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DATA CLEANING REPORT

My Excel Data-Cleaning Based Project

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OUTLINE

1. Introduction
2. Data Cleaning
3. Clean Dataset Overview

As part of the Axia Africa Data analytic program, I conducted an Excel data cleaning-based project on a Nigerian Railway Dataset ensuring that datasets are accurate, complete, and properly structured for meaningful insights. The dataset consists of 444 records requiring cleaning, to address missing values, correcting inconsistent formatting, and ensuring data integrity. This report outlines the key cleaning steps taken, and the overall improvements made to the dataset, ensuring better data integrity for analysis and decision-making.

1.0 INTRODUCTION

The Nigerian Railway Dataset contains 444 records. The dataset consists of ten key fields:

- **Date:** The date of maintenance.
- **Vehicle Registration Number:** Unique identifier for each vehicle.
- **Make / Model:** The brand and model of the vehicle.
- **Item Description:** Description of the maintenance services performed.
- **Assigned To:** The person or department responsible for the vehicle.
- **Service KM:** The recorded kilometers at the time of service.
- **Workshop Name:** The name of the maintenance workshop.
- **Invoice No.:** The invoice number for the service.
- **Amount (NGN):** The cost of the maintenance service.
- **Remarks:** Additional comments on the maintenance.

The primary goal was to clean and refine the given dataset by addressing missing values, correcting inconsistent formatting, and ensuring data integrity. This will help improve data quality for future analysis.

Specifically, the objective is to clean the data.

2.0 DATA CLEANING

- **Formatting & Autofit:**

The entire sheet was selected, and Autofit Row Height and Autofit Column Width were applied to ensure better readability.

- **Standardizing Data Types:**

The date column was formatted as Short Date (M/D/Y) using the Format Cells option.

The Service KM and Invoice Number columns were converted to Number format, while the Amount column was formatted as Currency.

The Assigned To column's data type was changed from General to Text for proper name formatting.

- **Correcting Date Formatting Issues:**

Using the Filter function, inconsistencies in the date format were identified.

The Find and Replace (Ctrl + H) tool was used to correct erroneous dates, such as changing 02/08/17 to 2/8/2017 and 12/012/17 to 12/12/2017.

- **Handling Missing Values:**

Missing values in the Service KM column (6 instances) and the Workshop Name column were replaced with "N/A" using Find and Replace.

The Invoice Number column had 173 missing values, which were also replaced with "N/A".

The column alignment (in invoice number) was adjusted to Right Alignment for numerical consistency.

- **Cleaning Invoice Numbers:**

Irregular invoice numbers containing prefixes (e.g., MSPI+59458) were standardized to retain only numeric values using Find and Replace. Non-numeric entries such as Petty Cash (2 instances) were removed.

- **Standardizing Text Data:**

The Make/Model column was cleaned using Find and Replace to ensure consistency:

(ASX) → ASX

(PAJERO-P) → PAJERO

(HILUX) → HILUX

(PRADO) → PRADO

TOYTA → TOYOTA

- **Correcting Spelling Errors in Workshop Names:**

Using the filter button, workshop names with errors were identified. They were corrected using the Find and Replace tool (Ctrl + H). The workshop names identified and corrected include;

- Akinkunmi Adisa Enterprise
- Antis Concepts Integrated
- Chukwuebuka Amataizu, Lagos
- I.D. Automobile Engineering, Ibadan
- Mandilas Enterprises Ltd., Lagos
- Merciful God Autocare, Abeokuta
- Mon-Obi & Company Enterprises, Lagos
- Olakunle Vulcanizer
- Adio Raji Auto Eng. Service, Itori Eweroko
- Tawat Automobile Investment, Abeokuta
- AVN Progress
- Adeolu Fagbehun Vulcanizer

- Mayeloye Vulcanizer, Itori Ewekoro
- L.S.V.A Progress, Lagos
- Azeez Panel Beating & Painting

Additional Information:

The headings of each column and the titles of the sheets were boldened. Papalanto, 31/07/2018 was added in the same cell as vehicle maintenance history to show where it was carried out. The remark column was completely removed as there were no notes/values in it.

3.0 CLEAN DATASET OVERVIEW

The data cleaning process ensured uniform formatting, corrected inconsistencies, and handled missing values, improving the dataset's accuracy and usability for analysis.

- ✓ Under the date column, two incorrect date formats were changed.
- ✓ In the service km column, 6 blank spaces were changed to N/A (no value available).
- ✓ In the make/model column, the text data were standardized.
- ✓ In the workshop name column, inconsistencies and spelling errors were corrected.
- ✓ In the invoice number column, 173 blank spaces (missing values) were changed to N/A.

By applying these refinements, the dataset is now well-organized, more readable, and optimized for further analysis.

NIGERIAN RAILWAY MODERNISATION PROJECT: LAGOS - IBADAN Section			
VEHICLE MAINTENANCE HISTORY - Papalanto, 31/07/2018			
DATE	VEHICLE REG. No.	MAKE / MODEL	ITEM DESCRIPTION
3/1/2015	FG 275 A19	mitsubishi pajero	Service LHS Rear bulb, Rear Brake pads, Engine oil, Oil filter
3/1/2015	FG 280 A19	mitsubishi asx	Replacement of new compressor, a/c condenser, expansion valve, flushing system, compressor oil, Fro
3/16/2017	FG 286 A19	toyota hilux	Repair of front bomber
4/5/2017	FG 228 A19	toyota prado	Service-Front Brake pad, Back Brake pads
5/1/2017	FG 280 A19	mitsubishi asx	Fan belt
5/15/2017	FG 228 A19	toyota prado	Case Gold Battery 12V/75A
5/22/2017	FG 228 A19	toyota prado	Back Wiper Blade
5/22/2017	FG 228 A19	toyota prado	Set of Front Wiper Blades
5/22/2017	FG 280 A19	mitsubishi asx	Set of Front Wiper Blades
5/22/2017	FG 275 A19	mitsubishi pajero	Set of Front Wiper Blades
5/26/2017	FG 228 A19	toyota prado	Repair of A/C, panel beater work
5/30/2017	FG 280 A19	mitsubishi asx	Steering cover, sewing front seat driver
7/6/2017	FG 275 A19	mitsubishi pajero	Fixing No. 2 tyre BRAVO A/T MAXXIS 700 (265-70-16) front axel
6/7/2017	FG 275 A19	mitsubishi pajero	Purchasing of No. 2 tyre BRAVO A/T MAXXIS 700 (265-70-16)
6/7/2017	FG 228 A19	toyota prado	Repair and fill A/C compressor with gas
6/10/2017	FG 275 A19	mitsubishi pajero	Control front break and steering thyroid
6/15/2017	FG 281 A19	toyota hilux	Repair and sewing driver seat cover
6/16/2017	FG 286 A19	toyota hilux	Repair and sewing driver seat cover
6/20/2017	FG 275 A19	mitsubishi pajero	7.000KM service (engine oil, plugs, fuel filter, engine oil filter), starter replacement of the bushing, new er
6/21/2017	FG 280 A19	mitsubishi asx	7.000KM service (engine oil, plugs, fuel filter, engine oil filter)
7/4/2017	FG 285 A19	toyota hilux	Engine oil, oil filter, injector service, fuel filter, air filter, spark plugs, front brake pads, back lining, front
7/7/2017	FG 280 A19	mitsubishi asx	Furniture and fix No. 1 engine belt, No. 3 belt roller, workmanship
7/8/2017	FG 280 A19	mitsubishi asx	Furniture and fix No. 1 adjuster transmission belt

AN OVERVIEW OF THE FINAL DATASET

Below is the link to the cleaned dataset.

<https://docs.google.com/spreadsheets/d/1jxhv7MG7sxf-Tp01Vu8Xxl6m9cfc7nXI/edit?usp=drivesdk&oid=111872684986925784094&rtpof=true&sd=true>