacenter personnel – Personnel are needed to support datacenter equipment and perform needed tasks.



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Projections of the cost saving of the decommission will be presented in support the project. Those projections will accompany a return on investment (ROI) analysis for the cloud service. Comparisons will be made to weigh the cost of datacenter investment versus the cost of cloud service.

**Planning**

The first stage of migrating to the cloud will be to assemble a team. The team will consist of employees with various technological specializations, i.e. compute, network, storage. The team will undergo a weeklong intensive cloud training geared toward certification. We believe that a certification-oriented training will afford the team the best preparation.

Certification study material and training present a syllabus of what is required to effectively and efficiently manage the cloud environment. This eliminates the need for the company to create coursework and necessary training. The company will use what is currently available.

The cloud will afford the company to become lean by shedding the cost associated with owning and maintaining a datacenter. Company servers will be migrated to the cloud. This will eliminate the need for physical servers, supporting network equipment, the datacenter itself and associated cost. This cost savings will on average will be in the millions annually. The datacenter can be repurposed into a branch location or offered to sale. The decommissioned equipment can be sold as used equipment. This liquidation of decommissioned assets can savage a significant amount of funding for the company.

Operations management will provide a maintenance window, allotted time when the company will be minimally exposed to impact, to conduct the cloud migration. Servers will be migrated in sections, by department beginning with backup servers. The backup servers are selected to lead the migration to decrease risk and avoid interrupting operations management. According operations management the backup servers should be in standby mode and not conducting work. All work should be conducted on the primary servers.

Upon successful cloud migration and testing of backup servers, workloads will be failed over to the cloud-based servers to ensure business continuity. Once functionality is validated in the cloud, we will proceed with the cloud migration of primary servers. When primary server migrations are complete, in sections, the workload will manually failover back to the primary servers that now reside in the cloud. Through testing and monitoring will take place. Migration support teams will be on standby and ready to resolve issue in case of any error, failures, or performance complications are encountered.

The duration of the project will span 30 days with 200 server migrations taking place daily. The number counter will allow the migration of 6000 servers within the 30day window.

Deliverables

* Virtual machines in the cloud
* Cloud accounts

Measures of success will be gauged by the daily completion of migrations and a full 24 hours of functionality without reports of performance or availability issues.

The risk management plan consists of migrations being scheduled for United States after business hours. These hours have been selected based on analytics revelation of the busiest data activity periods of the workday. All work will be completed prior to the beginning of the next business day central European time. By failover the workload between primary and backup servers, the company should be exposed to very minimum risk. That risk is further minimized with rollback plans and the disaster recovery datacenter. Decommissioning of migrated servers will not take place until weeks later. In fact, migrated hardware servers will be marked for decommission 5 business after migration. A full business week of reliable and successful operation. A separate decommission datacenter team will be responsible for data disposable and server decommission duties.

**Execution**

A list of scheduled migrations will be created and provided to all team members involved. Our cloud migration team will perform the migrations while the cloud operations team will attend each migration and act in a passive capacity. Their observance is solely for the purpose of familiarity of the cloud environment that they will be supporting. The cloud service provider will also attend the migration to serve as our highest point of escalation in case of encountered. complications. Virtualized instances of the servers will be validated in the cloud dashboard. Once functionality is verified, the hardware server will powered off via a graceful shutdown.

**Monitoring & Controlling**

Daily meetings will take place to report the pre and post facts of each migration. Adjustments to the project should take place as soon as it is feasible, in real-time if need be. An example of such a situation would be a particular set of servers are designated for use by a certain geographical region. United States after business hours migrations may not be the best time for those servers. Though we expect no complications, the servers would be exposed to a potentially higher risk than planned. The appropriate action should be taken immediately such as delaying the migration until the opportune moment. Going forward the adjustment will be recorded and a new portion of the process will include validating the locations prior to the migration and rescheduling.

**Closure**

The closure portion of the project will mark the completion of this month-long objective. Teams will be reassembled for a last and final meeting. This meeting will be mostly pertain to the review of the process. Each team will present a report of the successes and challenges. And what valuable experience was learned from each. All will be debriefed regarding before and after scenarios. All deliverables will be given to the project owner(s) and the team can disperse to either assume their new post in support of the cloud or return to their permanent position within the company.

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