

# Review on Factors Affecting Digital Citizen Experience While Using Online Government Services

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### ABSTRACT

**Purpose:** *The Digital Citizen Experience is the Interaction between the government and citizens via various channels that generate mutual value. Governments can create meaningful experiences for individuals, communities, and businesses by merging organizing ideas and user experiences. As a result, value propositions and trust are created. Citizens and Government benefit from digital interactions in public services. These interactions assist municipalities in simplifying the citizen experience and engaging the community while ensuring public service continuity in times of crisis. Furthermore, automating ongoing tasks frees up employees to concentrate on citizens*

**Methodology:** *This review study explores factors affecting the citizen experience while using online government Services. Data is obtained through secondary source from journal articles and scholarly/academic research publications.*

**Finding:** *This research review outcome will identify factors such as perceived usefulness, ease to use, product experience delivery responses times, technological, login, customer support and transactional experience affect digital citizen experience. With the, e-government initiatives implemented to provide timely completion of tasks, transparency, and accountability. To make most effective judgements when digital government services, practitioners must revise their strategies*

### **Originality /Value:**

*Digital change in India has led to a new era of digital change, with information availability and openness allowing for the use of digital services. This study investigates the link between citizen experience and online government services, which also includes factors affecting Digital citizen experience while using online Citizen centric Services and Current digital citizen Experience trends.*

**Paper type:** Review paper

**Keywords:** Digital Citizen Experience, Citizen-Centric services, Factor affecting Citizen Experience, ABCD analysis.

### 1. INTRODUCTION :

The Digital Citizen Experience is the Interaction between the government and citizens via various channels that generate mutual value. Governments can create meaningful experiences for individuals, communities, and businesses by merging organizing ideas and user experiences. As a result, value propositions and trust are created. Citizens and Government benefit from digital interactions in public services. These interactions assist government in simplifying the citizen experience and engaging the community while ensuring public service continuity in times of crisis. Furthermore, automating ongoing tasks frees up employees to concentrate on citizens. Because trust is important, it's critical that government agencies generate holistic experiences that promote trust throughout every point of contact. An organizing concept provides focus and uniformity for the creation of experiences. It also ensures that departments keep their promises. Governments can create meaningful experiences for individuals,

communities, and businesses by merging organizing ideas and user experiences. The Internet has considerably increased the production and adoption of e-government services. The governments have been striving to innovate and modify them to better serve citizens. The current technical methods and design methodologies for service personalization put a heavy emphasis on strategies for recommendation and personalization intended to boost consumption or engagement. An ingenious task-based user classification design strategy was created by a UK local government authority using a multi-method research approach to study based on customising e-Government services for citizen and system requirements. Personalisation of eGovernment Services (PeGS) was developed and certified by experts to enable the delivery of customised electronic services in line with citizen demands and expectations. Personalization is frequently viewed as a collection of filtering and recommendation algorithms, but its viability and viability are not sufficiently explored [1]. Citizen Centric Services are critical government services offered to citizens in a transparent, reasonable, and time-bound manner. These services include Caste, Domicile certificate, Death and Birth Certificates, and others, and they enable individuals to apply for relevant benefits and programmes based on these services. The National Informatics Centre (NIC) designed an Online Citizen Services Portal. In other words, Digital Citizen Experience is the accumulation of "moments of reality" that an individual encounter when users interact with the government at each stage of their journey. It is their perspective of government based on all of their past interactions with the government, that is how they see it. This covers a wide range of activities, such as looking up services and getting new or updated licences, as well as requesting help, claiming benefits, and so on.

## **2. OBJECTIVE OF STUDY :**

The objectives of the study are outlined below.

- (1) To Determine Citizen Experience on Citizen Centric Services.
- (2) To Review factors affecting the Digital citizen experience while using online Citizen centric Services.
- (3) To study various Strategies to improve citizen Experience while providing citizen-centric services /online government services.
- (4) To Carry out ABCD listing based on the proposed review study.
- (5) To Identify research gap and research topic for further research.

## **3. METHODOLOGY :**

This review study investigates factors affecting the citizen experience while using online government Services. Data is obtained through secondary source from journal articles and scholarly /academic research publications via the Google Scholar search engine.

## **4. OVERVIEW OF DIGITAL CITIZEN EXPERIENCE TOWARDS ONLINE GOVERNMENT SERVICES :**

The acceptance of ICT has prompted governments throughout the globe to integrate public participation in their operations. Digital Citizen Engagement platform (DCE) , which use new media/digital ICTs to develop or expand communications networks is an example for ICT usage that includes citizens [2]. Though developed nations have been ahead of the curve in this regard, developing nations aren't far behind. India, too, has a Digital Citizen platform called MyGov, which is a dedicated indigenous online presence of the Government of India. On the other hand, its operation in the perspective of a developing nation may limit its influence [2]. Digital government Services provided in India, the success is determined not only by government support, as well as citizen acceptance. Adoption of online/digital government services in India is fraught with difficulties, including administrative constraints, technological obstacles, infrastructure constraints, a lack of trust in internet services, security risks, and the digital divide. Yet besides these hurdles, there are additional cultural challenges to address, such as linguistic differences, low IT literacy, hostile government websites, trouble accessing the internet, and a lack of awareness among residents [3]. Service quality, effort and performance expectancy, social pressure, favourable conditions offered and available, trust and faith in government and technology, and public happiness are the primary elements linked with online government service acceptance [3]. The Indian government has started implementing e-Governance programmes, but strategic methods are required to guarantee their size and efficacy. It is advised to identify and analyse local realities, create

citizen-centric approaches, create efficient training and capacity-building mechanisms, form strategic alliances, adhere to centralised initiatives, employ cloud - based applications, conduct sensitization workshops, encourage regional languages, and foster collaborations between the public, private, donor, and civil society sectors [4].

## **5. RELATED RESEARCH WORK :**

This review paper is entirely based on data obtained through secondary source from journal articles and scholarly /academic research publications via the Google Scholar search engine. journals published between 1991 and 2022, a comprehensive and detailed review of the published research is carried out through the use of various keywords, which include E-government service delivery or citizen centric public delivery, Use of different technology on citizen services such as AI, Cloud computing, ICT, citizen evaluation and assessment based on public services an service quality, citizen adoption towards e-government services based on citizen perspective, citizen participation, and engagement, user and citizen satisfaction, services quality, internet and user experience, self-efficacy on usage of computers, citizen awareness, effort and performance efficacy, social influence, citizen public service satisfaction during pandemic.

These research contributions are Reviewed and summarized in a descriptive and tabular format below.

### **5.1 Descriptive focus:**

- 1) This paper makes an effort to comprehend the citizen /user experience of Haryana's public delivery system. The article analyses the services and features that citizens normally want from the delivery of public services. It aims to understand how people choose between various forms of public service delivery, such as an agent, a physical government, or an online platform. According to a citizen survey carried out in the Haryana districts of Gurugram, Hisar, and Karnal, residents have a variety of considerations when selecting a method of delivering public services. These consist of the complexity of the process, availability of information, accessibility of such information, service fees, and other charges (Khasnabis., et al. 2021) [5].
- 2) This article examines how citizens experience government online services in a brainstorming session. The Malaysians took part in a design session, particularly the elderly and vulnerable people. One of the reasons for low civic involvement is the cultural notion that citizens should accept whatever the government offers them highlighting the need for a policy to be created for such a citizen co-creation environment. The finding shows that "accessibility" and "inclusive design," such as the Web Content Accessibility Guidelines 2.0AA (WCAG 2.0AA), are to be made into regulations for the development of government projects. The identification could be useful for understanding knowledge of the personalities of Malaysian individuals and designing the Digital Government (Hussein., et al. 2017) [6].
- 3) This paper's major objective was to examine how artificial intelligence enhances government and citizen services. Artificial intelligence could be a hint of how the public sector will leverage emerging digital technology in the future by enhancing citizen services and governmental operations. Early use of artificial intelligence (AI), starting with low-risk service delivery applications, may open the door for public input and participation in these and other digital capabilities (Battina, 2017) [7].
- 4) This research article's objective is to show whether citizens have a direct or indirect connection to the service affects how they rate public services. Although the impact of the type of interaction is influenced by the quality of the interaction, citizens are likely to assess services differently depending on whether they use them voluntarily or under duress. This research shows that participants of high-quality interaction with providers report high ratings and poor ratings for coercive services for elective services based on a number of empirical evaluations (Brown, 2007) [8].
- 5) The research article proposes a model for assessing the efficiency of e-governance services from the viewpoint of the citizens. The research can close the gap between citizen needs and government activities. The findings show that the quality of e-governance services and the information provided to citizens have a significant impact on their satisfaction (Singh, et al., 2018) [9].
- 6) This research article explains citizens' adoption of electronic government while considering trust and risk issues, as well as the need to address this issue with the proposed basic government. The

- article emphasizes the importance of researching developing nations' implementation of e-government services and raises awareness of emerging e-corruption issues (Malik, et al., 2014) [10].
- 7) This paper's objective is to assess the "needs" variables that effect Jordanian citizens' adoption of e-Government services. Surprisingly, governments design and launch online services based on their understanding of what citizens require, rather than measuring what increases citizens' willingness to adopt web-enabled services (Mofleh, et al., 2008) [11].
  - 8) When it comes to employing informational e-government services, citizens are very concerned about the quality of the information. Citizens' intentions to transact with the government are influenced by perceived ease of use, awareness, service quality, and transaction security. The statistical analysis concluded that citizen awareness and information quality have a strong influence on their intention to use e-Government services (Rehman, et al., 2012) [12].
  - 9) The objective of the research was to pinpoint the elements and difficulties that, from a citizen-centric standpoint, prevent successful implementation. The biggest factors affecting Kenyan citizens while using e-government services are a lack of ICT infrastructure, a low level of public participation, a lack of Internet connectivity; and a lack of government money (Otieno & Omwenga, 2015) [13].
  - 10) The study intention is to create a conceptual framework of eGovernment use as well as how it affects citizens by identifying psychological and behavioural situations as antecedents and mediators influencing Subject Well Being. It also offers practical suggestions for improving systems to correlate users' feelings and behaviour patterns to motivate trusting behaviour, positively impacting users' Subject well-being and effectively benefiting citizens (Fan., et al., 2012) [14].
  - 11) The Unified Theory of Acceptance and Use of Technology (UTAUT) paradigm was used in this study to examine the influential factors in the adoption and use of e-government services in Pakistan from a citizen perspective. Findings show that performance expectancy, effort, facilitating conditions, and social influence are the factors that affect the user's adoption of government services in Pakistan (Ahmad, et al. 2013) [15].
  - 12) The objective of this research is to investigate correlations between e-government attributes including social influence, perceived efficacy, system quality, information quality, user happiness, and desire to utilise e-government services in the United Arab Emirates (Athmay, et al. 2015) [16].
  - 13) The study intends to support growth of e-government services, also enhance knowledge of user attitudes about public services. It investigates four aspects that contribute to service quality are system function, data, privacy, security, credibility, interaction, processing, and citizen assistance. To investigate these features, a qualitative method was employed to study the links between service quality, customer pleasure, and user trust. Cross-cultural comparisons of user habits are also proposed (Alanezi et al., 2012) [17].
  - 14) The acceptability of online government services in Jordan was investigated using the UTAUT model, and it was found that website quality, internet trust, performance and effort expectations, and enabling factors all had a favourable influence on the intention to use. (Almaiah & Nasereddin, 2020) [18].
  - 15) Users' intentions to utilise and employ e-government systems are determined by trust, which impacts performance and effort expectancy, social pressure, and facilitating conditions. The researchers must utilise users' trust to leverage its full potential (Hooda et al. 2022) [19].
  - 16) Based on the UTAUT, the study examines the enablers and inhibitors of the senior population's adoption behaviour for mobile government services. Examined are four constructs: self-actualization, social influence, conducive circumstances, performance expectancy, and effort expectancy. Inhibitors, according to the findings, include user aversion to changes, technology anxiety, and deteriorating physiological circumstances. This study offers a comprehensive model of how older adults adopt technology, with useful policy consequences (Talukder et al., 2020) [20].

**Table 1:** Related Work on Online Government Services According to Literature Review.

S. No.	Area / Field of Research	Focus	Outcome	Reference
1.	Online Government Services /e-government services	The paper focus on challenges faced by online government services at the stage of implementation and promotion.	The article explores the significance of ICT, in addition to their shift from traditional government functions towards a more efficient, transparent, and accessible method of providing fundamental services to citizens. It recommends implementation frameworks, for the online government services development to eliminate corruption and promote efficiency, and the improvement of effectiveness through the integration of performance evaluation and design and development processes. It implies a synergy between the public and private areas is required for the effective deployment of online government services on a broad scale and this will promote the spread of an ICT network throughout the country.	Patel, H., & Connolly, R. (2015). [21]
2.	Online Government Services	The study focus to reduce digital gap in online government services.	The paper's objective is to examine the digital gap in Canada as it relates to digital government services. Because digital equity has welfare consequences, it is an essential issue to consider. The researcher analyzes the factors influencing use of online government services by means of a bivariate logit model. Females who can't communicate in official languages English those who live in rural regions, and individuals who fall into the lower quantiles of average earnings face severe disadvantages, according to the findings. Public policy initiatives such as rural infrastructure development, digital equality enhancement, and simplifying e-government access can all assist to solve this issue.	Singh, V., & Chobotaru, J. (2022). [22]

3.	Online Government Services	Digital shift in public service delivery.	This article highlights the digital shift that governments and organizations are now experiencing in order to offer public services online by leveraging digital technologies and social media. It focuses on three major issues in delivery of services are user involvement, planning, management, costs. It also discusses the advantages of digital service delivery, which includes expanded audiences and new methods of connecting with users, and it also addresses issues that require greater debate and investigation.	Agostino et al. (2020). [23]
4.	Online Government Services	The paper focus on age-related restrictions to internet access, younger individuals are frequently prevented from accessing public services.	The researcher argues the need of tailoring electronic service delivery to the requirements, preferences, and skills of public service consumers. To prevent the disadvantage of vulnerable service users, it is necessary to recognize the socially formed and locally placed character of media consumption, as well as to invest in providing support and assistance in order to access the online digital media.	Sourbati, M. (2009). [24]
5.	Trust in Online Government Services	The paper's objective is to examine Usage of online government services that entail two-way interaction between the government and citizens.	According to the findings, Online government service users may be distinguished from non-users by a number of essential characteristics, including trust and confidence with in government and the internet as a provider of e-services. Each of these criteria are also strongly associated to readiness to begin using online government services. It has been found that trust and confidence in e-service provider, as compared with trust in the internet, is discovered to be more important differentiator between users and non-users, and that it also has a higher correlation with the desire to start utilizing e-government services.	Mpinganjira, M. (2015). [25]

**Table 2:** Related Work on Factors Affecting Digital Citizen Experience While Using Online Citizen Centric Services According to Literature Review.

S. No.	Factors	Focus	Outcome	Reference
1.	Internet Experience	Citizen's willingness to adopt of e-government services is influenced by their Internet Experience.	The research modified and used the UTAUT paradigm, to explore the elements influencing people's acceptance of electronic government and the moderating impacts of internet usage among citizens. The results showed that participants' behavioural intentions to use online government services are motivated by a desire to do so. the elements like social influence, effort and performance expectations, and participants' internet experiences have an impact on these elements.	Sabraz Nawaz, et al. (2015). [26].
2.	Internet Experience	Internet users' experiences influence their adoption of mobile payments	Users' intentions to use mobile payments are significantly influenced by their past experiences using computers and the Internet for financial purposes. The researcher investigated the mediating role of variables in the correlation between experience of internet and the acceptance of mobile payments which include perceived usability and usefulness, compatibility, risk potential, and privacy issue.	Su., et al., (2018). [27]
3.	Citizen trust	Citizens' trust affects the acceptance of eGovernment successfully	The goal of this study is to acquire more about how gender, age, & internet experience disparities among individuals impact citizens' trust in the usage of e-government. The study conclusion showed that, in comparison to men, women are more self-assured and have a more favourable opinion of online services. Results also indicate a positive impact of internet usage on citizens' trust.	Alzahrani., et al. (2018). [28]
4.	User experience	Citizen preference for emotional design	At the time of the growth of electronic government, the researcher argues that citizen experience is essential. Participatory services and citizen engagement are expected at the highest maturity level. This becomes critical as the nation's digital natives mature, assert their responsibilities as responsible	Noor, et al. (2016). [29]



			citizens who anticipate interacting with the government using the same user interface they are accustomed to. The researcher observes the impact of positive emotion features on citizens' decisions to use government websites/portals and found out that most participants, who are mostly digital natives, preferred sites with positive emotion features. This result indicates a preference for emotional design among digital natives.	
5.	Citizen User Experience	Assessing user experience in e-government website.	The findings demonstrated that determining user satisfaction at the current was simpler when EGPAM measurement was used to evaluate the user experience.	Faisal., et al. (2016). [30]
6.	Computer experience	The impact of self-efficacy-the conviction that one can use a computer to successfully complete particular tasks on computer use	Self-efficacy, perceived usability and usefulness, and usage were found to be significantly enhanced by computer experience. Computer anxiety and organizational support only a minimal direct impact on usage, mostly through perceived usefulness. According to the expanded technology acceptance model (TAM), states that Perceived usefulness has a significant direct influence on usage.	Igbaria., et al. (1995). [31]
7.	Trust & Internet experience	The focus on using e-government services factors such as citizen acceptability, innovation, and trust	Regarding the perception of trust on the internet, users who believe that if the internet's reliability and security are poor, the probability of utilizing e-government services will be lower. If a person has a favorable experience with online government service, they are much more likely to continue using it and other comparable services. By clearly stating their privacy policies on their websites, government agencies may convince the public that e-services are reliable and raise trust levels. A bad experience brought on by a lack of service, incorrect information, or a technological problem will very certainly have the opposite effect and discourage	Carter & Belanger (2005). [32]

			the citizen as well as other citizens from adopting.	
8.	Citizen Trust	Model of citizen trust in electronic government.	The study's outcomes highlight major variables that affect public trust include perceived utility, perceived simplicity of usage, perceived security & risk. The goal of purely digital service delivery will continue to be difficult to achieve without customer confidence in government portals, procedures, information, as well as other aspects of government. The trust model has a good tendency to be reliable, strong, and have a high level of confidence. Because of e-trust government issues, some people might decide not to use the government services offered on online portals.	Liu, Y., & Zhou, C. (2010). [33]
9.	Citizen Trust	The evolution of citizen trust and the influence of ICT	Government performance and openness are mediators between transformation and citizen trust, influencing adoption of ICT.	Mahmood., et al., (2020). [34]
10.	Citizen-Centric Services Awareness	E-Government Acceptance from a citizen perspective	Accessibility to ICTs, Internet use, awareness of accessible online government services are faced with significant obstacles in the Philippines. The study's objective is to track evolution of e-governments and improve public accessibility to government information and services. Only 35% of respondents said they were aware of government websites, and only 9% said they used them. Through government websites, people most frequently obtain information or services about social security benefits, work or job applications, and health services. The two most typical issues cited by e-government users were technical failure and a delay in answering questions or providing services.	Urbina & Abe, (2017). [35]
11.	Service quality	Overview of public service user satisfaction based on the expectancy disconfirmation model	The evaluation of the citizen's satisfaction is the main goal of this article. An analysis of all previous research showed that satisfaction is an indicator of beneficiaries' expectations and	Chatterjee and Suy (2019). [36]

			their perceptions of the services' quality they received. The amount of research done in the field of citizen satisfaction appears to be expanding steadily.	
12.	Citizen-Centric Services Awareness	Awareness of digital government services for personalizing information to citizen	The acceptance of e-government is examined, along with the elements that affect citizen awareness of and adoption of the service by many researchers. The creation of a citizen-centric approach is also discussed in the paper as a way to strengthen the bond between citizens and government. In order to accomplish information personalization, the paper considers the need to provide into account the need in providing service to citizens.	Prima and Ibrahim (2011). [37]
13.	User Experience	User satisfaction for M-government services	According the research paper, the growing use of smart devices makes. Today, it is crucial to assess how satisfied users are with M-government services. The study suggests continuously enhancing government portal evaluation procedures to make sure they meet challenges. Usability, interactivity, consistency, information, accessibility, privacy, and security make up the six quality constructs that are suggested & can be used by government organizations to gauge user satisfaction.	Desmal et al. (2022). [38]
14.	Citizen Perspective	The Malaysian perspectives based on awareness of electronic government	This research focuses on the three most significant aspects of awareness: the directory, information on the services provided by government organizations, and instructions for non-commissioned forms. People feel that e-government implementation will make finding information and doing transactions easier, but there is still ambiguity about whether it will boost the government's service quality or engagement with citizens. Citizens mentioned lack of promotion and exposure as the key factors for their lack of	Mohamed Farouk & Shafee Kalid (2005). [39]

			awareness in response to low-usage consumers.	
15.	Public service delivery satisfaction	The research tries to identify factors influencing citizen satisfaction with public service delivery during pandemic outbreaks.	Through evaluating data, this study enhanced the existing knowledge base. the characteristics of the transformational government model's citizen-centric demands: openness, responsiveness, transparency, and engagement in citizen satisfaction.	Mohd Wahid et al. (2020). [40]
16.	Citizen satisfaction and citizen trust	This article explores the connections between Internet use, citizen satisfaction, and trust in the electronic government.	Internet usage is correlated to citizen satisfaction & trust in online government services. Results show a positive association between web portals and e-government satisfaction and the use of government websites. Despite the fact that the electronic transmission of information (transparency) is typically well received by the public, there is considerable dissatisfaction with the transactions and interactive features of websites. This study concludes that key elements of E-government initiatives, such as transparency, interaction, and transaction, are crucial elements that directly and indirectly influence trust.	Welch et al. (2004). [41]
17.	Citizen Trust	This research aims to determine how trust among citizens affects the acceptance of eGovernment services.	It was determined that citizen' trust in eGovernment services was influenced by their trust in the Internet & government, competence, goodwill, transparency, and social influence.	Albeshar & Brooks, (2016). [42]
18.	Citizen perspective and trust	The research tries to identify Major elements that affect citizens' trust in e-government.	According to the outcomes of this research, citizens' aspects of trust, including conduct, values, gender, experience, qualification, and belief in systems, receive minimal consideration in the trust in e-government, particularly internet and government trust, .	Alzahrani et al. (2017). [43]
19.	Citizen attitude	The focus of this paper is increasing E-government in both developed and developing nations due to increased transparency,	Most important factor affecting whether or not a citizen would embrace and then use e-government services is their attitude. Perceived value and usability work together to influence citizen attitudes. These	Al-Hujran et al., (2015). [44]

		accountability, and public services.	findings have managerial repercussions, and the government must focus is imperative that the government focus more on how it can affect citizen attitudes.	
20.	Behavior Intention	The idea of this article is to develop integrated framework and outlines the issues that helps the growth of online government services within Pakistan.	The results suggest that initial trust, social influence, performance expectancy all positively affect behavior patterns related to using online government services in the future. The correlation between beginning trust in e-government services and trust in the internet and government. The integrative model is useful for e-government decision making in countries such as Pakistan that are developing to encourage citizens to use government e-services.	Azam et al. (2013). [45]
21.	Citizen intention	To explore the correlation between a number of factors such as citizen satisfaction, service quality, government trustworthiness and the adoption of online government services by the citizen.	The outcomes of this research shows that, citizen's level of satisfaction has a significant impact on whether or not they intend to use e-government services.	Al Hujran, O., et al. (2013). [46]
22.	Service quality	The intention of this paper is to investigate the elements that impact Malaysian people' inclinations to utilize electronic filing.	The overall quality of service is essential to user for acceptance of digital government services. Users' expectations for service quality in the digital environment differ from those in the conventional environment. citizens or businesses may be pleased with current services, whereas in the digital environment, This issue may be entirely different in the tax industry. This is due to the fact that citizens will have a different experience with online services that are not available in a traditional environment.	Hussein et al. (2011). [47]
23.	Service quality	The study focuses on issues with the users' perception of the quality of e-Government services.	This study found that citizens' perceptions of the quality of online services have a significant impact on how they perceive the quality of traditional or offline	Fan& Yang, (2015). [48]

			services, and that perceptions of the quality of online services have a significant impact on citizens' satisfaction with e-Government services overall. Furthermore, the impression of offline service quality has some favorable effects on citizen satisfaction with e-Government services.	
24.	Computer self-efficacy	This article focus on computer self-efficacy and E-governance service acceptance.	Computer self-efficacy was an key indicator and as a direct impact on usage intention.	Mensah & Mi, (2019). [49]
25	Service Quality	This paper suggests a conceptual model for evaluating the quality of eGovernment services and identifies the correlation between user happiness and trust and the quality factors underlying online government services.	The research proposes a theoretical framework for assessing the quality of eGovernment services, based on eleven stream aspects found in current literature. Efficiency, service availability, privacy, fulfilment, interaction, personalization, format, information, response, contact, and process time are among these factors. The results of this study may raise e-service managers' knowledge of the value of high-quality e-government service. and assist them in improving performance and effectiveness.	Alanezi et al. (2011). [50]
26.	Computer self-efficacy	The corelation between information technology use as well as societal outcomes.	Computer self-efficacy is a critical aspect in Social Cognitive Theory because it influences conduct & perseverance to the face of challenges, physiological conditions, and performance. Future study should concentrate on understanding its impact on perseverance, stress, and performance.	Carter et al. (2020). [51]
27.	Citizen centric services awareness	The objective of this research was to see how training and development influenced the citizen centric services delivery.	According to the findings, Service delivery training requires awareness may enhance and promote public officials performance in order for them to remain relevant to citizen's needs.	Yasien Rykleif & Robertson K. Tengeh, (2022). [52]
28.	Trust, service quality, and satisfaction	The influence of service loyalty in e-government services on service quality, trust, and satisfaction	The three causes that directly affect user loyalty to e-government services the most are service quality, trust in the government, and citizen satisfaction, with service	Alkrajji, A., & Ameen, N. (2022). [53]

			satisfaction having the least significant impact.	
29.	Citizens' Trust	The paper focuses on usage of social media by the government agency and the government response to COVID-19 also strengthen citizens trust.	This study's objective was to examine into the methods used by the government to react to the COVID-19 survey as well as the moderating impacts of social media distribution of quality information by government organizations. The results demonstrated that excellent governance practices have a both a direct and an indirect connection with public's trust in the government when employing PGRC as a mediator. The findings demonstrated that the public's perception of the government's response to COVID 19 (PGRC) and the government agencies' dissemination of accurate information on social media both had an impact on their perception of the government's credibility. This report offers organizations and decision-makers insightful, strategic guidance.	Mansoor (2021). [54]
30.	Social influence	The paper aims to explore effect of Social impact and enabling conditions based on intent to use mobile and e-services .	The study's findings suggest that e-government services' direct and indirect effects on people's willingness to use them, also including perceived usefulness and usability, were important predictors of behavioural intent to use. On the other hand, moderating elements such as age, gender, and experience didn't appear to have a significant impact on the connection between social influences and behavioural intention.	Camilleri (2020). [55]
31.	Privacy	The paper focus on the effect of privacy and trust on individual's willingness to use e-government services	Due to internet transactions lack privacy and trust, individuals frequently worry about using technology. As a result, the acceptance of these services by citizens will determine the success and readiness to embrace e-Government services.	Iqbal et al. (2019). [56]
32.	E-Risk	The article examines the effect of people's concerns about e-privacy risks on their	The research paper discovered that individuals' intentions to adopt online government services are inclined by their opinions of	Abri et al. (2009). [57]

		intentions to use e-government services.	the reliability of these services and their worries about e-privacy risk. Hence, trustworthiness may be a obstacle contribute to the effective execution of e-government service initiatives.	
33.	User Satisfaction	This researchers focused at how Chabot's that use artificial intelligence (AI) affect user experience.	According to the findings, utilitarian (information), entertainment, technological (media appeal), and social (social presence) gratifications all predicted customer satisfaction with chatbot services. Privacy risk perception associated with online Chabot use reduced user satisfaction, and user satisfaction positively impacted continued use intention and customer loyalty.	Cheng & Jiang, (2020). [58]
34.	Citizen satisfaction / User satisfaction	This paper explored the relationship between e-government attributes information quality, service quality, and system quality and user satisfaction in using e-governmental services in the UAE.	The data revealed that there was a direct influence on users' satisfaction. The results can be utilized to inform policymakers and develop particular policies to satisfy people's needs.	Obaid and Ahmadb (2022). [59]
35.	Effort and Performance expectancy	The UTAUT model was used to assess the effect of two variables, performance expectancy and effort expectancy, on the intention to embrace electronic government services.	The research model in employees' intentions to use E-government. Employees' intentions to use electronic government are significantly influenced by both the notions performance expectancy and effort expectancy. To ensure that employees answer to citizens' or businesses' requests for e-services in real time, the adopted system must be simplified, as well as providing them with the necessary skills to operate the mentioned system.	Alraja, et al. (2016). [60]

## 6. REVIEW OF THEORIES AND MODELS USED TO IMPROVE CITIZEN EXPERIENCE WITH ONLINE GOVERNMENT SERVICES :

Digital transformation is viewed as a strategic shift that will improve operational efficiency, competitiveness, and technical development. User experience design is a critical aspect in digital transformation success. Following are the various theories /framework/models which have been applied by different researcher in their studies supports strategies to improve citizen experience towards citizen centric or online government services.



**TAM (Technology acceptance model):**

TAM model investigates the motivations and behaviours that determine the willingness to accept new technologies, which are influenced by a number of fundamental aspects. Usefulness, intention to use, and perceived ease of use [61]. TAM is a socio-political factor that influences citizens' adoption of e-government services, with Perceived ease of use being the most influential factor. Citizens' beliefs and behavioural intentions are mediated by their attitudes about using services, and there is a positive correlation between trust, perceived public opinion, and usability. Avoiding cultural component uncertainty has a good impact on the influence as well. The authors emphasise the significance of the added value provided by individuals when using e-government services because the information given should meet their needs, be user-friendly, and inspire confidence for subsequent use [62], [63]. It found that perceived usefulness, perceived ease of use and perceived security are important to the behavioural intention towards e-Government services. The strongest factors influencing behavioural intention factors are perceived easing of use [64].

**Diffusion of Innovation (DOI):**

According to DOI paradigm, evaluating a new idea involves gathering information and reducing ambiguity. Individuals choose whether or not to use technology depending on their opinions of its relative advantage, compatibility, complexity, triability, and observability [65], [66]. Moreover, compatibility, innovation, computer self-efficacy, trust and confidence in the internet and government, and use of e-government services supported the influence of citizen desire to use those services [66].

**UTAUT Model:**

The Unified Theory Acceptance and Use of Technology (UTAUT) focuses on social aspects that affect a person's attitude and willingness to embrace a system or technology that is influenced by significant factors [68]. Expectations regarding performance, effort, social influence, facilitating conditions, and usage Conduct and conduct Desire to use [68]. Use of e-government services is significantly impacted by the relationship between trust in the Internet and government. Subsequent investigation found that the utilisation of e-government services was significantly influenced by the control of e-services and the expectation of effort [70], [71].

**Information Adoption Model (IAM):**

The aim of this model was to determine how e-government services affected citizens' intentions to use and advocate for it. To investigate how perceived information usefulness affects information adoption behaviour, the Information Adoption Model (IAM) was modified. According to the findings, perceived usefulness significantly influences the desire to use government information as well as recommendations in the future. The relevance of trustworthy and valid information provided by government entities in the midst of the epidemic is shown by the fact that information quality and reliability had a positive association with perceived utility [72].

**Theory Planned Behaviour:**

According to the Theory Planned Behavior (TPB) Model, two determining i.e., attitude towards behaviour and social influence, specifically subjective norms can influence a person's intention to carry out a certain act [73][63]. The study investigates how customers use social media to make online purchases. It looks into the connection between subjective norm, attitude, and perceived behavioural control using the Theory of Planned Behavior (TPB). The findings reveal that consumers' attitudes are not considerably affected by perceived privacy, but that subjective norms and self-efficacy-control are significantly influenced by normative belief [74].

**E-governance Service Delivery Strategic Framework:**

The strategic framework is designed to address the sustainability of an e-government initiative, specifically to provide equal access to citizens through efficient delivery mechanisms [75]. This includes a 'needs assessment' for all stakeholders, redefining work-flow and streamlining administrative processes, and using technology enablers to provide unrestricted access. The most important stage of the framework is continually expanding the project to serve the population that is geographically dispersed and enhance the functioning of current services [75].

**Public service Delivery Framework:**

According to Bhatnagar (2004), administrative corruption in the government can result in the deliberate distorting of current laws, practises, and regulations in order to provide people or businesses an unfair advantage. This has severely strained the little resources available and had a negative impact on how the government delivers public services[77]. The effect of corruption on the uptake of e-government services has received little attention from the academic community. With participants in the Public Service Delivery Mechanism depicted in the rectangles with their vulnerabilities that influence the end-user, this framework stresses a bottom-up approach in the hierarchy of service delivery mechanisms through empowering people. Suggestions and valuable recommendations are provided to improve citizens' active participation in government processes through empowerment [77]. In addition, to Improving governance through the use of ICT to deliver services to the poor, improving efficiency, accountability, transparency & reducing bribery.

**Risk perception:**

According to the theory of perceived risk, consumers are more driven to avoid problems or regrets than to maximise the usefulness of their purchases. This can be used for managers' decision taking [79].The effect of risk perception (PR) on intention to re-use (IR) e-government services results showed that Only privacy, time, psychological, but also overall emerged as negative influencers, affecting the IR government indirectly through the mediating function of perceived value and user trust. Through perceived value mediation, system quality has an indirect effect on IR [80].

**Trust:**

Trust and trustworthiness influence the decision to accept and employ e-government services. According to the findings, Aptitude, Benevolence, Integrity, Perceived Risk, Trust in the Government and Internet, and Disposition to Trust all have a favourable impact on Trust in E-Government., whereas Trust in Electronic Government adversely affects Perceived Rate and Intention to Use [81].

**7. RESEARCH GAP :**

This Research paper aims to study Factors affecting digital citizen experience while using online government services has identified the research gap. Previous research articles have been based on various E-government service delivery or citizen centric public delivery , Use of different technology on citizen services such as AI , Cloud computing , ICT ,citizen evaluation and assessment based on public services an service quality , acceptance of e-government services by the citizen based on citizen perspective , citizen participation and engagement ,user and citizen satisfaction, services quality, internet and user experience ,self-efficacy on usage of computers , citizen awareness , effort and performance efficacy , social influence , citizen public service satisfaction during pandemic .Majority of the researchers has left the significant gaps in addressing online/e- government services or citizen centric services with their digital citizen experience .

**8. RESEARCH AGENDAS :**

This research article aims to help researchers in identifying various aspects influencing digital citizen experience when accessing online government services, as well as ways for improving online citizen experience. Such study would lead to additional improvements in order to efficiently manage the government's e-government operations, as well as aid practitioners in revise their plans and make the most effective decisions when it comes to digital government services.

**(1) Factors affecting digital citizen experience while using online government services.**

This study's may be used to assist develop citizen-centric online government services and prioritise the essential aspect of citizen's experience through Perceived usefulness, easy to use, specific product experience, delivery response times, technological, login, customer support and transactional experience were among the topics mentioned. This research study will help researchers identify different factors affecting digital citizen experience while using online government services and strategies to provide better online citizen experience[82].

**(2) Citizen public service satisfaction during pandemic.**

The outbreak of COVID-19 has underlined the prerequisites, intended for a digital transformation in the areas of governance and administration. delivery of online government services, has emerged as a

critical strategy for ensuring service continuity throughout lockdowns and quarantines. This paper analyse the impact of e-governance initiatives implemented in the aftermath of the outbreak. It was discovered that these regulations guarantee timely completion of tasks, transparency, and accountability. Such research would lead to more improvement in order to effectively maintain the governments e-government operations[83].

**(3) Success Factors influence at the time of acceptance of online/ egovernment services or Citizen – centric public service.**

Government continue to struggle with the implementation online government services, and success elements such as external conditions, organisation, management, workers, citizens, and technology. The research would require to assist practitioners in revising their strategies and making the most effective judgements when digital government services [84].

**9. RESEARCH PROPOSAL :**

The article presents a proposal for a comprehensive study to be conducted to better comprehend online/e-government services or citizen centric services with their digital citizen experience after a complete analysis and assessment of the research literature.

**(a) Proposed Title:** Citizen Experience Towards Citizen-Centric Services.

**(b) Area:** Udupi and Dakshina Kannada

**(c) Target Respondents:** Citizens

**(d) Objectives:**

- (1) To identify citizen experience towards Citizen Centric Services in Dakshina Kannada district, Udupi.
- (2) To Review and analyse the strategies to improve citizen-centric services to provide a better citizen experience.
- (3) To study various online Centric Services available in Udupi and Dakshina Kannada.
- (4) To provide suggestions to provide a better citizen experience while using citizen-centric services.

**10. ABCD LISTING OF RESEARCH PROBLEM :**

The ABCD (Advantage, Benefits, Constraints, and Disadvantage) analysis framework [85] can ably assess and know any area or perceive any idea by identifying different aspects for specific determinant concerns [86]. These influencing factors/determinants are classified as advantages, benefits, constraints, and disadvantages [94] of selected key issues [87]. This concept/model/idea is investigated further in the qualitative approach using ABCD conceptual model by identifying constituent significant aspects [88][89][91]. This analysis technique provides a road map for identifying and analysing the effectiveness of online citizen-centric services to provide a better citizen experience [90][92][93].

ADVANTAGE	BENEFITS	CONTRAINTS	DISADVANTAGE
<ul style="list-style-type: none"> <li>•Accountability and transparency</li> <li>•Improved communication and coordination</li> <li>•Promotes citizen-government ties by increasing trust.</li> </ul>	<ul style="list-style-type: none"> <li>•Increased public trust</li> <li>•Increased citizen satisfaction and engagement</li> <li>•Reduced expenses</li> </ul>	<ul style="list-style-type: none"> <li>•Lack of public awareness</li> <li>•Resistant to change</li> </ul>	<ul style="list-style-type: none"> <li>•Privacy problem</li> <li>•Poor ICT literacy</li> <li>•Inadequate public awareness</li> <li>•Unwilling to change</li> <li>•Concerns about privacy</li> </ul>

**Fig. 1:** ABCD model based online citizen-centric services to provide a better citizen experience  
Source: By the author.

**11. FINDINGS :**

- (1) It was found that major issues in digital service delivery are user involvement, planning, management, costs.

- (2) According to the research, trust and confidence in the internet and the government as a supplier of e-services are important variables that set consumers of online government services apart from non-users.
- (3) Internet has increased the production and adoption of online government services, and governments have been striving to innovate and modify them to better serve citizens.
- (4) The National Informatics Centre (NIC) designed an Online Citizen Services Portal to enable individuals to apply for relevant benefits and programmes based on these services.
- (5) India, too, has a Digital Citizen platform called MyGov, which is a dedicated indigenous online presence of the Government of India.
- (6) Adoption of online/digital government services in India is fraught with difficulties, including administrative constraints, technological obstacles, infrastructure problems, a lack of trust in internet services, security concern, and the digital divide [3].
- (7) It is found that acceptance of ICT has prompted governments to integrate public participation in their operations, such as the Digital Citizen Engagement Platform (DCE).
- (8) It was found that citizens have a variety of considerations when selecting a method of delivering public services, including the complexity of the process, availability of information, accessibility of such information, service fees, and other charges. The website quality, internet trust, performance and effort expectations, and enabling factors all had a favourable effect on the intention to use.
- (9) Users' intentions to utilise and employ e-government systems are determined by trust, which impacts performance and Intention to utilise online government services is favourably influenced by behaviour patterns linked to effort anticipation, social pressure, and enabling situations.
- (10) The outcomes showed that participants' behavioral intentions to utilize electronic government services are intent by elements like social influence, effort and performance expectations, and participants' online experiences have an impact on these elements.
- (11) Individual intentions to use government services online are significantly influenced by both the views performance expectancy and effort expectancy.
- (12) User satisfaction positively impacted continued use intention and customer loyalty. For example: Privacy risk perception associated with online Chabot use reduced user satisfaction.
- (13) According to the findings, Service delivery training requires awareness may enhance and promote public officials performance in order for them to remain relevant to citizen's needs.
- (14) Users' perceptions of the quality of offline / traditional services have been found to significantly affect how they perceive the quality of services online and perceptions of the quality of online services have a considerable influence on citizen satisfaction overall e-Government services.
- (15) Self-efficacy, perceived ease of use, perceived usefulness, and usage were found to be significantly enhanced by computer experience.
- (16) Computer Self Efficacy was an important indicator and as a direct impact on usage intention. Computer self-efficacy is a critical aspect in Social Cognitive Theory because it influences conduct & perseverance to the face of challenges, physiological conditions, and performance.
- (17) The research paper discovered that individual's intentions to adopt online government services are influenced by their opinions of the reliability of these services and their worries about e-privacy risk. For example, due to internet transactions lack privacy and trust, individuals frequently worry about using technology.
- (18) E-government services have both direct and indirect effects on individuals' readiness to use them, with perceived usefulness and accessibility of use being significant predictors of behavioural intent. Moderating factors such as age, gender, and experience had no significant effect on the relationship between social pressures and behavioural intention.
- (19) Citizens mentioned lack of promotion and exposure as the key factors for their lack of awareness in response to low-usage consumers.
- (20) It was found that a citizen's attitude is the most crucial factor influencing whether or not they will accept and use e-government services [101].
- (21) According to the findings, citizens' degree of satisfaction has a substantial influence on their intention to utilise e-government services.

## **12. SUGGESTIONS :**

- (1) Provide better Digital User experience to citizen, Automated UX assessment tools are used to analyze UX metrics and also can disclose whether or not users are satisfied. Although automated techniques can be utilised to acquire insights about user behaviour, they cannot determine the cause of this observation. So that services are designed to encourage actual user behavior, design choices should be focused on what people say rather than what they do [95].
- (2) Advance Internal efficiency and Productivity, Use cloud based technology, Innovation in technology, inform the general public about the advantages of e-Government programs and develop a to Citizen Experience Management System.
- (3) To prevent the disadvantage of vulnerable service users, it is necessary to recognize the socially formed and locally placed character of media consumption, as well as to invest in providing support and assistance in order to access the online digital media.
- (4) Use data analytics or digital intelligent tools, the technique of analyzing digital data from numerous sources such as websites and mobile applications is known as digital analytics. Using digital analytics, the government and concerned departments can get a clear understanding of how users or citizens are behaving and learn where they can make improvements. Government can provide citizens and potential users/individuals with a better online experience thanks to digital analytics, which gradually contributes to the achievement of specific goals. The government can employ digital analytics as a tool for gathering, analyzing, and comparing quantitative and qualitative data. The information is then utilized to improve and adjust existing company activities in order to improve the online experience.

### **13. CONCLUSION :**

In the last several decades, India has experienced surprising growth in information technology (IT) in governance structures, the beginning of a new age of digital change of old methods of delivering citizen services. The most significant part of the digital transformation is information availability and openness, which has permitted services to be made available to ordinary citizens without the need for exploitation. Yet, there are several hurdles and roadblocks on the path to e-governance. A large number of people can now use digital services offered by the government thanks to smartphones and falling data costs. [96]. This research study will identify different factors affecting digital citizen experience while using online government services and strategies to provide better online citizen experience. Factors such as perceived usefulness, easy to use, product experience, delivery response times, technological, login, customer support and transactional experience will be taken into account. The outbreak of COVID-19 has highlighted the need for a digital transformation in the areas of governance and administration, with e-governance initiatives implemented in the aftermath of the outbreak providing timely completion of tasks, transparency, and accountability. Successful factors influence at the time of acceptance of e-government services, practitioners must revise their strategies to make the most effective judgements when digital government services [97].

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