**[Your organization Name]**

**Azure Machine Learning Adoption Framework**

[Date]

**Executive Summary**

[Overview of your business priorities, timelines and milestones in the upcoming year for successful Azure Machine Learning (AML) adoption projects. Also include prioritized migration and/or innovation projects and criteria for such projects.]

**Define Strategy**

Motivations and drivers

Why do you want to adopt AML? Are there critical business events driving your decision? Do you have specific business motivations (see Appendix1)?

|  |
| --- |
| [Understand and describe business situation, implications and details on business events driving the move to AML] |

Business outcomes

What are the expected business outcomes (see Appendix 2) from adopting AML? Collect them in the corresponding table below, organized by priority.

*High Priority*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Stakeholder: |  | |  | Outcome: |  | |
|  |  |  |  |  |  |  |
| Business Drivers | | |  | KPI |  | Capabilities |
| List any business drivers | | |  | List success metrics |  | List necessary capabilities |

*Mid Priority*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Stakeholder: |  | |  | Outcome: |  | |
|  |  |  |  |  |  |  |
| Business Drivers | | |  | KPI |  | Capabilities |
| List any business drivers | | |  | List success metrics |  | List necessary capabilities |

*Low Priority*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Stakeholder: |  | |  | Outcome: |  | |
|  |  |  |  |  |  |  |
| Business Drivers | | |  | KPI |  | Capabilities |
| List any business drivers | | |  | List success metrics |  | List necessary capabilities |

Business justification

How would you measure success? Beyond achieving the business outcomes, are there other indicators for successful adoption of AML in your organization?

Consider creating a business case for adopting AML and create a [financial model](aml-adoption-framework.docx#Appendix 3 - Strategy - Business Justification) to support this plan.

First model migration

The first model migration should align with the [motivations](aml-adoption-framework.docx#Appendix 1 - Strategy - Business Motivations) behind the adoption of AML. Whenever possible, the first project should also demonstrate progress towards a defined [business outcome](aml-adoption-framework.docx#Appendix 2 - Strategy - Business Outcomes).

From the motivations and drivers identified, look for projects that could address those quickly. For example:

1. If the main migration motivation is to increase scalability, consider migrating a project that could benefit from removing the 10 GB training data limit.
2. If the improvement of the user experience is the main driver, consider starting with a project that would benefit from the improved designer experience in AML Studio.
3. If your main drivers are improving the flexibility of your ML processes and move into MLOps, consider starting with a project that is currently suffering from deployment capability limitations.

To identify best first model candidates, get acquainted with the [AML improvements over ML Studio (classic)](https://docs.microsoft.com/en-us/azure/machine-learning/classic/migrate-overview#step-1-assess-azure-machine-learning).

Log your first AML migration project in here:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Project: |  |  | Outcome: |  |
| Stakeholder: |  |  | Business Unit: |  |

Key stakeholders

Who are the individuals within your organization whose participation is critical for the success of this adoption plan? Collect all key individuals in here, and mark who should be part of the AML Adoption Strategy Team in the table below. The **AML Adoption Strategy Team** is responsible for leading the AML adoption within your organization, supporting all business outcomes, people and processes changes and technical projects identified within this plan.

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Business Unit/Role | Business Outcome Owner (Y/N) | AML Adoption Strategy Team (Y/N) |
|  |  |  |  |
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**Plan**

Digital estate

How would you [evaluate current](aml-adoption-framework.docx#Appendix 4 - Plan - Digital Estate) technology assets as you prepare for AML v2 migration?

Start with gathering information about ML projects across the organization and aggregating it in the following tables. At the same time, consider what is the [best approach](aml-adoption-framework.docx#Appendix 5 - Plan – Rationalization) to migration or modernize these to AML, considering the [5 Rs of rationalization](https://docs.microsoft.com/azure/architecture/cloud-adoption/digital-estate/5-rs-of-rationalization). Always consider taking an ‘incremental’ approach in this journey, meaning don’t try to list all your targets in your first attempt but grow them over time as you revisit this plan.

Depending on various business and/or operational limitations in your organization, you can use a combination of the following to perform inventory discovery:

1. Manual discovery (interview)
2. Automated discovery (using the ML Project Inventory Tool)

*Migration targets:*   *create a centralized list of all ML Classic projects suited for initial migration*

|  |  |  |  |
| --- | --- | --- | --- |
| ML Project / Workload | Business Unit | Business Priority (high, mid, low) | Proposed Rationalization |
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|  |  |  |  |
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*Innovation targets: opportunities to improve your customer experience, opportunities to innovate.*

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| --- | --- | --- | --- |
| ML Project / Workload | Business Unit | Business Priority (high, mid, low) | Proposed Rationalization |
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Organizational alignment

How to ensure your organization is aligned and ready for AML adoption? It’s critical to align people to capabilities needed to adopt AML. Complete the following table with the people in the organization, mapping to specific capabilities:

|  |  |
| --- | --- |
| Name of people responsible for… | |
| Delivering technical tasks | Implementing AML governance |
|  |  |
|  |  |
|  |  |

This people will work aligned with the AML Adoption Strategy Team identified earlier in the Strategy phase.

Map specific people to the necessary capabilities. To do so, answer the following questions:

* What person (or group of people) will be responsible for completing technical tasks in the AML adoption plan?
* What person will be accountable for the team's ability to deliver technical changes?
* What person (or group of people) will be responsible for implementing protective governance mechanisms?
* What person will be accountable for the defining those governance controls?
* Are there other capabilities or people that will have accountability or responsibility within the AML adoption plan?

Skills readiness plans

For successful AML adoption, it’s critical to ensure your people, IT and non-IT, are ready for this transformation. Including in the table below, the key courses your organization needs to take for this process.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Course name | Audience (Data Architect, Data Scientist, Data Engineer, IT, Admin, Ops) | Level  (100, 200, 300, 400) | Source  (MS Learn, other) | Priority  (high, mid, low) |
| [Microsoft Certified: Azure Data Scientist Associate](https://docs.microsoft.com/en-us/learn/certifications/azure-data-scientist/) | Data Scientist | 100 | MS Learn | High |
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To prepare for AML readiness, include the following tasks:

* Capture concerns (e.g., data scientists resisting to change)
* Identify gaps (a gap is a role, skill, or process that is required for AML adoption but doesn’t currently exist in your enterprise)
* Partner across teams (cover gaps)

AML Adoption Plan

AML adoption plans convert the aspirational goals of the AML adoption strategy into an actionable plan. The collective ML teams can leverage the AML adoption plan to guide technical efforts, in alignment with the business outcomes.

Your organization’s AML adoption plan is here. You have identified the business drivers for this transformation. You have a financial understanding of the impact of this decision. You have completed an initial analysis to your current workloads, assets and applications to identify their path to AML. Your people are ready or aligned to a plan to get ready.

Now, let’s get ready for starting the initial implication conversations within your organization. Consider leveraging [Azure DevOps](https://docs.microsoft.com/azure/architecture/cloud-adoption/plan/template) or [GitHub](https://github.com) to log and track your projects for AML adoption and create a timeline for these projects, and others to come, to materialized.

Timeline

Description automatically generated with low confidence

## Appendix 1 - Strategy - Business Motivations

| **Critical business events** | **Migration** | **Innovation** |
| --- | --- | --- |
| Reduction of response time to business requirements | Optimization of internal operations | Preparation for new technical capabilites |
| Response to regulatory compliance changes | Increase in business agility and/or complexity | Building new technical capabilities |
| Reduction of disruptions and improvement of MLOps stability | Preparation for new technical capabilities | Scalability to meet market demands |
| Disrupt existing markets | Scalability to meet market demands | Improved customer experience |
| Expand into new markets |  | Transformation of products or services |
| Create new markets |  | Market disruption with new products or services |
|  |  | ML democratization and/or self-service environments |
|  |  | Increase transparency and responsibility |

The migration motivations listed are the most common, but not necessarily the most significant, reasons for adopting the cloud. These outcomes are important to achieve, but they're most effectively used to transition to other, more useful worldviews.

Data is the new commodity, and modern applications are the supply chain driving that data into various experiences. In today's business market, it's hard to find a transformative product or service that isn't built on top of data, insights, and customer experiences. While migration is a useful first step, in most cases innovation is the more important, final goal.

## Appendix 2 - Strategy - Business Outcomes

| **Category** | **Business Outcomes** |
| --- | --- |
| Fiscal | Better understanding and planning of costs, optimized cost allocation, reuse of existing investments |
| Agility | Decreased time-to-market, elastic resource allocation and consumption, personalized ML environments |
| Customer engagement | Increased alignment of products and/or services with customer needs, creation of new markets, disruption of existing markets |
| Performance | High-performance Machine Learning compute resources, reutilization of existing data science/data engineering compute resource investments. |
| Responsibility & Transparency | Responsible AI & Machine Learning |
| Security & Compliance | Regulations addressed and implemented |

## Appendix 3 - Strategy - Business Justification

| **Business case component** | **Description** |
| --- | --- |
| Problem definition and scope | Provide a clear definition of the problem the AML adoption aims to solve and of its scope. |
| Alignment with business strategy and goals | Make sure both the selected problem and the proposed solution are aligned with your organization's overall strategy and goals. |
| Possible outcomes and benefits | Explain what should be achieved and why would the organization benefit from the outcomes. |
| Project outline and timeline | Develop a concise and informative outline as well as a detailed timeline. |
| Risks | Assess the potential risks of the project and propose ways to mitigate them. |
| Cost | Detail costs in a clear and concise way. Ensure costs are quantifiable. |

## Appendix 4 - Plan - Digital Estate

| **Approach** | **Description** |
| --- | --- |
| Workload-driven | Top-down assessment that evaluates multiple aspects like security, operational requirements, financial benefits, categories of users supported by the solution. Usually requires interviews and feedback from business and technical stakeholders. |
| Asset-driven | The asset-driven approach provides a plan based on the assets that support a project for migration. In this approach, you pull statistical usage data from infrastructure assessment tools. |
| Incremental | The most flexible approach, based on a multiphase process: initial cost analysis (asset-driven), migration planning (develops a backlog using a workload-driven approach), release planning (migration backlog is pruned and reprioritized), and execution analysis. |

## Appendix 5 - Plan – Rationalization

### **Traditional approach of rationalization**

* Inventory
* Quantitative analysis (is it in use today?, what dependencies doest it have?)
* Qualitative analysis (what is the best way to move forward?)
* Rationalization decision

### **Incremental approach to rationalization**

* Inventory: reduce discovery data points (automation)
* Quantitative analysis: streamline decisions (limit to a maximum of two Rs of rationalization)
* Qualitative analysis: temporary assumptions (reduce number of potential outcomes)