**Assignment 3: Digital Assets Measurement and Prioritizing Workloads for Cloud Adoption**

**Swathi Anil**

**8905477**

**Virtualization and Cloud Computing, Conestoga College**

**SYST8171: Adoption and Migration Planning for Virtualization**

**Vignesh Ravi**

**11-06-2024**

**Introduction**The key feature of the Microsoft Cloud Adoption Framework is organized planning and measurement of the digital estate, which includes workload-driven and asset-driven, incremental, among others. It, therefore, has a nature that is in line with various aspects of digital transformation in infrastructure optimization with application innovation, data-driven decisions, and operational stability. Organizational alignment of business goal-lined measurement strategies will allow for the segregation of strategic or indifferent choices and offer thrust to strategic initiatives. The framework further outlines the need to choose and prioritize workloads for cloud migration. This requires focusing on different aspects like business impact, growing cost efficiency, technical complexity, and operational dependencies. It thereby takes an accelerator approach to cloud adoption aligned with both the long-term business goals and the latest technological development.

**Digital Asset Measurement and their approaches**

Organizations utilize Microsoft cloud adoption framework for their transformation journey to achieve specific business outcomes.

**Outcome metrics** are performance and impact measures that outline the success of making changes to organizational goals. They can often be used to estimate short-term increments and linked with progress toward long-term business outcomes. These metrics position company culture for resiliency by recognizing early success and failure outcomes, thus allowing learning and adjustments to the strategic approach. They will help determine the transformation journey that relates to the business outcome of interest and, on every trip, will provide an overall representation of the concept. (How can we align technical efforts to meaningful outcome metrics?, 2023)

**Transformation Roadmap:**

**Cloud Migration:** The digital transformation of IT operations speaks to how costly and complicated this move is in terms of shifting those resources to the cloud, lowering reliance on-premise legacy resources, and also reducing the cost of maintaining those resources on the data center side. Symantec offers steps necessary for saving money. IT organizations calculate current and future dollar costs associated with each VM. This could be where they could provide the near and future economic value related to the migration initiative. (How can we align technical efforts to meaningful outcome metrics?, 2023)

**Application Innovation:** Innovation in cloud-based applications is user-centric and based on the propensity of the user to use the goods and services. Consumer behavior changes slowly, and this application innovation is quicker than most other transitions. It becomes imperative to gauge what behaviors are desired and use them as measures of results. Factors beyond the control of the current version of the application performance metrics, such as page load time, page throughput, bug resolution per release, code coverage and release cadence can influence customer outcome metrics. These data shows that the higher-order customer outcome patterns are caught in the various operations and changes occurring within the code base and customer experience. (How can we align technical efforts to meaningful outcome metrics?, 2023)

**Data Innovation:** Experimentation is available in cloud-enabled data innovation. Transparent sharing, including percent of likelihood, trained models, and unsuccessful tests, relates to prediction metrics. Data democratization can be implemented by centralizing varied results of data ingress. This can result in positive outcomes such as data ingress with varied data sets, trained models, varied data types, and varied tools/applications used in data processing. Available model types, partner data sources used, uses of devices creating ingress data, volume, and data types can be the supporting outcome metrics. Small-scale company transformation and insights may be opened with new sources of openly disseminated data. (How can we align technical efforts to meaningful outcome metrics?, 2023)

**Asset Measurement Approach**

A collection of assets, including as virtual machines (VMs), applications, and data sources, is conceptually described as a workload. Certain technical inputs need to be validated before transfer. The apps, virtual machines and servers, data sources, and dependencies listed in this article aid in the validation of these inputs. Assembling this data may be done in several ways, such as by defining and prioritizing the tasks and determining which asset dependencies are not part of the workload. Assembling the data and defining and ranking are common methods. (Align assets to prioritized workloads, 2023)

**Migrate:** The priority data points are grasping the extent of technical effort and dependency. The dependency on the assets and current inventory measures the difficulty regarding migration.

**Modernize :** With the modernized data points well aligned, workloads wish to refresh the assets or applications. It would be nice, though, to have recommendations in the workload documentation for these modernization opportunities. (Align assets to prioritized workloads, 2023)

**Innovate:** Innovative data points shall, otherwise, apply in cases where a significant change has been identified in data or business logic that shall warrant efforts to adopt the cloud. New scenarios will have minimal effort, and the group shall define technical data inputs to estimate relative difficulty. (Align assets to prioritized workloads, 2023)

**Azure Migrate**: Grouping features in Azure Migrate accelerate the consolidation of VMs, applications, and data sources. The solution, after documentation, provides guidelines on how to conceptualize workloads and then group machines based on dependency. (Align assets to prioritized workloads, 2023)

**Configuration Management Database:** Some organizations have within their existing operations-management tooling a rich, up-to-date configuration-management database, or CMDB. They can use the CMDB as an alternative way to provide input data points discussed so far. (Align assets to prioritized workloads, 2023)

**Prioritizing Workload for Cloud Adoption:**

The process of selecting and prioritizing workloads for cloud adoption is crucial for a smooth transition and alignment with business goals. Utilizing insights from Microsoft and AWS frameworks, the criteria consider both business and technical inputs to balance risk, complexity, and strategic alignment. The assessment will identify pilot applications where the criteria are satisfied. That is pilot applications that carry lower risk and lower complexity workloads to reduce risk and build experience within the teams. The definition criteria will be refined in the latter stages, meeting the business drivers. These criteria define the pilot applications and possible migration waves, depending on maturity and confidence level in cloud adoption. (Prioritization and migration strategy, n.d.) (Prerequisites for an effective cloud adoption plan, n.d.)

1. **Environment:**
   * Possible Values and its scores for the ENVIRON can be Test-60, Development-40, and Production-20 and applicable here multiplying factor is High -1x.
   * Justification: Initial migration Test environments are the least risky and the best option. Migration of the production environment that is highly impactful must be later as it will cause lesser disruption. (Prioritization and migration strategy, n.d.)
2. **Business Criticality:**
   * The possible value list and its score for Business Criticality are Low-60, Medium-40, and High-20. The applicable multiplying factor for this data point is High 1x.
   * The possibility of managing the risk and, eventually, developing proficiency would be there by starting with the low-criticality workloads first. Workloads of high criticality are vital for operations. The same shall, therefore, be migrated when teams are experienced.
3. **Regulatory and Compliance:**
   * The possible values for this and its score is None-60; FedRAMP-10. For this data point, the applicable multiplying factor will be High-1x.
   * Workloads without large compliance requirements can be moved first to keep early efforts as simple as possible. Those workloads with large compliance requirements will require detailed planning so they become a good target for attention after initial migrations are stable.
4. **Operational System Support:**
   * The possible values and its score for this are Cloud Ready (60), Unsupported in Cloud (10). For this data point, Medium-high 0.8x will be the relevant multiplying factor.
   * Prioritize workloads that are cloud-ready to minimize complexity and avoid extensive refactoring in the initial stages.
5. **Number of Compute Instances:**
   * This data point and score are 1-3 60, 4-10 40, 11 or More 20. The relevant multiplying factor for this data point would be Medium-high 0.8x.
   * Small workloads are easier to handle and, therefore should be the first to migrate. This allows for big workloads to follow after the initial migrations that have gained insight from experience and confidence gained.
6. **Migration Strategy:**
   * The possible values for this data point and its score are rehost-70, re-platform-30, and refactor-10, so for this data point, the factor applicable for multiplication will be Medium-high 0.8x.
   * The changes in rehosting are pretty small, and hence, early migrations should be done with it. Refactoring is a significant design change or re-modulation that should be achieved later.
7. **Application Impact:**
   * The possible values for this data point are High, Medium and Low.
   * Asses the impact of each application on business processes: Those applications with minor implications on business- processes shall be migrated first so that more and more risks get reduced.
8. **Data Impact:**
   * The possible values for this data point are High, Medium and Low.
   * Assess how critical is the data that the workload handles. The data that is not so critical can first be migrated. This would ensure that procedures for data security and compliance are tested and validated.
9. **Dependencies:**
   * The possible values for this data point are Few, Some and Many.
   * Begin with workloads that are not highly dependent on others. That makes the whole process less complicated. Then, one can address the case of more complex and interrelated workloads.
10. **User Traffic Geographies:**
    * The possible values for this data point are High, Medium and Low.
    * Migrate workloads serving fewer geographies first to avoid wide-scale user disruption. (Define and prioritize workloads for a cloud adoption plan, 2023)

**Justification Based on Cloud Adoption Frameworks**

The criteria and critical data points are designed to align with best practices advocated in most of the cloud adoption frameworks. A structure that considered a start with exemplars of low-risk, low-complexity workloads to gain experience toward confidence was always emphasized. Ease the risks and lessen the difficulty by focusing on cloud-ready workloads that are less critical to the operations and have fewer dependencies. As knowledge grew with the teams, more complex and vital workloads should have been taken for transition, hence to achieve a clean one, and after that, stabilized operations would ensue. An organization can effectively prioritize workloads for an effective migration workload through a batch of well-crafted criteria that follow the path set by balancing risk, complexity, and business impact toward success in cloud adoption. (Define and prioritize workloads for a cloud adoption plan, 2023)

**Conclusion:**

The adoption of the cloud should identify a structured and prioritized workload that considers business impact, regulatory requirements, technical compatibilities, application and data impact, and dependencies upon operation. This brings a structured way to handle the complexities and risks associated with migrating workloads to the cloud from Microsoft's approach, the Cloud Adoption Framework, and AWS Prescriptive Guidance. Prioritizing the initialization of low-risk, low-complexity, and cloud-ready workloads assures the compliance and stability of relatively reduced challenges features to proceed with during the cloud migration journey. These are how the criteria are scored and weighted against the strategic business targets and any other operational requirements. This cloud environment starts with less critical workloads, so in return, it can scale up to more complex workloads. Getting the approach in this manner reduces the risk to a bare minimum weak scenario, giving firms the ease of reaping maximum benefit from adoption at large in achieving their business goals.

# References

*Align assets to prioritized workloads*. (2023, 02 28). Retrieved from Lern Microsoft: https://learn.microsoft.com/en-us/azure/cloud-adoption-framework/plan/assets

*Define and prioritize workloads for a cloud adoption plan*. (2023, 04 28). Retrieved from Learn Microsoft: https://learn.microsoft.com/en-us/azure/cloud-adoption-framework/plan/workloads

*How can we align technical efforts to meaningful outcome metrics?* (2023, 02 28). Retrieved from Microsoft: https://learn.microsoft.com/en-us/azure/cloud-adoption-framework/strategy/learning-metrics

*Prerequisites for an effective cloud adoption plan*. (n.d.). Retrieved from learn microsoft: https://learn.microsoft.com/en-us/azure/cloud-adoption-framework/plan/prerequisites

*Prioritization and migration strategy*. (n.d.). Retrieved from docs.aws.amazon: https://docs.aws.amazon.com/prescriptive-guidance/latest/application-portfolio-assessment-guide/prioritization-and-migration-strategy.html