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ELECTRONIC GOVERNMENT RESEARCH IN JORDAN A BIRD'S EYE VIEW USING META ANALYSIS

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ABSTRACT

This research presents a quantitative analysis of 121 published papers specific to Jordan's e-government researches (EGR) throughout the years 2009- January 2021 through a meta-analysis systematic process. The focus EGR specific to Jordan is due to the fact that the e-government studies conducted in Jordan context are among the highest publications in developing countries. Study results reveal that the majority of EGR in Jordan have adopted a quantitative approach rather than qualitative or multi-method evaluation approaches and none of EGR adopted a design research approach or action research approach involved researcher(s) and practitioner(s). While a fair number of EGR take a theory-based approach, the majority of them rely on common and traditional theories (e.g., TAM and UTAUT), neglecting many other potential theories to use e.g., expectation confirmation and technology-organization-environment theories. EGR in Jordan has overwhelmingly focused on specific e-government topics (e.g., citizens' acceptance and adoption besides evaluating e-government websites or portals) and thus more research orientation should go further toward other recent topics e.g., continuous-use intention and /or post-adoption, citizens resistance, privacy and security issues as well as to capture new trends and priorities in the e-government domain such as anticipatory e-government, smart government, participatory governance, smart city, and data-centric governance that all are critically required to advance EGR in Jordan. The study findings provide opportunities for future areas of research, which contribute to more diversity of EGR in Jordan. The study helps to develop reliable knowledge and leads to ideas for new studies that are anticipated to be of significant value for both academics and practitioners. While the findings might be restricted to Jordan's context, nevertheless, it would encourage other e-government scholars to conduct similar studies for their own countries.

Keywords: *E-Government, Digital Government, Meta-Analysis, Literature Review, Jordan*

1. INTRODUCTION

There are several review studies of e-government research (EGR) as a field of study in both contexts of developed and developing countries, provided significant insights and propose research agendas for each context e.g., [1]–[14]. The differences between developing and developed countries regarding e-government development, practical implementation, and research agenda needed are widely recognized [2], [10], [11]. Some e-government topics/themes are more prevalent in some regions than others [8].

The previous EGR review findings either in the contexts of developed and developing countries are not always appropriate for understanding e-government to a specific country environment as each country has its unique challenges and obstacles regarding e-government research [9]. This is particularly significant since combining literature from broad scope reviews would provide a mixed picture and outcomes may not be fully applicable to a specific country [15]. Hence, the priority of themes/topics of EGR needed and the type of research required may differ between countries. In other words, one would expect that EGR themes, trends, philosophy, and methodologies likely differ between countries even those that lay under the same categorization (e.g., developing countries). Accordingly, given more consideration on EGR related to a specific country context would be

significant, particularly if such country is among the highest EGR publications globally such as Jordan.

The EGR specific to Jordan have thrived significantly over the last few decades and expected to continue [16], [17]. A recent meta-analysis review study focus on analyzing e-government and e-participation quantitative studies in the time frame 2000-2017 has revealed that Jordan next to the United States have contributed with the highest number of retrieved studies [18]. Although EGR specific to Jordan context has been considered as among the highest e-government publications in developing countries [10], [11], little efforts have been devoted into conducting a systematic review specific to such a plethora of research. Further, e-government studies in the Jordan context solely follow traditional narrative reviews, in which the researcher(s) often select articles based on the research topic and interest. Hence, the narrative review usually tends to be selective and exclusive based on the author's preferences/abilities to reach various scientific sources and related publications [19]. Several studies argue that the narrative review often biased toward the researcher's point of view and might lead to poor quality [8], [20].

The current study aims to present a general overview of the current state of EGR specific to Jordan's context. Specifically, it aims to capture the current trends associated with the number and distribution of Jordan's EGR research, determine the publication scientific outlets, identify methodologies employed in Jordan's EGR research, investigate theories used in Jordan's EGR research, highlight various research gaps, and provide some promising suggestions for future e-government researches/topics in Jordan that have been largely overlooked.

The general insight emerging from this study will guide researchers, including novice researchers and higher graduate students, in their continued investigations to advance EGR implementation in Jordan. This study is believed to enhance Jordanian e-government scholars' own insights, help them improve their research, and can point them towards new and possibly more fruitful paths that they can explore. However, the specific focus on EGR in Jordan may constrain extending or generalizing our results to other countries.

This article proceeds as follows: Section 2 describes the research methodology including analysis framework and data collection approach. Section 3, which displays the study findings followed by a brief discussion and related recommendations in section 4. Section 5 presents the study contribution and limitations. Finally, Section 6 concludes the paper.

2. RESEARCH METHODOLOGY

This is an exploratory study adopting a meta-analysis review to pursuit its related aim. Meta-analyses review (see Figure 1) refers to examination of data from a number of independent studies of the same subject, in order to determine overall trends [19], [21]. Meta-analyses review has a systematic procedure includes select specific journals or data bases, classify retrieved articles, and synthesis collected data [21], [22]. The outcome of such a review is often claimed to provide a general quantitative continuum view of the current state of a research topic [19].

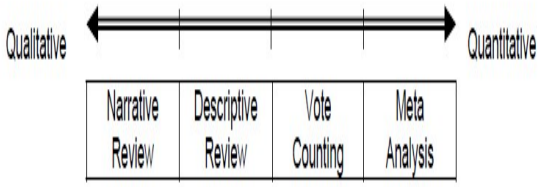

Figure 1. Review Methods on a Qualitative-Quantitative Continuum

- Analysis framework

The current study has followed the set of meta-analysis guidelines [19], [21] as listed in the following steps.

1) Collecting data. This phase includes deciding and selecting an appropriate set of scientific data sources, determining the specific search keywords and terms, conducting an extensive search across the academic sources, and refining the sample of academic papers.

2) Selecting relevant papers. This step includes defining the criteria for inclusion and/or exclusion of an academic paper in the review. The main focus of the selected paper should be on EGR and specifically designed for/or implemented in Jordan context.

3) Content analysis. This step includes analyzing the content of the selected papers. The current study focuses on determining the publication scientific outlets, exploring research methodologies applied and type of sample, identifying of the most used theories or models, and finally, analysing the most topics investigated in EGR in Jordan.

4) Synthesizing findings. This step aims at summarizing findings to produce a quantitative state of the art on EGR in Jordan and suggest avenues for future research.

- Data collection

In order to identify all articles dealing with EGR in Jordan, the research on Scopus scientific data base and Digital Government Reference Library (DGRL, version 16.5 released on December 15, 2020) were conducted. Scopus is one of biggest database that contain e-government research and DGRL has become an indispensable tool for e-government scholars as it last version (DGRL 16.5) contains 14,527 e-government references A team of three researchers performed a search in the identified data bases using various search terms in either the title or the abstract. The search terms to query databases are: "electronic government" AND " Jordan" , "digital government" AND " Jordan", "open government" AND " Jordan", "electronic governance" AND " Jordan", mobile government AND " Jordan", "smart government" AND "Jordan", "e-government" AND " Jordan", "M-government" AND " Jordan", "e-governance" AND " Jordan", and " finally "e-participation" AND " Jordan". The number of paper per data base source is listed in Table 1.

Table 1. Number of paper per data base source during the years 2009- January 2021

Keywords Terms	Scopus	DGRL	Sum
"Electronic Government" AND "Jordan"	62	15	77
"Digital Government" AND "Jordan"	15	5	20
"Open Government" AND "Jordan"	32	3	35
"Electronic governance" AND "Jordan"	3	2	5
"Mobile government" AND "Jordan"	26	5	31
"Smart Government" AND "Jordan"	9	None	9
"E-government" AND "Jordan"	143	25	168
"M-government" AND "Jordan"	11	2	13
"E-governance" AND "Jordan"	4	1	5
"E-Participation" AND " Jordan"	7	3	10
Sum	312	61	373

Initially, 373 publications were found. The retrieved papers title and abstracts were reviewed by the three researchers to determine if a paper meets the sample inclusion criteria. The selected papers should focus/interest/implemented in Jordan and should be practical research. The publications that did not meet the above inclusion criteria were excluded. After removing non relevant, duplicated, and non-practical papers, 121 papers were selected to be analyzed.

3. FINDINGS

3.1 Distribution of Papers per Outlets

Table 2 displays the publication outlets (journals and conferences) over the period 2009 and January 2021. The study findings reveal that the publications outlets of EGR specific to Jordan are mainly journals rather than conferences as 98 papers have been published in Journals and 23 papers in conferences. As it clear, the years 2013, 2016, and 2017 has witnessed a large number of publications. In the years 2018 and 2019, the number of publications has tremendously declined. As for the year 2021, as expected the publications were few because our research in data bases was conducted at the beginning of the 2021 year. Next section presents the 121 papers per outlets.

Table 2. Distribution of Papers per Outlets (Journals and Conferences)

Year	Number of Papers in Conferences	Number of Papers in Journals	SUM
2009	1	2	3
2010	3	6	9
2011	2	7	9
2012	0	6	6
2013	4	10	14
2014	1	8	9
2015	1	9	10
2016	4	11	15
2017	4	11	15
2018	1	6	7
2019	1	7	8
2020	1	9	10
2021	None	6	6
SUM	23	98	121

3.2 Publication outlets

The distribution of 98 papers per journals is presented in Table 3, Appendix. Table 3 indicates that the publications are distributed in very broad range of journals (around 58 journals). The table shows that around 35 of 98 papers were published in high rank and relevant e-government Journals. For example, 9 papers in Electronic Government, an International Journal, 7 papers in each of Transforming Government: People, Process and Policy (TGPPP) and International Journal of Electronic Government Research (IJEGR), 5 papers in International Journal of Electronic Governance, 4 papers in Government Information Quarterly (GIQ), and 3 papers in Electronic Journal of e-Government.

Table 4 (Appendix) represents the distribution of EGR per conference. As it clear, similar to the distribution of papers per journal, the EGR are distributed in very broad range of conferences (19 conferences). Most importunately, none of those publications were included in reputed e-government conferences such as the digital government society conference (DG.O), and International Federation for Information Processing (IFIP) EGOV conference. Only 2 papers were published in the European Conference on E-Government (ECEC) and one paper was published in the International Conference on Theory and Practice of Electronic Governance (ICEGOV) as two reputed e-government conference. Such conferences, among others, are the most well-known conferences in e-government domain [20].

3.3 Methodological approach and data collection method

The distribution of methodological approach applied by the analyzed papers depicted in Figure 2 shows that among the 121 papers retrieved, 79 studies applied a quantitative research approach, 38 studies applied a qualitative research approach, and only 6 studies applied a multi-method (mixed) approach.

For data collection, Figure 3 indicates that the survey questionnaire was predominant method as 81 studies applied questionnaire to collect data (79 quantitative studies and 2 of multi-method approach studies). Only 9 studies applied interview and 5 studies used focus group as data collection methods. Among of 93 practical studies that have either used questionnaire, interview, or focus group, 73 studies considered citizens perspective while 20 studies considered the perspective of government's employees. Furthermore, among the 73 studies that have been focused on citizens, 43 studies relay on students, mainly undergraduates, as the full sample or as the main part of their sample.

3.4 Theories, frameworks, and models used

The study findings reveal that the most theories used in EGR in Jordan were Technology Acceptance Model (TAM) [46] and the Unified Theory of Acceptance and Use Theory (UTAUT) [47] as appear in figure 4. The analysis refers to a clear pattern in EGR in Jordan to integrate two or more theories or develop self-based models. The figure shows that 31 papers have integrated two or more theories mainly, TAM, UTAUT, and Diffusion of Innovation theory [48] and 30 papers have developed self-based models integrating various factors assimilated from wide range of literature. Those factors include, but not limited to, citizens' beliefs, citizens' trust (includes trust in the government and trust in the internet), privacy and security, self-efficacy, website design, and computer skill confidence, and government e-service quality). Finally, 25 papers did not follow a clear specific theory

3.5 The most EGR topics investigated

Figure 5 illustrated the most topics were explored in EGR specific to Jordan. Clearly, the acceptance (intention to use) and adoption of e-government services dominate the Jordanian scholar attention (40 studies), followed by e-government websites/portals evaluation (16 studies). Further, the success, barriers, and challenges of e-government implementation are the main topics in 12 studies. Transparency and accountability, trust, citizens' satisfaction, and social media use for e-government purposes are the focus topic in 4-7 studies for each. The topics of continuous-use intention and /or post adoption regarding e-government, open government, the employment of emerging digital technologies (e.g., Internet of things, artificial intelligence, big data, Block chain, and cloud computing) in e-government applications, cybersecurity, digital divide, business sector adoption of e-government services, design artifact for e-government are the least topics investigated.

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4. DISCUSSION AND RECOMMENDATIONS

The study findings reveal that Jordanian scholars are more interested in targeting journals rather than conferences. This is in somehow miss opportunities for them to build a networks with other academic and practitioners worldwide. Despite the plethora of EGR in Jordan published in wide range of journals, less than half of published papers (35 of 98 papers) were published in high rank and top tier e-government journals (e.g., Government Information Quarterly (GIQ), Transforming Government: People, Process and Policy (TGPPP), Electronic Government, an International Journal, International Journal of Electronic Government Research (IJEGR), International Journal of Electronic Governance, and Electronic Journal of e-Government). The findings indicate that there no single EGR specific to Jordan has been published in other reputed journals such as Information Polity and Journal Information Technology and Politics, and European Journal of e-Government, as highly reputed e-government journals recommended by Scholl and Dwivedi 2014 [20].

Regarding conferences publications, the analysis shows that no single EGR specific to Jordan has been published in well-established and most reputed e-government conferences like DG.O, (IFIP) EGOV. Only 2 papers were published in ECEC and only one paper was published in ICEGOV. Moreover, there is no evidence that any single EGR specific to Jordan was published in reputed information system outlets (journals and conferences) that accept and welcome digital government research as recommended by [20]. For example, Association for Information Systems Journal, Management Information Systems Quarterly Journal, Information Systems Research Journal, European Journal of Information Systems, Journal of Management Information Systems, the e-Government track at the Hawaii International Conference on Systems Sciences (HICSS), e-Government Track at Pacific Asia Conference on Information Systems, and International Conference on Electronic Government and the Information Systems Perspective. Hence, more efforts and financial support are needed to advance and publish e-government research specific to Jordan in such highly reputed e-government/information systems journals and conferences. Jordanian scholars and the academic institutions (universities) in the country should be given to target the above outlets. Jordanian academic institutions could reinforce publishing in such outlets by granting financial support. Also, they could reconsider their laws and regulations to support and endorse publications' in conferences that usually grant a few considerations to conference publications for academic promotions.

The findings suggest that the vast majority of researchers are cross sectional studies (where studies data collected and analysis at one given point in time) and followed a quantitative approach using a questionnaire is the preferred data collection method. The findings show few empirical studies followed the multi-method approach so far e.g., [49] and very few researchers use focus group and interview methods to collect research data e.g., [50], [51]. Al-Khasawneh and Obeidallah, 2014 developed a questionnaire and conducted interviews to investigate related factors that could influence the adoption of e-voting [49]. Alhusban, 2015 conducted five interactive focus group to investigate government employees' perspective toward online public services [50]. Kanaan and Masa'deh, 2018 performed focus group interviews with 40 citizens to explore how e-government systems impact citizens' participation and engagement with government [51]. EGR specific to Jordan is encouraged to use multi-method approach as it expected to provide more comprehensive and robust findings

None of EGR in Jordan neither adopts design research approach or action research approach involved researcher(s) and practitioner(s). Evidence related to the collaboration between Jordanian researchers and government practitioners is almost absent. There are a few joint EGR such as [52], [53] that show a research collaboration between academic researchers (e.g., from universities) and e-government practitioners (e.g., from government entities/agencies). In fact, this might increase the gap between e-government academic scholars and their practitioners' counterpart. Hence, there is a need for more qualitative, and mixed approach studies, more longitudinal design studies, and more contact with practitioners through employing action research.

Further, the undergraduate university students have widely dominated EGR's in Jordan samples rather than focus on citizens who actually use e-government services. Many studies often use students as research participants', who not always

fit to all research cases since they may not truly represent a study population and possibly skewed the results. EGR in Jordan reveals scarce exceptions that targeted citizens who are actually using the e-government services such as [54] study

Finally, the majority of EGR data respondents were collected from the capital or northern region of Jordan, neglecting the perspectives of citizens live in other areas, particularly southern and rural areas in the country. Future researchers should ensure that their respondents constitute a balanced geographic parts of the country.

The "Leaving the Ivory Tower" of academia and reaching those who actually use e-government services is a more critical approach that may move the research field to be better able to understand the current e-government implementations. More attention by the Jordanian e-government scholars should be devoted to the above gaps.

The majority of EGR researches use common acceptance and adoption theories mainly; TAM, UTAUT, and DOI. Other studies use a combination of a massive set of factors assimilated from wide range of literature. EGR in Jordan need to explore other related theories, e.g., stakeholder theory [55], social cognitive theory [56], [57], Expectation and Confirmation theory [58], and Technology-Organization-Environment theory [59].

Most e-government scholars in Jordan are mainly from computer science, management science, information technology, and management information systems disciplines. Few are from public administrations, law, marketing and communications, economic, and political science disciplines. A study of [60] is good example of introducing marketing concepts and ideas into e-Government research in Jordan. EGR in Jordan certainly needs to expand views and approaches from other related academic disciplines such as sociology, public administrations, law, marketing, and political science.

The most topics/ themes discussed in EGR in Jordan are related to citizens' acceptance (intention to use) and adoption of e-government services, e-government websites evaluation, and e-government barriers and challenges. Few studies focus on continuous-use intention and /or post adoption regarding e-government (e.g., [60]). Most studies focus on studying government to citizen e-services and only very few focus on investigating e-government services offered to business sector. The majority of EGR in Jordan mainly examines e-government services in general or focuses on a specific type of e-government services, i.e., tax filling such as [61]. The government e-services provided in other related sectors such as education, health, employment, social protection, environment, justice, tourism, and agriculture have not gained considerable attention from Jordanian researchers.

Little attention has been given toward examining the use of emerging digital technologies (e.g., the Internet of things, artificial intelligence, big data, Block chain, and cloud computing) for e-government applications, with some exceptions such as [24], [62], which pay an attention toward big data in public sector. Another set of related SGR focus on cloud computing in government context such as [45], [63], [64]. Nevertheless, the EGR in Jordan related to the use of emerging digital technologies is still unsatisfactory.

Further, few papers has considered smart government, smart city, or open government data research themes. Study findings indicate that researchers assess e-government at national or central government level and few focuses on local government level (municipalities) such as [40], [65], [66]. Finally, only few of retrieved papers focus on e-government services provided for vulnerable groups e.g., people with disabilities, poor, women, youth, and the elderly as well as for visitors, tourists, and residents.

5. CONTRIBUTION AND LIMITATIONS

With this study, we hope to contribute to the diffusion of EGR knowledge in Jordan and to provide the basis for a broader discussion within the Jordanian e-government community. This study only set out the starting point for further analyses that aim at a better understanding of the current EGR in Jordan. This study makes several key contributions. First, it provides a general quantitative overview of the recent e-government research in Jordan. Second, the study findings would guide Jordanian e-government scholars in their continued investigations of e-government implementation, help them improve their research, and can point them towards new and possibly more fruitful paths/topics/approaches that they can

explore and applied. Third, the study is also beneficial to Jordanian policy decision-makers, e-government program officials, academic institutions (i.e., scientific deanships in universities), think tanks, and funding institutions by providing them with an orienting map of promising research directions to ensure that the prospected/funded e-government research will focus on areas that are worth studying and avoid less promising ones.

This study is limited to quantitative analysis of EGR in Jordan. Thus, future works will expand the current study findings and focus on analyzing content analyses of scholarly publications included in this study to provide more precise and practical recommendations. Further, the EGR included in the current research is those that have been published in the English language appeared in two scientific databases. Other studies might have been published elsewhere and have not been considered in the current study.

6. CONCLUSION

There are several review studies of e-government as a field of study in both contexts of developed and developing countries, provided significant insights and proposed research agendas for each context. Nevertheless, the e-government research review findings are not always appropriate for understanding e-government to a specific country environment as each country has its unique challenges and obstacles regarding e-government research. The current exploratory study aims to portray a general landscape of EGR pertaining to Jordan, through a meta-analysis process of analyzing the content of articles published in peer-reviewed journals and conference proceedings between 2009 and 2021.

The results indicate that more efforts should be done to guaranty publication in high rank and top-tier e-government Journals and conferences. The findings also suggest the need for applying a multi-method approach in EGR in Jordan since it provides more comprehensive and robust findings. Study results reveal that majority of EGR focuses on limited specific e-government topics mainly on citizens' acceptance and adoption of e-government services at the national level. However, there are gaps in the research efforts focus on citizens' post-adoption, e-service delivery for business sector, the employment of emerging digital technologies for e-government applications, and e-government at the local/municipal level. Additionally, few EGR devoted to assessing e-government applications in various domains of the public sector (i.e., education, healthcare, environment, tourism, agriculture, and justice), specifically from the point of view of vulnerable groups. Further, e-government scholars in Jordan are encouraged to explore other related theories from various related research disciplines. More joint research projects among Jordanian scholars from various disciplines as well as with government practitioners' counterparts are recommended.

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APPENDIX

Table 3. Distribution of Papers per Journal

Name of Journal	References examples	Number of Papers
Electronic Government, an International Journal	[23]–[31]	9
International Journal of Electronic Government Research	[32]–[38]	7
Transforming Government: People, Process and Policy	[39]–[45]	7
International Journal of Electronic Governance	[16], [46]–[49]	5
Government Information Quarterly	[50]–[53]	4
Journal of Theoretical and Applied Information Technology	[54]–[57]	4
Electronic Journal of e-Government	[14], [58], [59]	3
International Journal of Technology and Human Interaction	[60]–[62]	3
International Journal of Advanced Computer Science and Applications	[63], [64]	2
Journal of Software Engineering and Applications	[65], [66]	2
International Journal of Information Communication Technologies and Human Development	[67], [68]	2
International Journal of Advanced Science and Technology	[69]	2
International Journal of e-Business Research	[70], [71]	2
International Journal of Mobile Communications	[72]	2
International Journal of Public Sector Performance Management	[73], [74]	2
European Journal of Scientific Research	[75], [76]	2
Computers in Human Behavior	[60], [77]	1
The Electronic Journal of Information Systems in Developing Countries	[78]	1
Theoretical and Empirical Researches In Urban Management	[79]	1
International Business Research	[80]	1
International Journal of Managing Public Sector Information and Communication Technologies	[81]	1
Journal of Business and Management Sciences	[82]	1
Electronic Research Journal of Engineering, Computer and Applied Sciences	[83]	1
International Journal of Academic Research in Accounting, Finance and Management Sciences	[84]	1
International Journal of Business and Social Science	[85]	1
International Journal of Computer Science & Information Technology	[86]	1
International Journal of Computer Science and Network Security	[87]	1
International Journal of E-Adoption	[88]	1
International Journal of Digital Society	[89]	1
International Journal of Business Information Systems	[90]	1
Computer and Information Science	[91]	1
International Review of Management and Business Research	[92]	1
Journal of Service Science and Management	[93]	1
International Journal of Information Systems and Social Change	[94]	1
Journal of Agricultural Informatics	[95]	1
Academic Research International	[96]	1
International Journal of Electrical and Computer Engineering	[97]	1

The Electronic Journal Information Systems Evaluation	[98]	1
Journal of International Commercial Law and Technology	[99]	1
Journal of Business & Management	[100]	1
Modern Applied Science	[101]	1
World Journal of Computer Application and Technology	[102]	1
Behaviour and Information Technology	[103]	1
International Journal of Information Technology Project Management	[104]	1
Telematics and Informatics	[105]	1
International Journal of Electronic Business Management	[106]	1
International Journal of Computer Science	[107]	1
PalArch's Journal of Archaeology of Egypt/Egyptology	[108]	1
International Journal of Advanced Trends in Computer Science and Engineering	[109]	1
International Journal of Business Excellence	[110]	1
Computers Informatics Nursing	[111]	1
Periodicals of Engineering and Natural Sciences	[112]	1
International journal of interactive mobile technologies	[113], [114]	1
Information Technology and People	[115]	1
Communications and Network	[116]	1
International Journal of Socio technology and Knowledge Development	[117]	
International Journal of Information Technology and Web Engineering (IJITWE)	[118]	1
Sum		98

Table 4. Distribution of Papers per conference

Name of Conference	Reference examples	Number of Papers
International Conference on Information Technology	[119]–[121]	3
European Conference on E-Government (ECEC)	[122], [123]	2
International Conference on Theory and Practice of Electronic Governance (ICEGOV)	[124]	1
IEEE Jordan Conference on Applied Electrical Engineering and Computing Technologies	[125], [126]	2
International Conference on Digital Society	[127]	1
UK Academy for Information Systems Conference	[128]	1
International Conference on Computing and Informatics	[129]	1
International Conference on Computer Science and Information Technology	[130]	1
IEEE International Conference on Progress in Informatics and Computing	[131]	1
International Conference on Information Management	[132]	1
IEEE Region Humanitarian Technology Conference	[133]	1
International Conference on Information and Communication Systems	[134]	1
International Conference on E-Commerce, E-Business and E-Service	[135]	1
Urban Transitions Conference	[136]	1
World Congress on Engineering and Computer Science	[137]	1
International Conference on Smart Computing and Electronic Enterprise, ICSCEE	[138]	1
the Second International Conference on Data Science, E-Learning and Information Systems	[139]	1
International Conference on e-Learning	[140]	1
International Conference for Internet Technology and Secured Transactions	[141]	1
Sum		23

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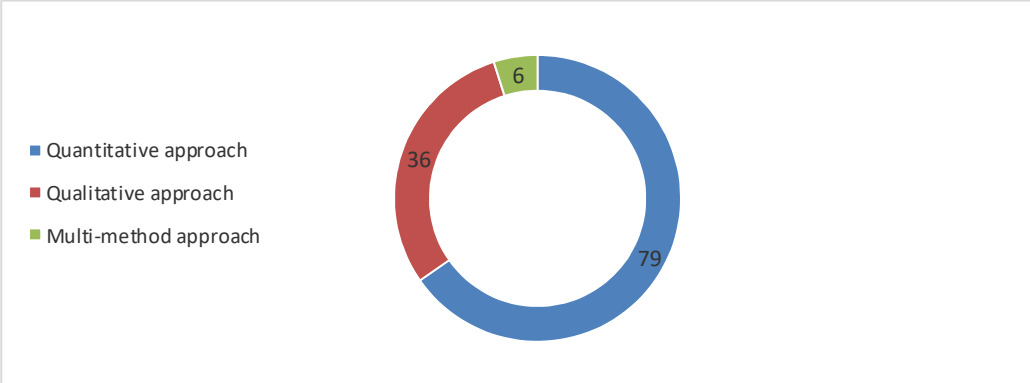

Figure 2. The distribution of methodological approach applied by the analyzed papers

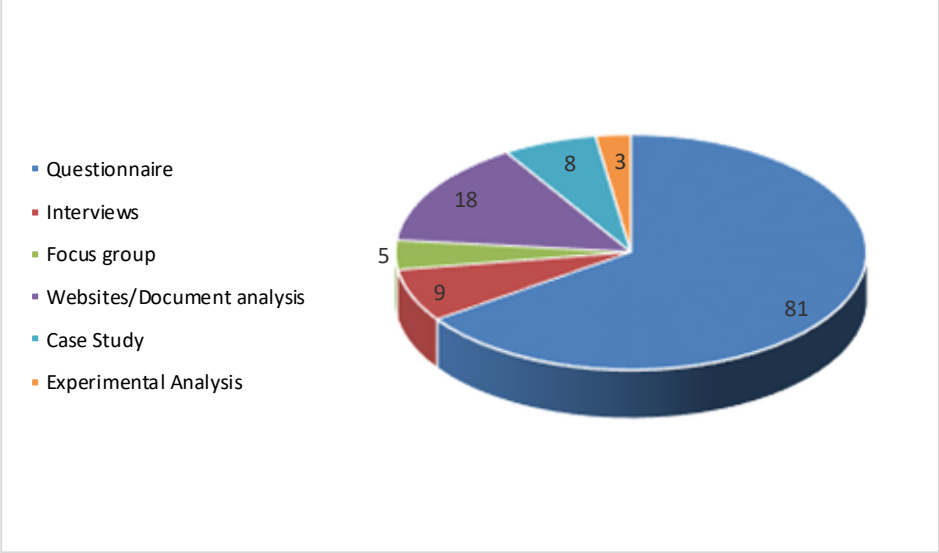

Figure 3. Data collection methods

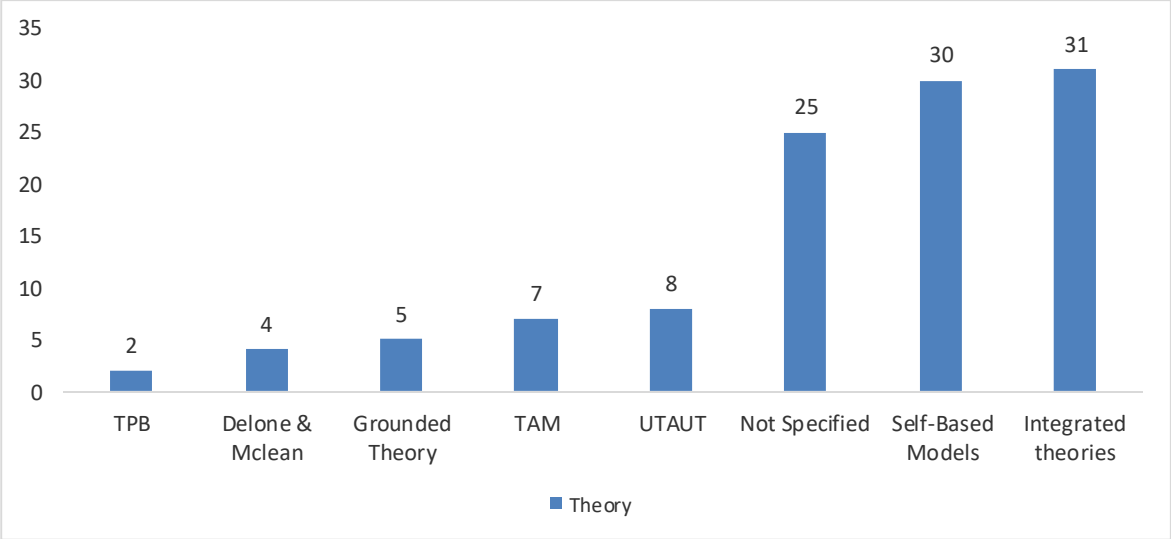

Figure 4. Most Often Theories, Frameworks, and Models Used

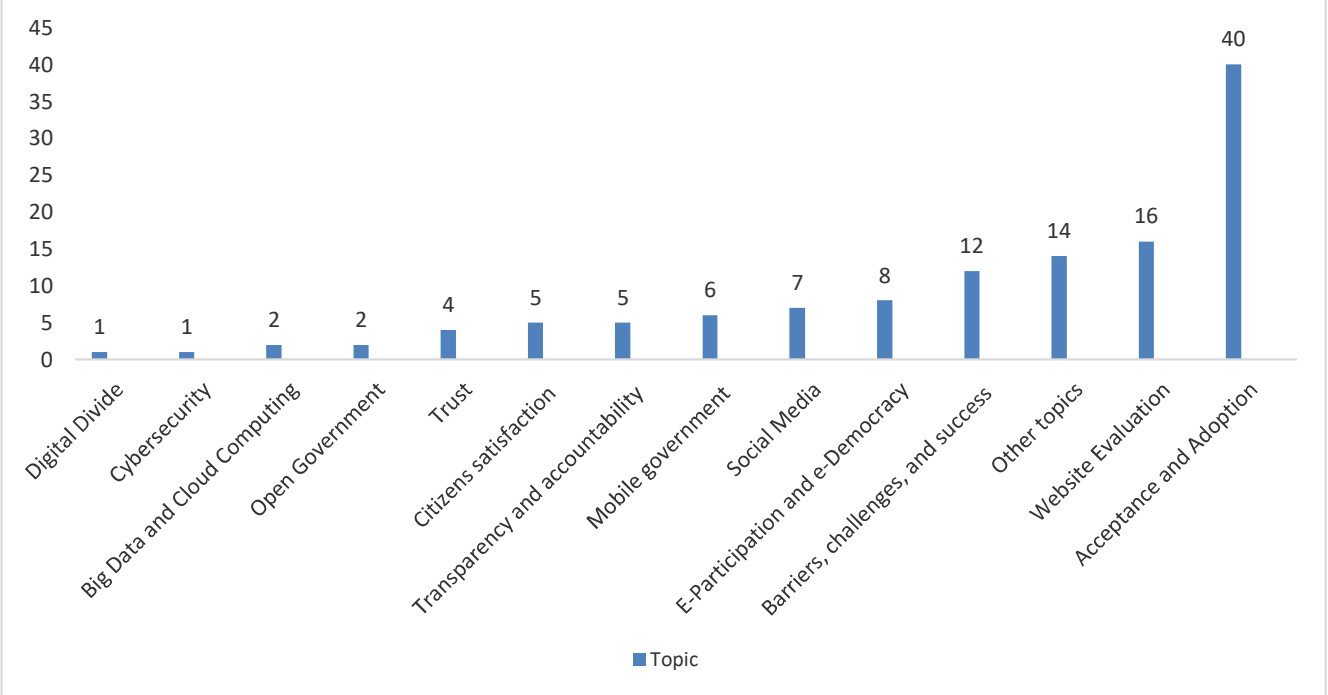

Figure 5. The Most EGR Topics Investigated