The Factors Affecting the Adoption of E-Government Among Jordanian Citizens

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Abstract

Government around the world, especially in non-industrial nations look to upgrade the reception of their e-administrations by vanquishing the difficulties blocking the reception cycle. Notwithstanding, in spite of the development of e-government and its advantages, the residents' e-administrations reception is still low and flawed especially in agricultural nations because of many variables. An enormous number of studies have examined those elements in emerging nations; be that as it may, not many examinations tended to them in the Middle Easterner world. This paper presents a survey of the investigations that tended to the variables impacting e-government resident reception in Arabic nations, particularly Jordan. Like other non-industrial nations, Jordan is seeing low resident reception of e-administrations in spite of the fact that it accomplished an impressive development in e-government improvement. Perceiving the huge variables influencing e-government resident's reception is significant to upgrading the dynamic interaction for carrying out viable e-government, better comprehension of residents' requirements, guaranteeing a fruitful conveyance of top-notch internet-based benefits, and expanding resident's reception and utilization of e-services.

Keywords: E-government, Citizen adoption, Arab countries, Jordan.

I. INTRODUCTION

Communication between the administration and its partners is a critical issue in the reception and use of e-government by these partners [1]. Electronic legislatures are highly dependent on customer reception, and as such, loyalty is seen as essential and mandatory [2] - [4]. The need and low population reception of e-taxpayer-led organizations is a major obstacle to implementing productive e-government [3], [5], [6]. The specialists expressed that understanding the mentalities of customers and ways of working towards the reception of institutions led by the electronic taxpayer, especially their eagerness to benefit from these administrations, adds to the fruitful implementation of the e-government [6], [7]. As pointed out by Sampson and colleagues [8], productive e-government depends on two factors, the first of which is the ability of the population to benefit from and benefit from Internet-based assistance.

The subsequent variable is the ability of the public authority to implement e-government to address the issues of residents and Internet guests. Thus, since residents are the main customers of e-government services [3], it is important to understand the variables that influence the population's reception of e-taxpayer-led organizations. In any case, regardless of the development progress of e-government, low-level resident reception of e-taxpayer-led organizations has been achieved and established in developing countries [2]. E-government frameworks are still in their infancy in most non-industrialized countries and face many difficulties related to receipt, implementation, and use. Middle Eastern countries, as a feature of non-industrial countries, faced many difficulties that mitigated the implementation and reception of e-government initiatives [9].

Nomadic e-countries have received little attention and studies to analyse the reception and use of e-government [2], [10], [11]. In this specific circumstance, some investigations examined the variables that affect the population's reception of e-government in Middle East countries through the use of different models and hypotheses [1], [11] - [16]. However, a binding e-government model has not been defined to account for these variables [17]. Again, the current e-government reception models do not satisfactorily understand the requirements of citizens [18]. In general, despite the enormous capacity of the project, the population of online taxpayer-supported organizations at this stage has not been received in the Arab countries [10]. Besides, there is an absence of studies that investigate and investigate customer reception and use according to alternative viewpoints, as well as the absence of comprehensive systems explicitly established for such analysis [1], [8]. This gap is critical and requires a lot of revenue and efforts by countries to distinguish between real variables and huge variables that raise the level of mindfulness of the resident and increase their goal to take over and benefit from the electronic administrations provided by legislative bodies.

II. THE ADOPTION OF E-GOVERNMENT

Residents' reception of e-government is characterized as the goal or ability of residents to benefit from e-government data and its management. Fakhruzzaman and Dimitrova [19] showed that the variables that affect the reception of residents in the e-government may come either from the public authority or from the side of the population. Al-Hajar et al. [20] Compilation of e-government reception on the supply side and the demand side. The equity aspect studies the variables that affect the reception of electronic taxpayer-led enterprises by government associations. These elements include monetary assets, IT organization, talented actors, inadequate approach/direction, and protection from change. An interesting aspect studies the factors affecting the reception of organizations led by electronic taxpayers by the population. These include ease of use, visibility of use, experience, trust, and culture, lack of acceptance of sufficient progress, and low scores of ICT knowledge [20], [21].

Residents' reception of e-taxpayer-led organizations is an important issue for e-government drivers' outcomes. Low-level resident reception of organizations supported by electronic taxpayers in developed countries has been realized and established [2]. Sari et al. [5] expressed that a major obstacle to the successful implementation of e-government is the lack of reception and use of e-taxpayer-led organizations by end customers. Mensah et al. [7] explained that e-government projects mostly vanish in light of the fact that people's requirements and necessities are not taken into consideration during e-government plans and implementation. The progress of electronic taxpayer-supported organizations depends on the capacity and recognition of the population to take over these departments and the low reception rates mean that the population hates the efficiency and cost advantages [22].

Little consideration has been given to the analysis of e-government reception and uses in agricultural countries in general and nomadic countries in particular [2]. In particular, low consideration has been given to the aspect of interest [18], [20], [23].

2.1 E-Government Adoption in Arab Countries

Despite spending huge amounts of cash and sending various ICT programs, most Middle East countries faced various difficulties that facilitated the implementation and reception of their e-government initiatives [9]. The outcome of these campaigns depends on government support as well as on the population's ability to recognize and benefit from e-government services [24]. As a rule, all electronic legislatures of the nomadic country face unique and somewhat comparable difficulties during the implementation and reception of electronic states. Through this, some countries have made advanced strides in improving e-government.

Bahrain and the United Arab Emirates achieved advanced positions among the established nations around the world, followed by Saudi Arabia, Kuwait, Oman, and Qatar, while others are towards the lower end [25]. There is an unusual body of literature examining e-government in established nations, however, e-government in non-industrialized nations, as a rule, and nomadic nations, specifically, has not received similar attention [5], [24]. Rarely have any examinations investigated the variables affecting the reception and use of Internet administrations in the nomadic world [2], [9], [11]. Table 1 presents a survey of the elements that affect the reception of the population in a few Arab countries.

Table 1: Factors Affecting Citizens Adoption in Arabic Countries

No.	Author	Country	Affecting Factors
1	Alghamdi ((2016)	Saudi Arabia	Perceived benefits, user's education level, regulations and policies, system quality, service quality, socio-cultural factors, perceived simplicity[1]
2	Shatat (2017) studied	Oman	Usefulness, ease of use, cultural and social issues, awareness, trustworthiness, security, privacy[16]
3	Alkhusaili and Aliazzaf (2020)	Qatar	Lack of access to e-services, security, trust, individual differences, digital divide[16]
4	Alkhusaili and Aljazzaf (2020)	Bahrain	Lower education, computer skills, services reliability, websites efficiency, website security, financial data safety[16]
5	Mohamed and Mesbah (2016)	Egypt	Vision, leadership, training, collaboration, awareness, ICT and IT standards [26]
6	Rabaai et al. (2015b)	Kuwait	Perceived usefulness, perceived ease of use, computer self-efficacy, subjective norm, perceived credibility, attitude, behavioural intension[9]
7	Nasri (2019)	Tunesia	Perceived usefulness (social influence, awareness), perceived ease of use (quality of Internet connection)[27]
8	Ahmed et al. (2015)	Sudan	Perceived ease of use, perceived usefulness, advertising and services quality[28]
9	Al Mansoori et al. (2018)	Abu Dhabi- Emirati	Performance expectancy, Internet trust, effort expectancy, facilitating conditions, trust [29]
10	Shouran et al. (2021)	Libya	Relative Advantage, Compatibility, Image and Usefulness, Ease of Use, culture, security, privacy, ICT infrastructure, awareness, ICT skills, services quality, organizational factors, user expectation, trust[30]

It is seen from Table 1 that the variables that affect the reception of residents in Arab countries include innovation (ICT framework, ICT capabilities, access), seen value, experienced interest in comfort, social and social issues, trust, security, protection, and site mastery Quality management, client education, advanced gap, strategy and guidelines, hierarchical elements and authority. Focus on these variables is made by a few scientists who reveal their enormous influence. However, the reception of the inhabitant still goes beyond the desire that may appear as two issues. The main issue is those Arab state-run administrations do not consider these variables while preparing and implementing e-government. The subsequent problem is that there are various elements that are not sufficiently explored.

2.2 E-Government adoption in Jordan

Like other non-industrial countries, Jordan has a low reception of organizations led by electronic taxpayers by residents. Although the Jordanian government is looking to upgrade its administrations and reduce usable expenditures, the egovernment has not yet fully invested in achieving its goals [15]. Jordan has shown great progress in improving the etaxpayer-supported institutions in the country, but this development has also been accompanied by a noticeable absence of improving e-governance arrangements. In any case, the development was not enough for Jordan to deal with different countries, especially in the West Asia region, which achieved better results due to the continuous improvement within the framework of the communications and web management components [23].

Jordan's e-Government is seen as genuine regardless of the many upgrades and changes that come before it. Jordan is seen as one of the lagging countries on the planet in implementing the e-government mission, and it has not achieved good results even at the level of its region. The efforts of the public authority alone are not sufficient to make progress in e-Jordan and need more courses, support, and social awareness [31]. Jordan actually faces formative difficulties, and the continued use of online administrations is not quite as limitless as the public authority wants [22]. It is clear that e-government projects and e-support campaigns are slowing down in Jordan and facing many difficulties. Jordan lags in the use of ICTs to bring taxpayer-supported organizations to the Internet and open channels for electronic cooperation [32]. Jordanian e-government websites need consistency in terms of principles and salient points that can develop cooperation with the user [14].

The overall use of these sections is still low despite the fact that the number of web clients has expanded, and there have been upgrades in speed and quality. As pointed out by Al-Rawahneh et al. [33] An entire report covering the whole of Jordan revealed that more than 60% of (4,294) respondents (residents) had no idea about the organizations supported by e-taxpayers and that the most shocking result was that 70% of individuals who used e-Government departments think this is not helpful. Al-Rawahneh and others. [33] He also noted that another person concentrated in northern Jordan indicated that the use of e-government represented 36% of the example. According to Noval et al. [34], A general review showed that more than 75% of respondents had no information on taxpayer-supported initiatives or websites, and over 85% of them did not visit an e-government website to obtain any data. Individuals seem reluctant to use online administrations and this has become an increasing problem for countries that need to plan systems to enhance customer commitment to such services [22].

According to Abdalat et al. [4], It was found that customer satisfaction plays an essential role in expanding the pace of reception of public electronic administrations in Jordan by maintaining five productivity factors. These variables included trust, security, protection, familiarity with public administrations, availability, and the nature of public administrations. In any case, there is certainly not a lot of exploration looking into the particular ratings of customers who are associated with their desire to take advantage of online services [22]. Table 2 provides a survey of the elements that affect the reception of residents in Jordan.

Table 2: Factors Affecting Citizens Adoption in Jordan

No.	Author	Significant Affecting Factors
1	Alomari et al. (2012)	Website design, trust in government, complexity, beliefs, and perceived usefulness[35]
2	Al Hujran et al. (2013)	Perceived ease of use, perceived usefulness, trustworthiness and user's satisfaction[20]
3	Alomari et al. (2014)	Digital divide, resistance to change, wasta (favouritism) and word of mouth (WOM)[13]
4	Al-Hujran et al. (2015)	Citizen attitude, perceived public value and perceived ease of use[2]
5	Rabaai (2015a)	Perceived credibility, perceived usefulness, perceived ease of use and computer self-efficacy[24]
6	Al-Refnie and Ramadna (2017)	Technology factors (language option on web site, user-friendly platforms, inflexibility of legacy systems, architecture interoperability, integrating information systems, compatible technical standards reliable access)[36]
7	Sari et al. (2017)	System quality, information quality, service quality[5]
8	Al-rawahna et al. (2018)	Lack of IT infrastructures readiness, information quality, system quality, service quality[15]
9	Alrawabdeh (2017)	Ease of use, access to the Internet, trust[14]
10	Almaiah and Nasereddin (2020)	Website quality, trust of Internet, trust of government, performance expectancy, effort expectancy and facilitating conditions[22]
11	Nofal et al. (2021)	Perceived ease of use, perceived usefulness, service quality, transparency, trust[34]

Table 2 shows that the variables that affect the reception of residents of e-government in Jordan are similar to those in Table 1 associated with the Arab countries. In any case, nothing expands the reception of the population yet [35]-[42]. It is important to research and look in-depth at the variables that help build the goal of benefiting from the institutions led by the e-government.

III. CONCLUSION

Regardless of the broad receivables and advantages of using ICT, many Middle Eastern countries have faced many privatizations and challenges in implementation. The difficult climate should motivate the Bedouin countries to adapt and overcome these difficulties to achieve a fruitful e-state. The absence of e-government institutions' reception by residents is a sign of the lack of e-government use and its unproductive implementation of e-government. As a matter of fact, legislatures cannot develop e-management transfer if the administrations are not used by the population. Productive egovernment and the transfer of first-class internet-based administrations cannot be implemented without understanding the needs of the population and how to build their fulfilment and ability to benefit from e-governments. It is expected that further exploration will investigate the variables that affect the population's reception of e-benefits and promote a unified model for e-government reception, especially for Arab countries since they have many similar characteristics, political variables, and financial and social elements. elements.

REFERENCES

- S. A. Alghamdi, "Key factors influencing the adoption and utilisation of E-Government systems and services in Saudi Arabia," University of Sussex, 2017. [Online]. Available: http://sro.sussex.ac.uk/id/eprint/68231/
- O. Al-Hujran, M. M. Al-Debei, A. Chatfield, and M. Migdadi, "The Imperative of Influencing Citizen Attitude toward E-Government Adoption and Use," Comput. Hum. Behav., vol. 53, no. C, pp. 189–203, Dec. 2015, doi: 10.1016/j.chb.2015.06.025.
- M. Z. I. Lallmahomed, N. Lallmahomed, and G. M. Lallmahomed, "Factors influencing the adoption of e-Government services in Mauritius," 3. Telematics and Informatics, vol. 34, no. 4, pp. 57–72, 2017, doi: 10.1016/j.tele.2017.01.003.
- W. I. M. Alabdallat, "Toward a mandatory public e-services in Jordan," Cogent Business & Management, vol. 7, no. 1, p. 1727620, 2020, doi: 10.1080/23311975.2020.1727620.
- Sari, M. Akkaya, and B. Abdalla, "Assessing e-Government systems success in Jordan (e-JC): A validation of TAM and IS Success model," International Journal of Computer Science and Information Security (IJCSIS), vol. 15, no. 2, 2017.
- K. Mensah and M. Jianing, "An Empirical Investigation of Factors Predicting the Adoption and Use of Local E-government Services: A Conceptual 6. Framework," Advances in Networks, vol. 5, no. 2, p. 31, 2017.
- 7. K. Mensah, G. Zeng, and C. Luo, "E-Government services adoption: an extension of the unified model of electronic government adoption," Sage Open, vol. 10, no. 2, p. 2158244020933593, 2020.
- Sampson, H. Bakht, and A. Desta, "The factors affecting citizens' adoption of e-government systems in developing countries: Nigeria case study," 8. Journal of Computing and Management Studies, vol. 2, no. 1, pp. 51-71, 2018.
- Rabaai, B. Zogheib, A. AlShatti, and E. M. AlJamal, "Adoption of e-government in developing countries: the case of the state of Kuwait," Journal of Global Research in Computer Science, vol. 6, no. 10, 2015.
- S. A. Alateyah, V. Chang, R. Crowder, and G. Wills, "Citizen intention to adopt e-government services in Saudi Arabia," pp. 38–45, Jan. 2014. Shatat, "Factors affecting the adoption and usage of online services in Oman," Journal of Internet Banking and commerce, vol. 22, no. S7, p. 1,
- M. Al-Shboul, O. Rababah, M. Al-Shboul, R. Ghnemat, and S. Al-Saqqa, "Challenges and Factors Affecting the Implementation of E-Government in Jordan," Journal of Software Engineering and Applications, vol. 07, no. 13, pp. 1111-1127, 2014, doi: 10.4236/jsea.2014.713098.
- M. Alomari, K. Sandhu, and P. Woods, "Exploring citizen perceptions of barriers to e-government adoption in a developing country," Transforming Government: People, vol. 8, Sep. 2014, doi: 10.1108/TG-05-2013-0013.
- Wasfi, "E-Government Diffusion in Jordan: Employees' Perceptions Toward Electronic Government in Jordan," Am J Appl Sci, vol. 14, pp. 124-133, Sep. 2017, doi: 10.3844/ajassp.2017.124.133.
- S. M. Al-rawahna, S.-C. Chen, and C.-W. Hung, "The barriers of e-government success: An empirical study from Jordan," Available at SSRN 3498847, 2019.
- M. M. Alkhusaili and Z. M. Aljazzaf, "The Evolution of E-government Project in GCC Countries."
- N. P. Rana, Y. K. Dwivedi, B. Lal, M. D. Williams, and M. Clement, "Citizens' adoption of an electronic government system: towards a unified view," Information systems frontiers, vol. 19, no. 3, pp. 549-568, 2017.
- D. W. Jacob, M. F. M. Fudzee, M. A. Salamat, and T. Herawan, "A review of the generic end-user adoption of e-government services," International Review of Administrative Sciences, vol. 85, no. 4, pp. 799–818, 2019, doi: 10.1177/0020852319861895.
- M. N. Fakhruzzaman and D. v Dimitrova, "Factors influencing e-government adoption in indonesia: The importance of perceived risk," Journal of Advanced Research in Dynamical and Control Systems, vol. 12, no. 6 Special Issue, pp. 125-131, 2020, doi: 10.5373/JARDCS/V12SP6/SP20201015.
- O. al Hujran, A. Aloudat, and I. Altarawneh, "Factors Influencing Citizen Adoption of E-Government in Developing Countries: The Case of Jordan," International Journal of Technology and Human Interaction (IJTHI), vol. 9, no. 2, pp. 1-19, 2013, doi: 10.4018/jthi.2013040101.
- D. Frost and B. Lal, "E-government project design in developing countries," in International Working Conference on Transfer and Diffusion of IT, 2018, pp. 155–176.
- M. Almaiah and Y. Nasereddin, "Factors influencing the adoption of e-government services among Jordanian citizens," Electronic Government, an International Journal, vol. 16, p. 236, Sep. 2020, doi: 10.1504/EG.2020.108453.
- R. Al-Soud, H. Al-Yaseen, and S. H. Al-Jaghoub, "Jordan's e-Government at the crossroads," Transforming Government: People, Process and Policy, vol. 8, no. 4, pp. 597-619, Jan. 2014, doi: 10.1108/TG-10-2013-0043.
- Rabaa'i, "An Empirical Investigation on the Adoption of e-Government in Developing Countries: The Case of Jordan," Computer and Information Science, vol. 8, no. 3, pp. 83-102, Sep. 2015, doi: 10.5539/CIS.V8N3P83.
- H. Mohamed, E. Hatem, and G. Sherine, "E-Government in Arab countries: challenges and evaluation," IOSR J. Comput. Eng.(IOSR-JCE), vol.
- M. Mohamed and S. Mesbah, "Effective e-Government and Citizens Adoption in Egypt," Int J Comput Appl, vol. 133, no. 7, pp. 7–13, 2016.
 W. Nasri, "E-government adoption in Tunisia extending technology acceptance model," International Journal of Public Administration in the Digital Age (IJPADA), vol. 6, no. 4, pp. 30-42, 2019.
- T. Ahmed, N. Alhadi, and M. E. Seliaman, "Acceptance of e-Government Services in Sudan: an Empirical Investigation," in 2015 International Conference on Cloud Computing (ICCC), 2015, pp. 1-4. doi: 10.1109/CLOUDCOMP.2015.7149625.
- al Mansoori, J. Sarabdeen, and A. L. Tchantchane, "Investigating Emirati citizens' adoption of e-government services in Abu Dhabi using modified UTAUT model," Information Technology & People, vol. 31, no. 2, pp. 455-481, Jan. 2018, doi: 10.1108/ITP-12-2016-0290.

- Z. Shouran and others, "The Specific Factors Influencing The Intention Of Electronic Government Services For Libyans," Turkish Journal of Computer and Mathematics Education (TURCOMAT), vol. 12, no. 10, pp. 5065–5076, 2021.
- 30. M. Alqudah and L. Muradkhanli, "INTERNATIONAL JOURNAL OF MULTIDISCIPLINARY: APPLIED BUSINESS AND EDUCATION RESEARCH E-government in Jordan and Studying the Extent of the E-government Devel-opment Index According to the United Nations Report," International Journal of Multidisciplinary: Applied Business and Education Research, vol. 2, pp. 365–375, Sep. 2021, doi: 10.11594/ijmaber.02.04.04.
- 31. E. Abu-Shanab and R. Al-Dalou, "An Empirical Study of E-Participation Levels in Jordan," International Journal of Information Systems & Social Change, vol. 7, pp. 63–79, Sep. 2016, doi: 10.4018/IJISSC.2016010104.
- 32. S. M. Al-rawahna, S. Chen, and C.-W. Hung, "The Barriers of E-Government Success: An Empirical Study from Jordan," 2018.
- 33. M. I. Nofal, A. S. Al-Adwan, H. Yaseen, and G. A. A. Alsheikh, "Factors for extending e-government adoption in Jordan," Periodicals of Engineering and Natural Sciences (PEN), vol. 9, no. 2, pp. 471–490, 2021.
- 34. M. Alomari, P. Woods, and K. Sandhu, "Predictors for e-government adoption in Jordan: Deployment of an empirical evaluation based on a citizen-centric approach," Information Technology & People, vol. 25, pp. 207–234, Sep. 2012, doi: 10.1108/09593841211232712.
- 35. Al-Refaie and A. M. Ramadna, "Barriers to E-Government Adoption in Jordanian Organizations from Users' and Employees' Perspectives," International Journal of Electronic Government Research (IJEGR), vol. 13, no. 1, pp. 33–51, 2017, doi: 10.4018/IJEGR.2017010103.
- 36. El-Ebiary Y.A.B., Ghanem W.A.H.M., Saany S.I.A., Rose A.N.M., Jusoh J.A., Yusoff M.H. (2022) The Influence of E-Commerce in Encouraging the Tourism Industry in Malaysia. In: Al-Emran M., Al-Sharafi M.A., Al-Kabi M.N., Shaalan K. (eds) Proceedings of International Conference on Emerging Technologies and Intelligent Systems. ICETIS 2021. Lecture Notes in Networks and Systems, vol 299. Springer, Cham. https://doi.org/10.1007/978-3-030-82616-1_33.
- 37. Y. A. Baker El-Ebiary et al., "E-Government and E-Commerce Issues in Malaysia," 2021 2nd International Conference on Smart Computing and Electronic Enterprise (ICSCEE), 2021, pp. 153-158, doi: 10.1109/ICSCEE50312.2021.9498092.
- 38. Y. A. B. El-Ebiary et al., "Determinants of Customer Purchase Intention Using Zalora Mobile Commerce Application," 2021 2nd International Conference on Smart Computing and Electronic Enterprise (ICSCEE), 2021, pp. 159-163, doi: 10.1109/ICSCEE50312.2021.9497995.
- M. B. Mohamad et al., "Enterprise Problems and Proposed Solutions Using the Concept of E-Commerce," 2021 2nd International Conference on Smart Computing and Electronic Enterprise (ICSCEE), 2021, pp. 186-192, doi: 10.1109/ICSCEE50312.2021.9498197.
- P. R. Pathmanathan et al., "The Benefit and Impact of E-Commerce in Tourism Enterprises," 2021 2nd International Conference on Smart Computing and Electronic Enterprise (ICSCEE), 2021, pp. 193-198, doi: 10.1109/ICSCEE50312.2021.9497947.
- 41. Aseh et al., "The Future of E-Commerce in the Publishing Industry," 2021 2nd International Conference on Smart Computing and Electronic Enterprise (ICSCEE), 2021, pp. 199-205, doi: 10.1109/ICSCEE50312.2021.9498175.