LEVERAGING AI FOR SMARTER GOVERNANCE: A SEM STUDY

# Abstract:

**Purpose** – The purpose of this research is to study how the adoption of artificial intelligence (AI) and its associated branches, such as machine learning (ML) and natural language processing (NLP), will influence the efficiency, effectiveness, and performance of Automated Decision Making (ADM) using the combined TOE and TAM models. The research will concentrate on the public organization at the unit level, to determine how of TOE & TAM model antecedents may impact on perceived usefulness and perceived ease of use to determine how the policy-making process can enhance performance. All of these will be evaluated while taking into account the technical, organizational, and environmental contexts.

**Design/ Methodology/ Approach –** The study is conducted through SEM. While the survey is held from the population of Policy Makers with 353 sample replies.

**Findings –** The findings demonstrate that the adoption of AI enhances the efficacy of automated decision-making processes. Conversely, IT assets, leadership support, and an innovation-fostering culture did not have a significant impact on perceived usefulness (PU), whereas horizontal pressure did influence perceived usefulness (PU). Institutional pressures, both vertical and horizontal, in conjunction with IT capabilities, significantly improve the perceived ease of use (PEOU). Furthermore, perceived usefulness (PU) does not serve as a mediator, while perceived ease of use (PEOU) does mediate the support for AI adoption.

**Practical Implications –** It's clear what the practical effects are, policymakers and executives in the public sector who want to speed up the decision making, should use AI as formal mandates and regulatory incentives. They should also spend money on developing skills and user-centered design in new introduced tools to make AI easier to use. To get more people to utilize AI, we need to make it less complicated, give specialized training, and make sure that systems are easy to use for end users.

**Originality/value –** This study advances the comprehension of AI implementation in public sector organisations, emphasising decision-making through augmented data insights and enhanced efficacy. The TAM-TOE model and its antecedents demonstrate that, among the six elements analysed, only three have a substantial influence. The mediating function is solely executed by perceived ease of use (PEOU).

**Keywords:** Artificial Intelligence, AI Adoption, Automated Decision Making, TAM-TOE Model

**Paper type:** Research paper