ASSESSING THE EFFECTIVE DEMAND FOR IMPROVED WATER SUPPLY SERVICE IN MALAYSIA: FOCUSING ON JOHOR WATER COMPANY

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ABSTRACT

In Malaysia, the water management system was restructured in January 2005 by the transfer of water supplies and services from the State List to the Concurrent List. The National Water Services Commission or Suruhanjaya Perkhidmatan Air Negara (SPAN) was established in July 2006 as the technical and economic regulator for the improvement of water supply quality and the efficiency of the water industry. This study focuses on SAJ Holdings (SAJH). This water supply company provides a fully integrated service, i.e. it is involved in the all the processes of drinking water supply; these range from raw water acquisition, treatment and purification, and the subsequent distribution of purified water to customers, plus billing and payment collection.

This study attempts to assess the residential customers' preferences of different attributes of water supply. The water attributes are divided into two categories: Water Infrastructure (WI) and Residential Customers (RC). WI attributes are leakage, pipe bursts, and reservoirs; RC attributes are water quality, pressure, connections, and disruptions. Choice modelling (CM) was applied as a tool for the assessment of effective demand for improved water supplies, particularly by residential customers. There are two econometric models employed: Conditional Logit (CL) and Mixed Logit (MXL). Face-to-face interviews were conducted with residential customers and Statistical Analysis Software (SAS) was used in order to analyse the data.

The model consists of a basic model and an interaction model with socioeconomic characteristics. The findings show that the significant variables affecting demand are pipe bursts, (BUR), water quality (QUA), disruption (DIS) and connection (CON), as well as price (PRI). Among the socioeconomic characteristics that interact with the main attributes are gender, age, number of children, type of house, number of persons in the household, education, work, and income. This information is very useful for the water provider when upgrading the water service for valuable customers.