DATA ANALYSIS ASSIGNMENT

ALICE OGONDA – NO.SVNT/2308/04

1. **Explain the approach you will employ to achieve the objective.**

Since the data is available for Inventory levels, Production schedules, Transportation and Supplier Performance, I will start with data collection which will include gathering relevant data from various sources like databases and surveys. Then I will perform data cleaning by removing errors, inconsistencies, duplicates and incorporating missing values. I will conduct data exploration using descriptive statistics, data visualization and other exploratory techniques to better understand its characteristics, patterns and distributions. I will perform data transformation and integration which includes aggregating, filtering or normalizing the data to ensure that it is accurate, complete and in a suitable format for analysis. I will perform data modeling by applying statistical, mathematical or machine learning techniques to build models that represent the relationships or patterns within the data. Modeling can involve hypothesis testing, regression analysis, clustering, classification or other advanced modeling techniques. Then I will utilize the appropriate analysis techniques based on the objectives and nature of data. I will perform data analysis using the selected techniques to explore, identify patterns, relationships and trends in order to make predictions and derive insights that are relevant to the objectives. I will interpret the findings and their relevance to the objectives and look for actionable insights that can guide decision-making or drive improvements. I will use visuals, reports or presentations to effectively communicate key findings to the stakeholders. I will then translate the insights into actionable recommendations or strategies to drive value, improve processes, optimize resource allocation, enhance decision-making or address the identified problems. I will monitor and evaluate continuously to assess the value and effectiveness of the data analysis in achieving the desired outcomes and make adjustments as needed. I will ensure that the organization promotes a data-driven culture, where data analysis is perceived as a valuable for decision-making and continuous improvement. This will ensure that data literacy is maintained among team members, which in turn will help the organization to reduce costs and improve operational efficiency.

1. **What are the expected results.**

The goal is to identify areas of improvement within the supply chain, optimize inventory levels, streamline production schedules and enhance decision-making processes to reduce costs and improve operational efficiency. Data analysis will provide objective evidence that will help identify patterns, trends and correlations within the data that will provide valuable insights into current state and potential future outcomes. Data analysis will enable a factual basis for decision-making, ensuring that decisions are based on data driven insights. Data analysis will help quantify risks and uncertainties allowing decision-makers to assess and manage them effectively. Data analysis done on resource usage, costs and performance will enable decision-makers to allocate resources optimally and improve efficiency. Data analysis will allow decision-makers to monitor outcomes, evaluate the impact of decisions and identify areas of improvement. The organization will benefit overall because team members will demonstrate data literacy in their performance by promoting a data-driven culture, where data analysis is incorporated as a valuable tool for decision-making and continuous improvement.