**Project Charter Document**



**Project Name:** Increasing Productivity and Revenue to $1 Million while Decreasing Unplanned Downtime of Machines

**Industry:** Manufacturing

**Department:** Product Production Department

**Product/Process:** Data Analysis



**Prepared By**

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| --- | --- |
| **Document Owner(s)** | **Project/Organization Role** |
| Muhammad Ali Talha | Data Analyst |
|  |  |

**Project Charter Version Control**

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| 1.0 | 24/10/2023 | Muhammad Ali Talha | Document created |
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**TABLE OF CONTENTS**

[1 PROJECT CHARTER PURPOSE 3](#_Toc138436145)

[2 PROJECT EXECUTIVE SUMMARY 3](#_Toc138436146)

[3 PROJECT OVERVIEW 4](#_Toc138436147)

[4 PROJECT SCOPE 4](#_Toc138436148)

[4.1 Project Deliverables 4](#_Toc138436149)

[4.2 Deliverables Out of Scope 4](#_Toc138436150)

[4.3 Project Duration (start date: 15/09/2021 End date: 05/10/2021) 4](#_Toc138436151)

[5 PROJECT CONDITIONS 5](#_Toc138436152)

[5.1 Project Assumptions 5](#_Toc138436153)

[*5.2* Project Issues *– Fill it as and how project progresses.* 5](#_Toc138436154)

[5.3 Project Risks – *Identify if there are any risks that you foresee.* 6](#_Toc138436155)

[6 PROJECT REFERENCES – Any previous projects you have referred. If yes, please share the details. 6](#_Toc138436156)

[7 APPROVALS 6](#_Toc138436157)

# PROJECT CHARTER PURPOSE

The project charter defines the scope, objectives, and overall approach for the work to be completed. It is a critical element for initiating, planning, executing, controlling, and assessing the project. It should be the single point of reference on the project for project goals and objectives, scope, organization, estimates, work plan, and budget. In addition, it serves as a contract between the Project Team and the Project Sponsors, stating what will be delivered according to the budget, time constraints, risks, resources, and standards agreed upon for the project.



# PROJECT EXECUTIVE SUMMARY

* Business Problem:

A fuel pump Manufacturing company is facing an unplanned machine downtime, which is causing a “productivity loss”.

* Business Objective:

Minimize unplanned machine downtime.

* Business Constraint:

Minimize Maintenance Cost

* Success Criteria:
  + Business Success Criteria: Reduce the unplanned downtime by 10%.
  + Economic Success Criteria: Cost Saving $1M.
* Data Collection: Update this section after the research is done.
* Scope: Manufacturing Department.
* Assumptions:
  + Machines are not operated by skillful professional teams.
  + Lack of proper time management for machine maintenance.
  + Lack of contingency plan for machine repair in case of minor malfunction.
  + Not proper data logging about the machine stats and workers and engineer working on it.
* Risks:
  + Required data is not available.
  + Historical data of “Machine Runtime” is not recorded.
  + Data is forged or destroyed.
* Costs: Project cost – To complete the project a total of [hours =160 \* number of human resources = 3 (1. Project Manager, 2. Data Scientist 3. Data Analyst) \* hourly cost = $200]
  + Project cost = 160\*3\*200 = $9600
* Timeline: The high-level timeline for the project is 20 to 25 working days, which includes Monday to Friday, with 8 hours of work each day (e.g., 9 AM to 5 PM). Additionally, we have allocated 5 reserve day for contingencies or additional exploration and documentation if unforeseen insights arise during the project.
* Approach: CRISP(ML) Cross Industrial Standard Procedure for Machine Learning



# PROJECT OVERVIEW



# PROJECT SCOPE

## Project Deliverables

|  |  |
| --- | --- |
| **Milestone** | **Deliverable** |
| * Identifying Constraints and design the project architecture, explore various public forums to collect relevant data, Data Preparation. | * Deliverable 1.1—Identifying Constraints and design the project architecture. * Deliverable 1.2—Explore various public forums to collect relevant data. * Deliverable 1.3— Data Preparation |
| * EDA and Descriptive Analytics | * Deliverable 2.1— EDA and Descriptive Analytics * Deliverable 2.2— Insights documentation |
| * Show case and review, Final Presentation and documentation, Handover and KT. | * Deliverable3.1 – show case and review. * Deliverable3.2 – Final Presentation and documentation * Deliverable3.3 – Handover and KT |

## Deliverables Out of Scope

* Web Application
* Mobile App
* Cloud based deployment.

## Project Duration (start date: 21/10/2023 End date: 10/11/2023)

|  |  |  |  |
| --- | --- | --- | --- |
| **Project Milestone** | **Date Estimate** | **Deliverable(s) Included** | **Confidence Level** |
| * Identifying Constraints and design the project architecture, explore various public forums to collect relevant data, Data Preparation. | [21/10/2023]  -  [02/11/2023] | * Deliverable 1.1—Identifying Constraints and design the project architecture. * Deliverable 1.2—Explore various public forums to collect relevant data. * Deliverable 1.3— Data Preparation | [High] |
| * EDA and Descriptive Analytics | [03/11/2023]  -  [10/11/2023] | * Deliverable 2.1— EDA and Descriptive Analytics * Deliverable 2.2--- Insights documentation | [High] |
| * Show case and review, Final Presentation and documentation, Handover and KT. | [11/11/2023]  -  [16/11/2023] | * Deliverable3.1 – show case and review * Deliverable3.2 – Final Presentation and documentation * Deliverable3.3 – Handover and KT | [Medium] |



# PROJECT CONDITIONS

## Project Assumptions

* Data will be extracted from secondary sources e.g. HR database, workers credential, machinery log book to see when and how many time this downtime happen and what were the reason reported as well as how they solve it and who were involved in solving it, maintenance plan, maintenance staff vigilance. Primary data will be conducted through research to find the root cause of the downtime, necessary action required, and then client provided data is mapped and finally one master data will be created for further analysis.
* Dashboards and insights are mandatory.

## Project Issues *– Fill it as and how project progresses.*

**Priority Criteria**

1 − High-priority/critical-path issue; requires immediate follow-up and resolution.

2 − Medium-priority issue; requires follow-up before completion of next project milestone.

3 − Low-priority issue; to be resolved prior to project completion.

4 − Closed issue.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **#** | **Date** | **Priority** | **Owner** | **Description** | **Status & Resolution** |
| 1 | 25/10/2023 | High | Data Administrator & HR | Access to database for log books of machines and employee data | This is very critical as analysis cannot be procced without it |
| 2 | 03/11/2023 | High | Computer System Admin | Required good computers for computation and EDA | Without EDA understanding of the data is not possible |

## Project Risks – *Identify if there are any risks that you foresee.*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **#** | **Risk Area** | **Likelihood** | **Risk Owner** | **Project Impact-Mitigation Plan** |
| 1 | Noncooperation by the company employee | High | Manager | Project cannot procced |
| 2 | False Data provided | High | Database Administrator/HR/Admin | Project success is based on data. In case of any forging of data will never lead to successful result. |



# PROJECT REFERENCES – Any previous projects you have referred to. If yes, please share the details.

|  |  |
| --- | --- |
| **Project** | **Description** |
| [ |  |

# APPROVALS

**Prepared by** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Project Manager

**Approved by** Muhammad Ali Talha

Project Sponsor

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Executive Sponsor

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Client Sponsor

