Sampling Selection Techniques Enhancement Using GISARC

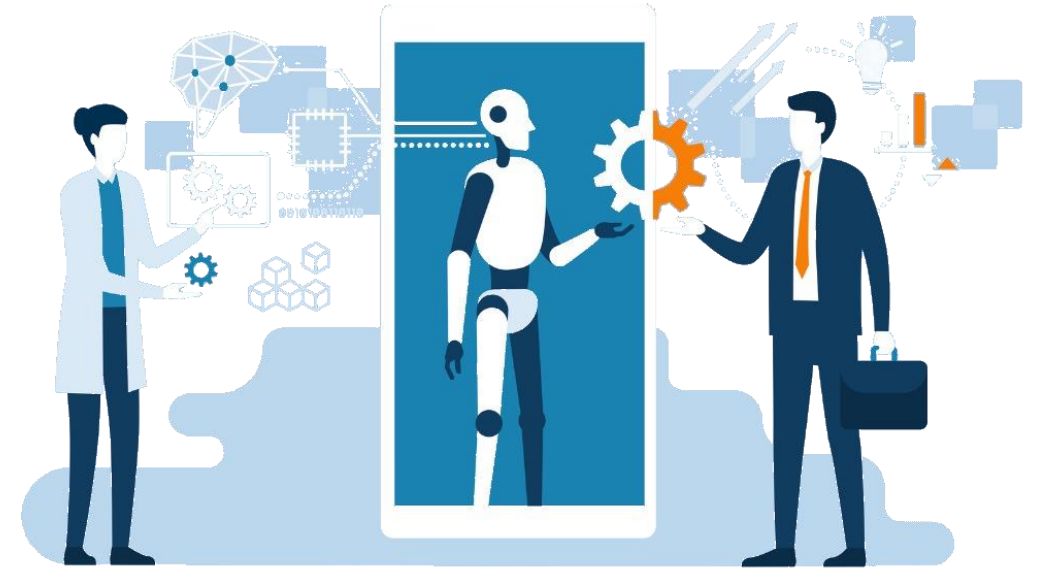Dunya Al Khlaifi
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Introduction 1

Statistics Centre Abu Dhabi (SCAD)

Established in accordance with Law #7 for the year 2008, Responsible for the collection, classification, storage, analysis and dissemination of official statistics.

Utilized ➡ **Artificial Intelligence** in building and developing a sampling selection tool using ArcGIS

Methodology 2

Sample selection using Microsoft Excel **NOT** efficient for 3 main reasons:

Selection process requires 10 working days → lead to a delay in data collection phase.

Requires great effort from the sampler in splitting the file into enumeration areas & then selecting the households in each respective area.

Accuracy is NOT ensured due to several human and non-human mistakes that might occur during & after sample selection.

SCAD built tool in the ArcGIS for the purpose of selecting household samples

Results 3

SCAD performance in selecting Survey samples has improved efficiently:

Reduce time from 10 to 2 working days

Reduced to 80% of the total effort in selecting samples.

Minimized number of revisions requested by the project manager from 4 to barely 1 time

Conclusions 4

To achieve optimal utilization of the Arc GIS sampling tool SCAD recommend the following:

Use other features of ArcGIS that is related in sample design and analysis.

Link data collection tool with the main frame in ArcGIS live in order to reflect the updates if any.

Fully automate the sample selection process with zero human interaction

References 5

Buja, Menza (2013). Sampling Design Tool for ArcGIS Instruction Manual Statistic Centre of Abu Dhabi