Title: Examining Factors Influencing Smart Meter Adoption: A Case Study

Abstract - The advancement in smart technologies coupled with the power of AI-enabled data analytics is enabling many industries to evolve their systems to offer innovative applications to their customers. The power industry, as an example, is making significant investment to shift from analog metering dependance to smart metering technologies. Smart meters are Internet of Things (IoT)-enabled devices, which are essential components of smart grid and the commercialization of smart city economy. In this study we examined factors which affect consumer's acceptance of smart meters, and provided insights into public policies that aim to aid in smart meter adoption and deployment by power distribution companies in developing country. Using quantitative research approach, the study employed survey techniques to collect data from over 300 smart meters user in the Greater Accra region of Ghana. The construct of the revised version of Unified Theory of Acceptance and Use of Technology (UTAUT2) model were used as as the primary indicators in designing the questionnaire. Subsequently, structural equation modeling was used to evaluate and validate the hypothetical relationships of the UTAUT2 constructs. The statistical analysis was done using IBM Amos. Our findings show that effort expectancy, social influence, facilitating conditions, price value, and privacy risk have influence on customers' behavioral intention to adopt smart metering system. Consequently, we propose a policy guideline for the deployment and the commercialization of smart metering in developing economies.

***Keywords**-Smart Metering, Smart Grid, Unified Theory of Acceptance and Use of Technology, Electricity Consumption, Consumer Privacy and Risk*

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