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# Citizen Adoption of E-Government Services: A Systematic Literature Review with Weight and Meta-Analysis

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***Abstract*—This study investigates the determinants influencing citizens' intentions to embrace and use e-government services in developing countries. The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines, known for their rigorous and systematic approach, are employed to examine the fundamental attributes, provide extensive descriptive statistics, synthesize the elements, use analytical tools, and present the results from the selected quantitative papers. A weighted meta-analysis was performed on forty-three quantitative research articles on e-government adoption, encompassing 401 relationships, and published in journals within the last ten years. All the participants are from the Asian and African continents. The findings suggest that perceived trust, perceived quality, performance expectancy, effort expectancy, social influence, self-efficacy, and facilitating conditions are the most crucial factors of behavioral intention via the mediation effects of attitude and perceived satisfaction. Furthermore, several demographic characteristics, such as age, gender, education, and experience with e-government services, moderate the association between the mediators and behavioral intention. Thus, we propose a new citizen-centric model named the Integrated Model of E-government Adoption (IMEGA), designed to address the current research gap and predict the extent to which citizens in developing countries would accept e-government services. This paper examines the implications of the findings for both theoretical frameworks and practical applications. Furthermore, the limits of the current study are acknowledged, and future research directions have been provided.**

***Keywords*— E-government services; citizen adoption; systematic literature review; PRISMA; weight analysis; meta-analysis.**

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## I. INTRODUCTION

E-government is driven by providing individuals, corporations, and government entities with integrated online services for data access and transactions [1]. In developing countries, citizens often need to visit government offices for basic information, form completion, and submission or access services that could be provided electronically [2]. Public service delivery in developing countries often depends on inefficient, inflexible, and manual systems [3].

Many different models have been designed in several developing countries' contexts to facilitate the effective implementation of e-government initiatives [3], [4]. E-government development must apprehend the determinants affecting individual intentions to enhance e-government adoption [5]. Nevertheless, inefficient, inflexible, and laborious procedures continue to characterize public service delivery in developing countries [6]. However, this failure has raised concerns about possible challenges with adopting e-government in developing nations, indicating that significant factors may have gone unnoticed. The present research has yet to conceive of e-government using a multidimensional and multi-level paradigm [7].

In e-government, it is essential to frame complex concepts to understand them fully, draw conclusions, and establish theories. Thus, conducting research and creating a unique citizen-centric model to enhance e-government adoption is imperative. Consequently, this study aims to conduct a weight analysis [8] and meta-analysis as robust alternatives to traditional narrative literature reviews. These methodologies

are applied to synthesize the outcomes illustrated in primary quantitative articles concerning citizen adoption of e-government services and offer a new citizen-centric model encompassing the significant, influential factors.

## II. Materials and Method

A Systematic Literature Review (SLR) is a systematic process for gathering, structuring, and assessing the existing body of literature within a specific field of study, as defined by Paul et al. [9]. This approach has two primary purposes. First, it provides an inclusive overview of the existing knowledge within a specific research area. This involves defining the scope of the field, highlighting any inconsistencies or discrepancies in existing research, and creating a model that summarizes previous studies. Secondly, it guides future research by identifying the gaps in knowledge within that specific research domain based on what remains unknown.

Specifically, we employed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidance [10] to do systematic reviews, which could help bring consistency to reviews. The research questions of the SLR are as follows:

- RQ1: What factors influence citizens' adoption of e-government services?
- RQ2: What are the theories and models used in primary studies?

Lastly, weight and meta-analyses combine the results of previous studies and enable researchers to develop a model identifying the most influential factors for predicting the usage intention and the actual usage of e-government services [11]. This PRISMA method involves finding the relevant articles, screening them, deciding if they are eligible, and including them (Figure 1) for further exploration.

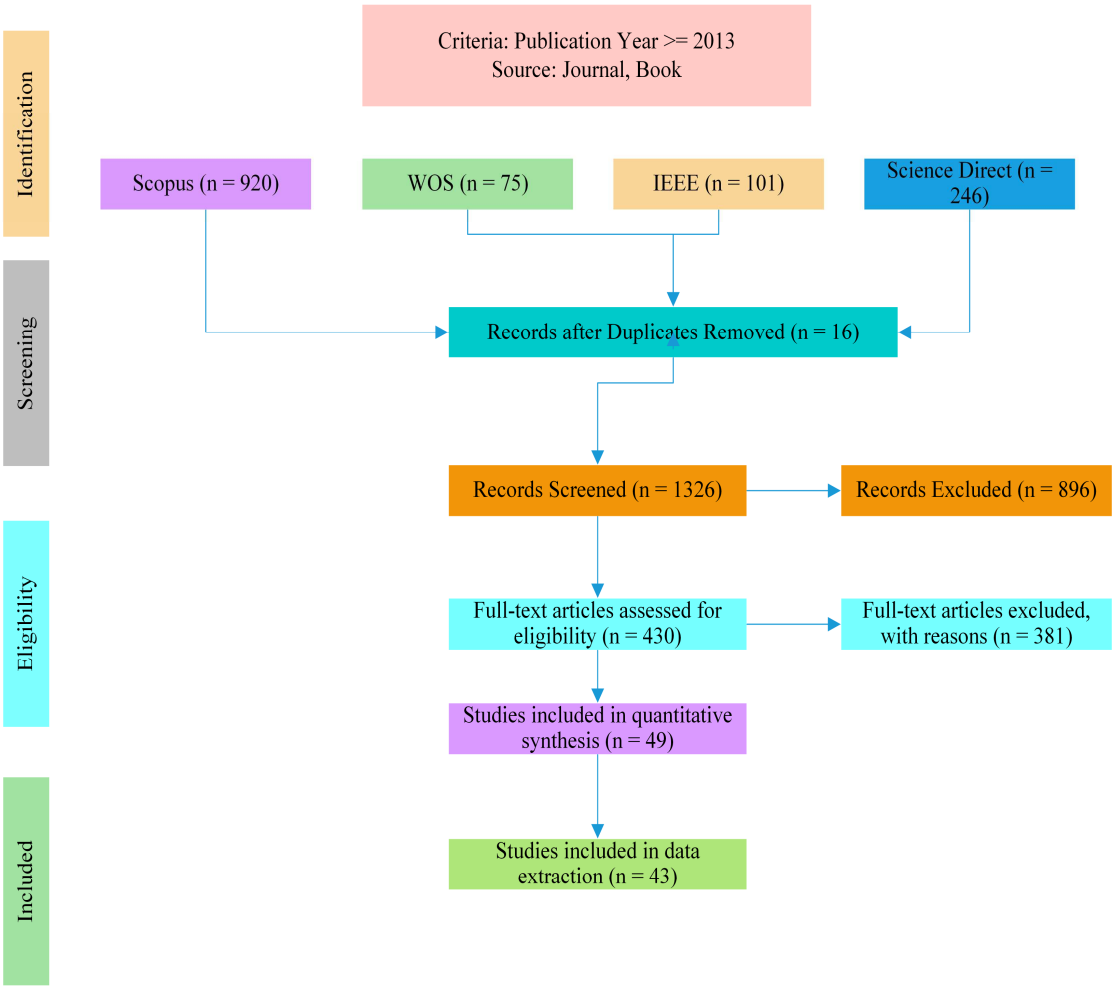


Fig. 1 Flowchart Diagram for SLR Using PRISMA

*Article Identification*

The authors searched for relevant citations using various reputable scientific e-databases, such as Scopus, ScienceDirect, Web of Science, and IEEE Xplore. The authors chose these sources for high-quality publications on information systems in general, focusing on e-government services. During the literature search, the authors employed specific keywords: ( citizen OR adoption OR factors OR trust OR intention OR barrier* ) AND ( e-govern* OR electronic OR e-service* OR e-vot* OR e-pay* OR e-fil* OR digital ) AND ( developing ) AND ( model OR framework ). The search query yielded 1342 relevant empirical papers (peer-reviewed journals) published between January 1, 2013, and September 2023.

*Screening of Articles*

The next step of the PRISMA guidelines involved screening the chosen publications. The researchers reviewed each publication's title, abstract, and keywords during this phase. As a result, sixteen duplicate citations were eliminated, leaving 1326 citations for further examination.

*Article Eligibility*

Adhering to the PRISMA guidelines, the study underwent a comprehensive review to ascertain its alignment with the following inclusion criteria, as assessed through title, abstract, and content examination: (1) The study focused on factors impacting e-government service adoption by developing countries' citizens; (2) The articles were composed in the English language; (3) Published in peer-reviewed academic journals; (4) The research employed a quantitative research methodology, and (5) The methodology involved reporting standardized regression coefficients (β) and confidence intervals.

Titles and abstracts were reviewed, and 896 papers were excluded for failing to meet one or more inclusion criteria. The authors thoroughly assessed and condensed the content of the remaining 430 papers' full texts. During this phase, 381 additional articles were rejected from consideration due to their lack of alignment with the inclusion requirements. Consequently, only 49 papers were deemed acceptable for inclusion in the study, as they directly matched the research aims. Finally, six more papers were excluded as they did not report structural model analysis or path coefficients, which led to a final selection of 43 papers for review and analysis in this systematic literature review.

*Data Extraction*

Out of the 43 chosen review studies, each article was subject to a comprehensive analysis, encompassing various aspects such as the paper's title, publication year journal title, domain of reference, research background, sampling design, and some subjects. Furthermore, the study's components, including the research framework, dependent, independent, and mediating variables, were integrated. Statistics were also pulled out. All this data was recorded and organized in Microsoft Office Excel 2016.

*Merging of Factors*

During the data extraction process, the names assigned to the independent and dependent variables were recorded per the original authors' definitions. Within the extensive array of factors, we encountered that many factors possessed distinct names, although they presumably denoted comparable connotations. Two primary situations were identified: (i) Various variables were ascertained as synonyms, such as Internet Trust, Trust of the Internet, Trust in Internet, and Trust in Government, which were conceptualized and referred to as a unified construct known as "Perceived Trust"; (ii) In some cases, certain variables had similar names, such as System Quality, Information Quality, Service Quality, or simply Quality; we labeled such factors as "Perceived Quality".

## III. Results and Discussion

The following sections provide an overview of the critical attributes, comprehensive statistical information, amalgamation of constructs, analytical methodologies, and discoveries found in the chosen set of forty-three primary studies. A weight analysis and a meta-analysis are conducted to merge insights and assess the effectiveness of the e-government adoption models tailored for utilization in developing countries.

### *A. General Characteristics of Included Studies*

Initially, the authors summarize the key aspects of the included studies, such as their publication year and the number of journals in which they were published. The publication year of the studies is shown in Figure 2. As mentioned earlier, the systematic literature review only included peer-reviewed journals over the last ten years, especially in the context of developing countries.

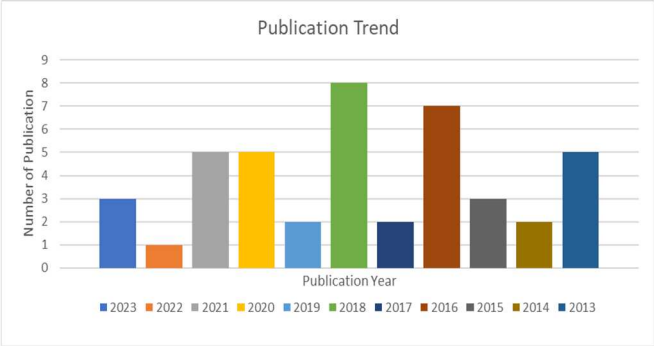


Fig. 2 Publication Trend

Most of these studies focused on the contexts of several Asian and African countries. Figure 3 illustrates the geographical distribution of respondents in the empirical validation of e-government adoption models on a global scale. The respondents in these studies were individuals who were either familiar with or used e-government services.

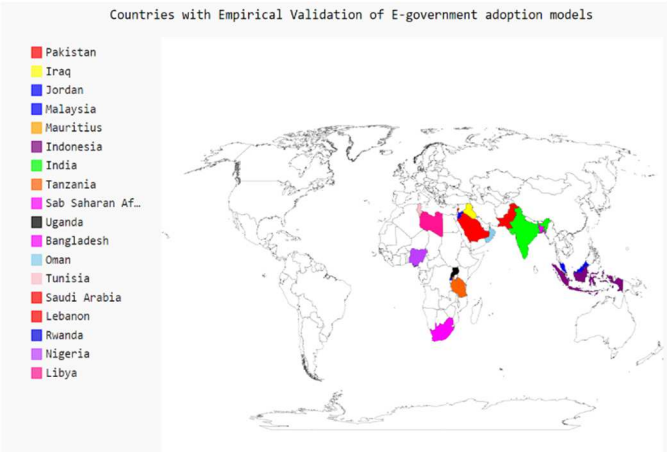


Fig. 3 Global Distribution of Respondents

### *B. Moderating and Mediation Effects*

Several papers identified in SLR analyzed the moderating effects on the dependent variables. The impact of lifestyle compatibility on respondents' intentions to utilize an electronic wallet was moderated by respondents' ages and

genders, but education did not have a significant moderating effect [12]. Awareness was crucial to e-government adoption in Indian cities [13]. Hoque et al. [14] investigated the fact that using e-health in Bangladesh was significantly influenced by gender, as it exerts a substantial moderating effect on this decision. The potential impact of passengers' impression on their behavioral intention to use e-ticketing may vary between male and female customers, yielding gender as a moderator on intention to use e-ticketing system [15]. Besides the moderators, several papers identified in SLR used mediators to predict the dependent variables (see Table 1).

TABLE I
MEDIATION EFFECTS

| Mediators | Study |
|---|---|
| Attitude | [16]–[25] |
| Trust | [26]–[28], [29] |
| Perceived Ease of Use | [27], [30], [31] |
| Satisfaction | [15], [28], [32]–[34] |
| Service quality | [30] |
| Top management Support | [35] |
| Resistance to change | [36] |
| Affect | [37] |
| Learning value | [26] |

### C. Weight-Analysis

Weight analysis was utilized to assess the significance of an independent variable, which also predicts the magnitude of a separate variable in its association with the outcome variable [38]. This analysis examines the impact of independent factors on dependent variables and facilitates the prioritization of the constructs to comprehend the relative significance of their interactions [8]. The weight assigned to a variable is determined by dividing the frequency of reported significance of an independent variable by the total number of times the independent variable was assessed. A weight of 1 signifies that the association observed in all studies was statistically significant, whereas a weight of 0 signifies that the examined association is not statistically significant across all investigations [8], [37]. Following this criterion, among the 401 associations investigated in the selected 43primary studies, we incorporated the associations subjected to examination on three or more occasions [39]. Furthermore, in addition to being subjected to two investigations, we incorporated perceived satisfaction into our weight analysis. This decision was influenced by identifying a research gap and recognizing mediating effects in the selected articles from the systematic literature review (SLR) (Table 1). Consequently, our weight analysis now encompasses 22 associations, as Appendix A outlines.

Concerning technology adoption, independent variables can be perceived as "well-utilized" if they have been assessed a minimum of five times. If tested less than five times, they can still be classified as "promising" predictors, with a weight assigned as 1. For an independent variable to be considered the "best" predictor, it must weigh 0.80 or higher and be evaluated at least five times [8], [39]. The findings from weight analyses in the 22 associations reveal that 15 of them were categorized as "best" predictors (BP), while 6 were categorized as "promising" predictors (PP), and 1 failed to comply with either of these two categories (see Appendix A).

### D. Meta-Analysis

Meta-analysis is a quantitative methodology employed to analyze a substantial volume of empirical publications that serves as a theoretical extension tool for assessing the progression of models [40], enabling the comparison of effect sizes across research. The random-effects model was utilized for the meta-analysis instead of the fixed-effects model due to the variability of effect sizes across studies and the heterogeneity among them [41]. Appendix B presents a comprehensive overview of the meta-analysis of the 22 correlations. To perform calculations and generate visual representations, we employed the freely available software Meta-Essentials [42].

Figure 4 displays the forest plot of the meta-analysis illustrated in Appendix B. In this representation, the X-axis depicts the average correlation. The blue balls symbolize the effect size of each association, while the line going through each blue ball signifies the 95% confidence interval associated with that particular association. We employed the $I^2$ statistic to evaluate and measure the heterogeneity of the dataset [43]. The presented data illustrates the proportion of variability within the dataset, and the results of this investigation indicate substantial diversity among the variables included in Appendix B ($I^2 = 99.04\%$, $T^2$ (z) =0.04).

Appendix B indicates that of the 22 associations, 20 were statistically significant, and two were insignificant ($p > 0.05$). Consequently, perceived ease of use on attitude ($\beta = 0.10$, $p = 0.207$) and perceived risk on behavioral intention ($\beta = -0.10$, $p = 0.277$) were not statistically significant. The constructs having the highest average effect size were facilitating conditions on effort expectancy (0.68), followed by attitude (0.58) and perceived satisfaction (0.57) on the behavioral intention to use e-government services, respectively.

### E. Integrated Model of E-government Adoption (IMEGA)

The current study encompassed a wide array of adoption theories, theoretical models, and constructs from the 43 publications included in our study. This led to a substantial number of 401 associations between independent and dependent variables, providing a detailed overview of the factors studied in the literature on e-government adoption in developing countries over the past ten years. This comprehensive overview provides a solid basis for future research. We conducted a weight analysis (see Appendix A) on these 401 associations to identify the 'best' and 'promising' predictors [8] in the study of e-government adoption. Meta-analysis added more information to these results by determining the levels of significance and the dataset's heterogeneity (I2). Finally, the proposed model was refined by tailoring it to the combined results of the weight and meta-analyses and the recommendations identified from research gaps.

| | Independent Variable | Dependent Variable | Average β | ∑ Sample Size |
|---|---|---|---|---|
| 1 | Trust | Behavioral Intention | 0.26 | 6031 |
| 2 | Social Influence | Behavioral Intention | 0.17 | 4071 |
| 3 | Facilitating Conditions | Behavioral Intention | 0.34 | 5181 |
| 4 | Perceived Usefulness | Behavioral Intention | 0.35 | 5012 |
| 5 | Performance Expectancy | Behavioral Intention | 0.27 | 3395 |
| 6 | Effort Expectancy | Behavioral Intention | 0.17 | 2459 |
| 7 | Perceived Ease of Use | Behavioral Intention | 0.26 | 4287 |
| 8 | Attitude | Behavioral Intention | 0.58 | 4251 |
| 9 | Perceived Ease of Use | Perceived Usefulness | 0.46 | 2369 |
| 10 | Performance Expectancy | Attitude | 0.26 | 1535 |
| 11 | Effort Expectancy | Attitude | 0.18 | 2551 |
| 12 | Perceived Risk | Attitude | -0.15 | 2721 |
| 13 | Perceived Ease of Use | Attitude | 0.1 | 1946 |
| 14 | Perceived Risk | Behavioral Intention | -0.1 | 1215 |
| 15 | Social Influence | Attitude | 0.23 | 1703 |
| 16 | Facilitating Conditions | Effort Expectancy | 0.68 | 1284 |
| 17 | Perceived Quality | Perceived Usefulness | 0.36 | 2857 |
| 18 | Perceived Satisfaction | Behavioral Intention | 0.57 | 1613 |
| 19 | Effort Expectancy | Performance Expectancy | 0.28 | 1096 |
| 20 | Perceived Quality | Perceived Satisfaction | 0.35 | 1060 |
| 21 | Performance Expectancy | Perceived Satisfaction | 0.37 | 463 |
| 22 | Effort Expectancy | Perceived Satisfaction | 0.46 | 463 |

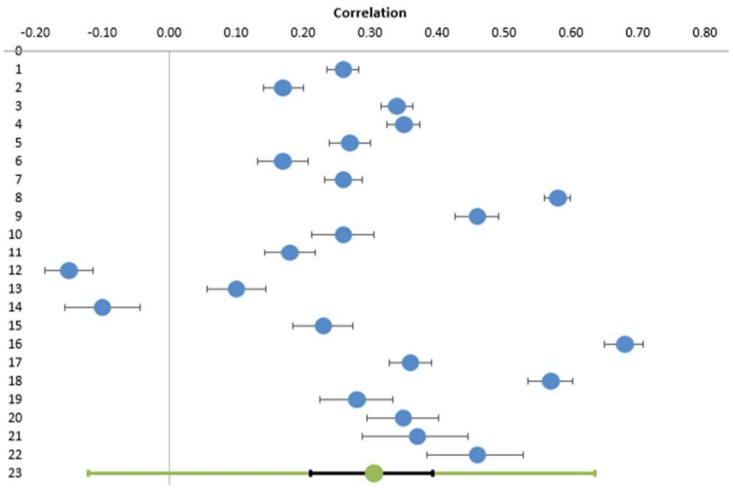


Fig. 4 Forest Plot of Meta-Analysis (Appendix B)

The 'best' predictors include trust, facilitating conditions, social influence, perceived usefulness, performance expectancy, effort expectancy, perceived ease of use, perceived satisfaction, and social influence on behavioral intention (see Appendix A). Additionally, perceived ease of use on perceived usefulness, perceived quality on perceived usefulness, and performance expectancy, effort expectancy, perceived risk, and social influence on attitude exhibit strong correlations, where the strongest correlation is 0.58 (ATT→BI) (Figure 4). These associations, acknowledged as the 'best' predictors in the weight analysis, were also statistically significant in the meta-analysis, supporting the notion that higher weights are associated with a greater likelihood of significance in the meta-analysis, as asserted by Naranjo Zolotov et al. [11] and Rana et al. [44].

Furthermore, the 'promising' predictors include perceived risk on behavioral intention, facilitating conditions on effort expectancy, effort expectancy on performance expectancy, and perceived quality, performance expectancy, and effort expectancy on perceived satisfaction (see Appendix A). All these associations possess significant correlations, where the strongest is 0.68 (FC→EE) (Figure 4). In particular, perceived ease of use on attitude did not qualify as either a 'best' or 'promising' predictor and lacked statistical significance (weight = 0.75, β = 0.10, p = 0.207).

Similarly, although perceived risk on behavioral intention was identified as a 'promising' predictor, it did not achieve statistical significance (weight = 1.0, β = -0.10, p = 0.277). Consequently, these two associations have been excluded from consideration in the proposed model. Figure 5 consolidates the meta-analysis and weight analysis findings, illustrating a new research model named the Integrated Model of E-government Adoption (IMEGA). This model is constructed based on the identification of 'best' and 'promising' predictors that have statistically significant impacts on the associations.

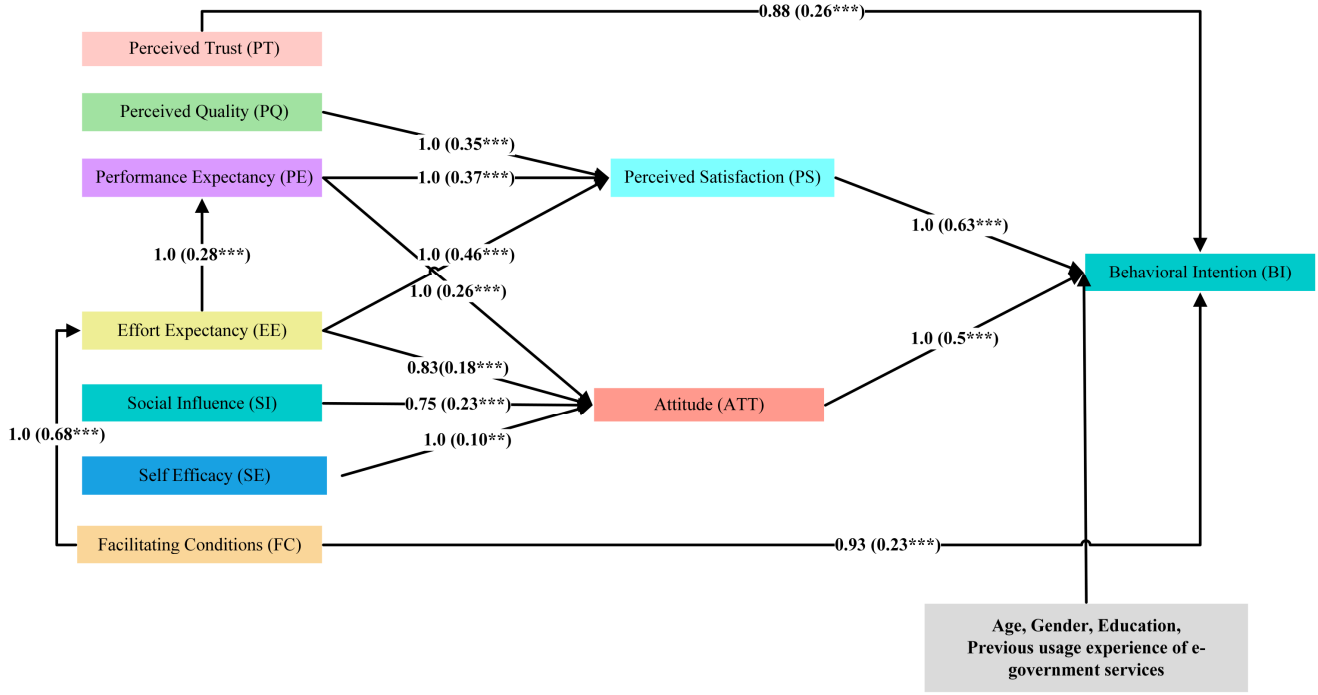


Fig. 5 Integrated Model of E-government Adoption (IMEGA)

It is worth noting that the UTAUT model emerges as the most resilient theory for examining key factors in e-government adoption across diverse contexts. Given that UTAUT's factors, namely, performance expectancy and effort expectancy, are derived from perceived usefulness and perceived ease of use, respectively, as proposed in the TAM model [45], we have excluded TAM factors from the 22 associations and incorporated the UTAUT factors into our proposed model. Additionally, we have partially adopted the UMEGA model [46] to gain a deeper understanding of citizens' perceptions of e-government services. UMEGA enhances UTAUT by introducing attitude as a mediator, which has proven superior to other models in explaining behavioral intention to use e-government services, as validated by Dwivedi et al. [46]. In addition to attitude, inspired by mediating and moderating effects (see section III B), we have introduced perceived satisfaction as a second mediator to gain deeper insights into users' perceptions of e-government services during the transactional phase and incorporated a few moderators (age, gender, education, and previous experience of e-government services) to alienate the research gap. Regarding the mediator variables, attitude aligns with the constructs of the TRA theory [47] and the TPB theory [48], while satisfaction is derived from the information systems success model proposed by DeLone & McLean [49].

Based on the frameworks of UTAUT and UMEGA, we have identified several associations with significant predictive power. Specifically, performance expectancy on attitude (weight = 1.0, $\beta = 0.26$, $p < 0.05$), effort expectancy on attitude (weight = 0.83, $\beta = 0.18$, $p < 0.05$), social influence on attitude (weight = 0.75, $\beta = 0.23$, $p < 0.05$), facilitating conditions on behavioral intention (weight = 0.93, $\beta = 0.23$, $p < 0.05$), and attitude on behavioral intention (weight = 1.0, $\beta = 0.58$, $p < 0.05$) are all classified as 'best' predictors, demonstrating statistical significance. Although facilitating conditions on effort expectancy is considered a 'promising' predictor, its vital statistical significance (weight = 1.0, $\beta = 0.68$, $p < 0.05$) has led us to include it in the model.

Nevertheless, it is crucial to emphasize that using these models individually falls short in delineating and elucidating the factors influencing the acceptance and utilization of e-government services by citizens, and these factors might vary throughout different phases of service maturity, influencing the overall adoption behavior. The Government Adoption Model (GAM) provides the framework for studying citizens' adoption behavior at various maturity levels of services [50]. Therefore, we have incorporated two core constructs from the GAM model, namely, perceived quality and perceived trust, into our research model. Perceived trust in behavioral intention is identified as a 'best' predictor and statistically significant (weight = 0.88, $\beta = 0.26$, $p < 0.05$), while perceived quality on perceived satisfaction is a 'promising' predictor with a significant impact (weight = 1.0, $\beta = 0.35$, $p < 0.05$).

Lastly, although effort expectancy on performance expectancy (weight = 1.0, $\beta = 0.28$, $p < 0.05$), performance expectancy on perceived satisfaction (weight = 1.0, $\beta = 0.37$, $p < 0.05$), and effort expectancy on perceived satisfaction (weight = 1.0, $\beta = 0.46$, $p < 0.05$) are considered 'promising' predictors, their significant impact has led us to incorporate them into the IMEGA model.

Thus this study did a systematic literature review (SLR) to fill the current gap in research, and used a combined weight and meta-analysis to make sure that statistical significance was evaluated and significant correlations between variables were found [40], which paved the way for designing the IMEGA research model.

## IV. Conclusion

Even though technology has progressed worldwide, e-government adoption in developing countries remains insufficient. This failure has raised concerns about possible challenges in executing e-government initiatives in developing countries, indicating that significant factors may have yet to be noticed. To address this paradigm, a comprehensive study was conducted using both a weighted and a meta-analysis. This approach aimed to integrate and consolidate existing research to advance the overarching topic while proposing novel constructs and relationships that need future exploration.

Following a SLR, 43 articles were identified, encompassing 22 distinct relationships. These publications yielded 401 relevant associations, with the inclusion criteria requiring each relationship to be explored in the literature at least three times, except for perceived satisfaction, which was included as a mediator despite being examined just twice. The combination of weight and meta-analysis categorized ‘best’ and ‘promising’ predictors and identified 20 statistically significant correlations out of 22. As some factors of UTAUT are derived from the Technology Acceptance Model (TAM) [51], we discarded the duplicate TAM factors from the 20 associations and included the UTAUT factors in our proposed model. Later, we picked up the remaining associations by considering the constructs of several adoption theories, such as UTAUT, TRA, TPB, DeLone & McLean, and a few adoption models, such as GAM and UMEGA (see Appendix B). To alienate research gaps and with the inspiration of the moderating effects of the reviewed studies, we also incorporated an intrinsic factor named self-efficacy from Social Cognitive Theory (SCT) and a few moderator variables, viz. age, gender, education, and previous experience of e-government services.

Thus, this study presents a citizen-centric conceptual model named the Integrated Model of E-government Adoption (IMEGA). IMEGA has seven dependent variables (perceived trust, perceived quality, performance expectancy, effort expectancy, social influence, self-efficacy, and facilitating conditions), two mediators (perceived satisfaction and attitude), and one dependent variable (behavioral intention), along with a few moderators. The identified factors within the individual adoption literature are substantial, resulting in a novel adoption model for e-government adoption from a citizen perspective.

### *A. Implication of Theory and Practice*

The prime focus of our study was to examine the aggregate impact of an independent variable on a dependent variable using a weighted approach. Additionally, we aimed to assess the significance of this relationship through meta-analysis. By employing these methods, we develop an IMEGA (Figure 5) model that identifies the most effective predictors of individuals' intention to use and actual usage of e-government

services. Hence, the resultant model is a valuable resource for future scholarly investigations since it incorporates the most often employed and influential predictors identified in the existing body of literature. Furthermore, prospective predictors must be tested to ascertain their validity as the most optimal predictors. This study's findings provide a foundation for researchers to improve the accuracy and effectiveness of concept selection in the analysis of e-government adoption. Conversely, 'promising' predictors require more investigation to ascertain their potential as the best predictors, justifying their continuous utilization.

The implications of the study's findings are essential for governmental bodies, policymakers, and organizations that seek to build citizen-centric e-government platforms. The weight analysis revealed that perceived trust, quality, performance expectancy, effort expectancy, social influence, self-efficacy, facilitating conditions, attitude, and satisfaction were significant predictors of behavioral intention to use e-government services. The meta-analysis provides empirical evidence supporting statistical significance. The model also emphasizes the significance of mediators, such as perceived satisfaction and attitude, in influencing behavioral intentions. This suggests that it is important for governments to prioritize tactics aimed at preserving favorable attitudes, the feeling of usefulness, and the long-term trust of citizens. To achieve satisfaction, it is vital to consider factors such as perceived quality, effort expectancy, and performance expectancy. Consequently, the impact of social influence on individuals' propensity to utilize e-government services is shown to be a substantial factor, implying that governments should proactively endorse and familiarize their e-participation technologies among citizens.

### *B. Limitation of the Research*

The weight and meta-analysis conducted in this study included a limited selection of 43 papers, representing just a fraction of the extensive body of literature on citizens' adoption of e-government services. The study's limitations result from quantitative research techniques that rely on fixed correlation coefficients and sample sizes. In subsequent periods, incorporating qualitative research endeavors may yield relevant and applicable outcomes for the extension of IMEGA. The exclusion of research done in other dialects was based on their language limitation to English, rendering them ineligible for inclusion in the analysis.

The absence of comprehensive elucidation in certain studies hinders the advancement of research on more customized adoption models for varying levels of e-government adoption. In terms of generalization, much of the existing literature primarily centers on a single country. Given the scope of the study, the country's particular cultural values may have impacted the results, particularly when looking at citizens' usage patterns. Hence, for prospective investigations pertaining to the subject matter, an advisable trajectory would involve doing comparative analyses throughout countries, alongside the incorporation of cultural components.

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**APPENDIX A**

Weight Analysis Findings (ordered by frequency)

| IV | DV | Sig. | Studies | Non-Sig | Studies | Freq | Weight | PC |
|---|---|---|---|---|---|---|---|---|
| Trust | BI | 18 | [14], [18], [20], [21], [24], [33], [36], [52]–[62] | 3 | [26] [63] [64] | 21 | 0.88 | BP |
| FC | BI | 14 | [16]–[18], [21], [24], [36], [53], [56], [57], [59], [64]–[67] | 1 | [52] | 15 | 0.93 | BP |
| SI | BI | 11 | [26], [52], [53], [56], [57], [59], [60], [65]–[68] | 3 | [62], [63] [36] | 14 | 0.80 | BP |
| PU | BI | 13 | [14], [15], [26], [27], [31], [52], [54], [55], [59], [63], [69]–[71] | 1 | [19] | 14 | 0.92 | BP |
| PEOU | BI | 9 | [14], [19], [22], [31], [33], [35], [54], [55], [71] | 2 | [27], [63] | 11 | 0.82 | BP |
| PE | BI | 9 | [36], [53], [56], [57], [59], [60], [64], [66], [67] | 1 | [65] | 10 | 0.9 | BP |
| ATT | BI | 11 | [14], [17], [20], [22], [28], [29], [36], [41], [42], [44], [45] | 0 | ---------- | 11 | 1 | BP |
| EE | BI | 6 | [31], [32], [34], [53], [39], [40] | 1 | [67] | 7 | 0.85 | BP |
| PEOU | PU | 7 | [15], [18], [19], [24], [25], [22], [29] | 0 | ---------- | 7 | 1 | BP |
| PQ | PU | 6 | [15], [26], [28], [30], [66], [70] | 0 | ---------- | 6 | 1 | BP |
| EE | ATT | 5 | [16]–[18], [20], [21] | 1 | [24] | 6 | 0.83 | BP |
| PR | ATT | 5 | [16], [18], [21], [24], [69] | 1 | [20] | 6 | 0.83 | BP |
| PE | ATT | 6 | [16]–[18], [20], [21], [24] | 0 | ---------- | 6 | 1 | BP |
| PS | BI | 5 | [15], [32]–[34], [59] | 0 | ---------- | 5 | 1 | BP |
| PEOU | ATT | 3 | [22] [23] [25] | 1 | [69] | 4 | 0.75 | --- |
| SI | ATT | 3 | [16], [17], [24] | 0 | ---------- | 3 | 1 | BP |
| PR | BI | 3 | [28], [53], [52] | 0 | ---------- | 3 | 1 | PP |
| FC | EE | 3 | [16], [21], [24] | 0 | ---------- | 3 | 1 | PP |
| EE | PE | 3 | [17], [24], [66] | 0 | ---------- | 3 | 1 | PP |
| PQ | PS | 2 | [28], [33] | 0 | ---------- | 2 | 1 | PP |
| PE | PS | 2 | [15], [34] | 0 | ---------- | 2 | 1 | PP |
| EE | PS | 2 | [32], [34] | 0 | ---------- | 2 | 1 | PP |

*** IV**: Independent Variable; **DV**: Dependent Variable; Freq: Frequency; Sig. = Significant; ***Weight* = *Significant/Frequency; PC*=** Predictor's Category***; BP* = *Best Predictor; PP = Promising Predictor; BI = Behavioral Intention; FC*** = Facilitating Conditions***; SI*** = Social Influence***; PU*** = Perceived Usefulness***; PEOU*** = Perceived Ease of Use***; ATT*** = Attitude***; PQ*** = Perceived Quality***; PR*** = Perceived Risk; ***PS*** = Perceived Satisfaction***; PE*** = Performance Expectancy***; EE*** = Effort Expectancy***;***

**APPENDIX B**

Meta-Analysis Statistics (In Descending Order of Frequency)

| IV | DV | Freq | Avg. β | ∑ Sample Size | p-value | z-value | Confidence Interval | | Model |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Low | High | |
| Trust | BI | 21 | 0.26 | 6031 | 00 | 6.52 | 0.18 | 0.34 | GAM |
| FC | BI | 15 | 0.23 | 5081 | 00 | 4.73 | 0.13 | 0.33 | UTAUT, UMEGA |
| SI | BI | 14 | 0.17 | 4071 | 00 | 5.76 | 0.10 | 0.23 | UTAUT |
| PU | BI | 13 | 0.35 | 5012 | 00 | 4.55 | 0.19 | 0.49 | TAM |
| PEOU | BI | 11 | 0.26 | 4287 | 0.025 | 2.24 | 0.00 | 0.48 | TAM |
| PE | BI | 10 | 0.27 | 3395 | 00 | 7.74 | 0.19 | 0.34 | UTAUT |
| ATT | BI | 11 | 0.58 | 4251 | 00 | 4.48 | 0.37 | 0.74 | TAM, TRA, TPB, TIB, UMEGA |
| EE | BI | 8 | 0.17 | 2459 | 00 | 3.35 | 0.05 | 0.29 | UTAUT |
| PEOU | PU | 7 | 0.46 | 2369 | 00 | 6.47 | 0.30 | 0.59 | TAM |
| PQ | PU | 6 | 0.36 | 2857 | 00 | 4.77 | 0.17 | 0.52 | NEW |
| EE | ATT | 6 | 0.18 | 2551 | 00 | 4.02 | 0.07 | 0.29 | UMEGA |
| PR | ATT | 6 | -0.15 | 2721 | 00 | 5.21 | -0.22 | -0.07 | UMEGA |
| PE | ATT | 5 | 0.26 | 1535 | 00 | 4.82 | 0.12 | 0.38 | UMEGA |
| PEOU | ATT | 4 | 0.1 | 1946 | 0.207 | 1.26 | -0.15 | 0.34 | TAM |
| SI | ATT | 4 | 0.23 | 1703 | 00 | 8.61 | 0.15 | 0.31 | UMEGA |
| PS | BI | 5 | 0.57 | 1613 | 00 | 5.76 | 0.26 | 0.77 | DELONE & MCLEAN, ECM-ISC |
| PR | BI | 3 | -0.1 | 0.63 | 0.277 | -1.09 | -0.47 | 0.30 | NEW |
| FC | EE | 3 | 0.68 | 1284 | 0.003 | 2.95 | -0.36 | 0.97 | UMEGA |
| EE | PE | 3 | 0.28 | 1096 | 00 | 4.82 | 0.03 | 0.49 | NEW |
| PQ | PS | 2 | 0.35 | 1060 | 00 | 13.92 | 0.03 | 0.61 | DELONE & MCLEAN |
| PE | PS | 2 | 0.37 | 463 | 00 | 4.12 | -0.66 | 0.92 | NEW |
| EE | PS | 2 | 0.46 | 463 | 00 | 3.79 | -0.83 | 0.98 | NEW |

****** **TAM**: Technology Adoption Model; **UTAUT**: Unified Theory of Acceptance and Use of Technology; **UMEGA**: Unified Model of E-government Adoption Model; **TPB**: Theory of Planned Behavior; **TRA**: Theory of Reasoned Action; **TIB**: Theory of Interpersonal Behaviour; **ISC**: IS Continuance Model; **ECM**: Expectation Confirmation Theory; **GAM**: Government Adoption Model