**Project Charter Document**



**Project Name:** Cement Manufacturing Automation

**Industry:** Cement Manufacturing

**Department:** Quality Assurance and Process Automation

**Product/Process:** Data Analysis



**Prepared By**

|  |  |
| --- | --- |
| **Document Owner(s)** | **Project/Organization Role** |
| Abishek N | Data Analyst |
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|  |  |

**Project Charter Version Control**

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| --- | --- | --- | --- |
| **Version** | **Date** | **Author** | **Change Description** |
| 1.0 | 17/10/2023 | Abishek | Document created |

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| --- | --- | --- | --- |
| 1.1 | 21/10/2023 | Abishek | Updated the goals and objectives, deliverable. |
| 1.2 | 22/10/2023 | Abishek | Updated the project duration |
| 1.3 | 23/10/2023 | Abishek | Project Research tracker updated. |
| 2.0 | 24/10/2023 | Abishek | Data Architecture Diagram created. |
| 3.0 | 27/10/2023 | Abishek | EDA Document started. |
| 3.1 | 29/10/2023 | Abishek | EDA Document completed. |
| 4.0 | 30/10/2023 | Abishek | Gained Statistical insights on Raw data in SQL |
| 4.2 | 31/10/2023 | Abishek | data cleaning operation performed (Removed Duplicates , Resolved Issues with City names, Analyzed Outliers) |
| 4.3 | 01/11/2023 | Abishek | Gained Statistical insights on Processed data in SQL, Business Insights Documented |
| 5.0 | 02/11/2023 | Abishek | Gained Statistical insights on Raw data in Python |
| 5.1 | 03/11/2023 | Abishek | data cleaning operation performed (Removed Duplicates , Resolved Issues with City names, Analyzed Outliers) |
| 5.2 | 04/11/2023 | Abishek | Gained Statistical insights on Processed data in Python, Business Insights Documented |
| 6.0 | 06/11/2023 | Abishek | Data Visualization in PowerBi completed. |
| 6.1 | 09/11/2023 | Abishek | Data Visualization in Looker studio Completed |
| 6.2 | 10/11/2023 | Abishek | Data Visualization in Excel prepared. |
| 7.0 | 11/11/2023 | Abishek | Presentation Prepared |

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# 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: Sample of cement manufactured is taken at a regular interval of 1 hour or so and tested in lab for quality check.
* Business Objective: Minimize the time between intervals of quality check.
* Business Constraint: Minimize Manual Intervention
* Success Criteria:
  + Business Success Criteria
    - Reduce time between intervals by at least 50%.
  + Economic Success Criteria

Achieve a cost saving at least $1m

* Data Collection: Update this section after the research is done.
* Scope: If you are doing this for any specific department of the organization then please mention the same.
* Assumptions: E.g., Data will be provided by customer, Cloud & GPU will be provided by customer
* Risks: E.g., Required data might not be available; Server connectivity might be weak, etc.
* Costs: Project cost – You can do assumptions by putting [number of hours \* number of human resources (cadre wise) \* hourly cost]
* Timeline: High level timeline of the project. E.g., Project will be for 20 to 25 days.
* Approach: Data Analytics Project Management Methodology



# 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: 15/09/2021 End date: 05/10/2021)

|  |  |  |  |
| --- | --- | --- | --- |
| **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. | [17/10/2023]  -  [26/10/2023] | * 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 | [27/10/2023]  -  [06/11/2023] | * Deliverable 2.1— EDA and Descriptive Analytics * Deliverable 2.2--- Insights documentation | [High] |
| * Show case and review, Final Presentation and documentation, Handover and KT. | [07/11/2023]  -  [10/11/2023] | * 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 public sources and then client provided data is mapped and finally one master data will be shared by Innodatatics 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 |  | High |  |  |  |
| 2 |  | High |  |  |  |

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

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **#** | **Risk Area** | **Likelihood** | **Risk Owner** | **Project Impact-Mitigation Plan** |
| 1 | [Project Risk] | [High/Medium/Low] |  |  |
| 2 | [Project Risk] | [High/Medium/Low] |  |  |



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

|  |  |
| --- | --- |
| **Project** | **Description** |
| <https://www.sciencedirect.com/science/article/pii/S2590123022005035> | To develop an efficient machine learning model to predict fineness in a vertical raw meal. To optimize the production process, reduce energy consumption, and improve the quality of the final product. |
| https://www.atlantis-press.com/proceedings/issat-20/125949850 | the need for a soft sensor to predict the fineness of cement in real-time during the cement grinding process |
| https://link.springer.com/article/10.1007/s41779-017-0087-x#citeas | accurately analyzing the chemical composition of cement and clinker using X-ray fluorescence (XRF) techniques ensuring the quality control and consistency of cement production |

# APPROVALS

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

Project Manager

**Approved by** Sharat Chandra M\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Project Sponsor

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

Executive Sponsor

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

Client Sponsor

