



## DIGITAL LITERACY AND THE PERFORMANCE OF E- GOVERNMENT: EVALUATING THE MODERATING ROLE OF GENDER AS A DEMOGRAPHIC FACTOR

**Abdulrazaq Kayode Abdulkareem\***

School of Social Sciences,  
Universiti Sains Malaysia,  
Malaysia  
[abdulkayode@gmail.com](mailto:abdulkayode@gmail.com)

**Razlini Mohd Ramli**

School of Social Sciences,  
Universiti Sains Malaysia,  
Malaysia

\*Corresponding author's Email: [abdulkayode@gmail.com](mailto:abdulkayode@gmail.com)

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lat 306 Savoy Residencia, Block 3 F11/1, 44000 Islamabad. Pakistan,

[editor@readersinsight.net](mailto:editor@readersinsight.net)

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## Abstract

The role of gender has a challenging effect on digital literacy, which in turn has an immense influence on e-government performance. The issue of digital divide through gender perspective has been at the center of discussion in the usage and adoption of e-government services, especially in developing countries. This study, therefore, explored the moderating role of gender as a demographic factor on the positive influence of digital literacy on e-government performance in Nigeria. Technology Acceptance Model was applied as the theoretical basis for the study. Data was generated through a self-administered questionnaire of 369 respondents from 6 federal universities in Nigeria. Data generated were analyzed using PLS-SEM with the aid of SmartPLS 3.2.9 software. The result obtained showed that gender as a demographic factor significantly moderates the influence of digital literacy on e-government performance. Also, this study further affirms the positive influence of digital literacy on e-government performance. Also, the relationship between e-government performance, perceived ease of use, perceived usefulness, and willingness to use e-government were significant. The relevant implications were discussed.

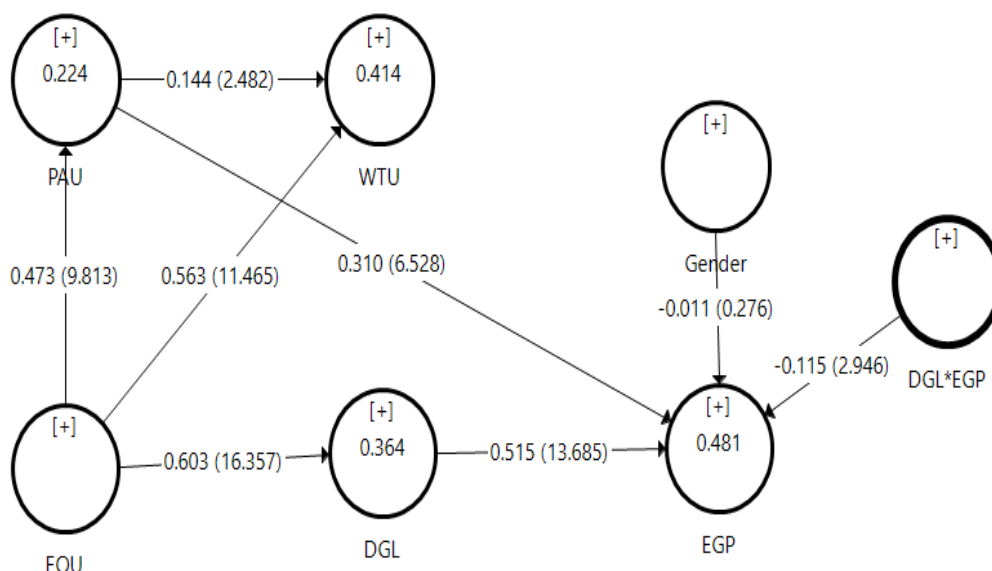
## Research Highlights

E-government in developing countries, including Nigeria have been characterized by a high failure rate, usually with results less than expected outcomes, not only as a result of poor political will and infrastructure deficit but user failure due to low ICT skills (Abdulkareem, 2015). Gender influences technology use; men are more likely to use ICT for their activities in comparison with women. According to Abu-Shanab (2017), gender consideration for service improvement based on needs, beliefs, and personal details would contribute to increased ICT adoption. Citizens with strong ICT aspirations and skills are usually considered to be more inclined and comfortable with using e-government services and most benefit from e-government (Mawela, Ochara, & Twinomurinzi, 2017). This study, therefore, proposes gender as a demographic factor that influences digital literacy for e-government performance in Nigeria.

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### Graphical Abstract



### Research Objectives

- To examine the influence of digital literacy on e-government performance?
- To assess the moderation effect of gender on the influence of digital literacy on e-government performance

### Methodology

The data that was used to test the stated hypotheses emanated from a survey of 369 staff of selected federal universities in Nigeria. The participants in the survey were selected through a purposive sampling technique. Experience and previous interactions with the government on electronic portals serve as the criteria for selection. The survey was organized into two sections. The first section collected the demographic details of the respondents. Also, section two focused on the conceptual measures of digital literacy, perceived usefulness, perceived ease of use, and e-government performance. The survey was designed to be confidential as no identifying personal information of the respondents was required.

In this research, with the help of relevant software packages, we did a quantitative analysis to manage data efficiently. Procedures and coding parameters were generated during the research design. The returned questionnaires were entered SPSS (Version 24) for initial data development, checking, coding, and cleaning. The cleaned data were then recorded and analyzed using SmartPLS 3.2.9 (Ringle, Wende, & Becker, 2015).





## Results

All the paths were significant at  $p < 0.05$ . Digital literacy exhibited the strongest effect on e-government performance ( $\beta = 0.515$ ;  $t$ -value = 13.685;  $p$ -value = 0.000), while PU ( $\beta = 0.144$ ;  $t$ -value = 2.482;  $p$ -value = 0.007) and PEU ( $\beta = 0.563$ ;  $t$ -value = 11.465;  $p$ -value = 0.000) exhibited a weak and strong effect on willingness to use, respectively. Perceived usefulness ( $\beta = 0.310$ ;  $t$ -value = 6.528;  $p$ -value = 0.000) showed a significant relationship with e-government performance. The moderation effect of gender ( $\beta = -0.115$ ;  $t$ -value = 2.946;  $p$ -value = 0.002) on digital literacy and e-government performance shows a significant and negative interaction effect. Digital literacy, perceived usefulness, and the moderating effect of gender can explain 48% of the variance total for the  $R^2$  of e-government performance. Without the moderating effect, the  $R^2$  increased by 1%. Effect size  $f^2$  of the interaction effect of the moderation is 0.021. According to Kenny (2016), the value indicates a medium effect. Similarly, the  $f^2$  value for perceived usefulness on willingness to use e-government and e-government performance indicated 0.027 and 0.164 (large), respectively. The  $f^2$  value of the ease of use on perceived usefulness, willingness to use, and digital literacy indicates large effect sizes- 0.288, 0.419, and 0.571, respectively. The  $f^2$  value of digital literacy on e-government performance indicates a 0.432 (large effect size).

## Findings

Gender significantly reduces the effect of digital literacy on e-government performance. Higher the level of gender disparity leads to a weaker relationship between digital literacy and e-government performance. Gender had no major direct effect on e-government performance, however, the moderation effect of gender as a demographic factor, increases the predictive power of e-government performance. This result implies that digital literacy becomes better as an indicator of the performance of e-government or is more significant when there is lower gender disparity. Digital literacy has also shown to be a strong significant determining predictor for e-government performance.

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*Author's Biography*

*Abdulrazaq Kayode Abdulkareem is a PhD candidate at the School of Social Sciences, Universiti Sains Malaysia, Malaysia. Abdulrazaq is also a lecturer at the Department of Public Administration, University of Ilorin, Nigeria. His research interest is in e-government, public management and public value*

*Dr. Razlini Mohd Ramli is a Senior Lecturer at the School of Social Sciences, Universiti Sains Malaysia, Malaysia. Her interest is in public policy, e-government and public sector management. She has supervised both master and phd candidates.*