BIG DATA ANALYTICS FOR SUSTAINABILITY OF SMES' PERFORMANCE AFTER COVID-19 PANDEMIC IN KENYA

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ABSTRACT

The majority of a nation's wealth comes from small and medium-sized businesses (SMEs), which account for half of all jobs and 90% of all businesses worldwide. However, SMEs continue to face limited credit availability from suppliers, who also face liquidity problems, low sales, and high default rates. Advance reimbursement, the weight of punishments on postponed credit installments and other repeating costs have made the SMEs much more helpless. Big Data Analytics for sustainability of SMEs' Performance in Kenya after COVID-19 pandemic was the goal of the study using data analytics and data science. The study's theories are Complex Adaptive System and Strategic Choice Theory. Descriptive survey design was used in the study by the researchers. In each subcounty of Nairobi, the study focused on SMEs in Eastlands, Dagoretti North, Dagoretti South, Langata, Kibra, Roysambu, Kasarani, Ruaraka, Embakasi South, Embakasi North, Embakasi Central, Embakasi East, Embakasi West, Makadara, Kamukunji, Starehe, and Mathare are Nairobi County. In each SME, managers of operations, finance, customer relations, and supply chain was surveyed to obtain data. The Krejcie and Morgan tables was used to gather the 222 respondents for the target population. For the purpose of data analysis, descriptive statistics such as frequencies, percentages, mean, and standard deviation were utilized. The relationship between the variables was determined using multiple regulation and Pearson correlation. Tables, charts, and graphs were used to present the data. The study sought to determine if Data Science has an impact and it was established that, Business Intelligence has a mean of 3.9 (std. dv = 0.851) and Machine Learning a mean of 3.7 (std. dv = 0.928), average mean of 3.8 (std. dv = 0.8895) and all have a positive impact. The study also sought to determine if Data Analytics has an impact and it was established that, Predictive Analytics has a mean of 3.73 (std. dv = 0.850) and Prescriptive Analytics a mean of 3.85 (std. dv = 0.684), average mean of 3.79 (std. dv = 0.767) and all have a positive and significant influence on the Sustainability of SMEs' Performance in Kenya after COVID-19. The SMEs have ability to solve many unforeseen challenges in competitiveness through Data Science drivers such as Business Intelligence and Machine Learning. They were also able to implement legal framework that protects data on Data Analytics on Predictive and prescriptive analysis on the improvement of SMEs performance, survival and growth.

Keywords: *Big Data Analytics, Data Science, Data Analytics, Business Intelligence, Machine Learning, Predictive Analytics, Prescriptive Analytics.*

KyU is ISO 9001:2015