Digital Citizen Empowerment: A systematic literature review of theories and development models

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Abstract

Governments worldwide are investing heavily in digital initiatives to develop information societies with connected and actively engaged citizens. Common problems seen with such initiatives are the creation of sustained engagement and quality of participation. We undertook a systematised literature review on the Scopus and Web of Science (WoS) databases, covering dispersed literature surrounding digital citizen empowerment from the past two decades. The objective was to gain an understanding of strategies, theories, and frameworks driving the DG initiatives aimed at Digital Citizen Empowerment (DCE).

Through our review, we could categorise the literature under four categories that represent themes or strategies of DCE: Digital Activism (DA), Multi-channel Service Delivery (MCSD), Participatory Budgeting (PB), and Deliberative Governance (DG). We explore these strategies based on the level of citizen power and participation, and the maturity of e-governance initiatives undertaken. These state–citizen interaction strategies and critical factors that can help promote or hinder such initiatives are comparatively analysed and discussed in detail. We then present a conceptual model of DCE, covering how theories from different inter-disciplinary areas of political, social, and information science influence the development of information societies and digitally empower citizens. We conclude the article by mapping action points in our conceptual model to policy objectives that target the improved delivery of empowering policy goals by practitioners, and discuss future research opportunities in the context of DCE.

Keywords: digital empowerment; e-Governance; digital society; digital activism; citizen empowerment.

1. INTRODUCTION

After the 2000s, the world shifted from New Public Management (NPM) towards 'digital-era governance' (DEG), focusing on reintegrating and transformative digital changes in administrative infrastructure to provide holistic services to citizens (Margetts & Dunleavy, 2013). These fundamentals are seen as key drivers in different initiatives worldwide, which help facilitate state–citizen interactions over digital media (Navarra & Cornford, 2012; Touchton & Wampler, 2014). In their latest e-government survey, the UN has noted that 65% of the 130 nations are at a high or very high level of the E-Government Development Index (EGDI) (United Nations, 2020). The three-level process of information dissemination, feedback and consultation, and collaborative decision-making using the internet aims to change the state of citizens from passive to active, improving the democratic process and overall governance (Naranjo-Zolotov et al., 2019).

Empowered citizens form the backbone of a well-functioning democracy (Sørensen, 1997). For some time, Information and Communication Technologies (ICTs) have been accepted and promoted by governments and civil society organisations (CSOs) as being instrumental in empowering their citizens by improving their capabilities and the control they have over their own lives (Chohan & Hu, 2020a; Stone & Can, 2021). Empowerment as a concept is related to the word 'power', i.e., the ability and permission to achieve a specific goal. Also, the term 'to be empowered' relates to both a process and an outcome – to the effort to obtain a relative degree of ability to influence the world (Staples, 1990). In this context, Digital Citizen Empowerment (DCE) is not only about providing basic access to

information and services, but is about achieving human capital improvement, transforming citizens from general users into empowered individuals who can act as problem identifiers and civic solution innovators, contributing back to the ecosystem within which they thrive (Pirannejad & Janssen, 2017). This process of using ICT for governance and reaching the marginalised social classes is a leveller for the digital divide experienced in developing countries (James, 2020; Simons et al., 2020). Internet and its usage for political participation are seen as an equaliser for the power imbalance in communities (Sasaki, 2017). Digital services for governance and the facilitation of openly available government data are promoters of involving and collaborative politics at the local and global levels (Meng et al., 2019; Tianru, 2020). Lately, online platforms have become highly involved and integrated with the realisation of public values. Research establishes a need for joint responsibility between governments and citizens to actualise development policy objectives (Helberger et al., 2018). The context of DCE also becomes increasingly important as the modern youth spends a significant time socialising online, and digital platforms have become a prominent space of political discourse for them (Literat et al., 2018). Scholars note a shift towards a citizen-centric capability development approach for designing and managing initiatives in the area of developing human capabilities and delivering development and empowerment goals.

The Organisation for Economic Co-operation and Development (OECD) sees citizen empowerment as a necessary condition for enhancing the quality of service delivery, establishing the credibility of government decisions, and supporting the legitimacy of governance in any country (OECD, 2001). Across the globe, we are witnessing the advent of smart cities and the development of digitally connected ecosystems with dis-intermediated, citizen–state interaction to solve social and administrative issues at local and national levels (Kar et al., 2019). Researchers have long believed in the potential of using engaging and empowering processes as a remedy for the problems of any democratic system, such as

corruption, elite capture, and discrimination, among others. Multiple studies show a changing pattern in the strategies, theories, and frameworks that drive the DG initiatives aimed at DCE. Through our study, we are trying to understand how governments worldwide are building up their infrastructure and human capacity to develop these future information societies. We have attempted to present specific action and policy points for practitioners and researchers based on the theoretical underpinnings of the concept of DCE. The aim is to provide theoretical support for the phased development of information societies and the human capacity of people living in them. We will focus on exploring the literature for theories and models for achieving DCE. Our motivation stems from the fact that the literature notes that most information and communication technologies for development (ICT4D) initiatives fail because of their inability to deliver power to the hands of the people. Ensuring citizens' sustained voluntary participation as not mere consumers but co-creators and prosumers of these initiatives is crucial to deliver local and national social development goals. For these reasons, we aim to answer two research questions at the end of this review:

(1) What are the different citizen–state interaction models through which governments are trying to achieve citizen empowerment using ICT?
(2) What are the main supporting and obstructing factors that affect the development of a knowledge society as targeted in digital transformation initiatives by governments?

The remaining sections of the manuscript have been organised as follows: section 2 covers the background literature on the concept of empowerment; section 3 covers the selection of literature for review in this study; section 4 covers the analysis of selected literature; section 5 covers the findings of our in-depth review of literature based on identified themes and summarises them comparatively; section 6 has the theoretical discussion on ICT-based empowerment covered in the selected literature. Sections 7 and 8 cover contributions to theory and practical implications. Section 9 concludes the study by summarising the main

insights, and section 10 presents the limitations in our research and the problems we could identify for future explorations.

2. BACKGROUND

2.1 Empowerment Theory

Empowerment has been a recurring theme among researchers of social and political sciences for five decades. It has been discussed in different contexts and related to various subjects or levels of enquiry chosen by them. Empowerment has been defined and studied as ethnocentric initiatives of social work for working with minority groups and the marginalised (Guitierrez & Ortega, 1991; Solomon, 1987); as a conservative-liberal approach to improve welfare services by mediating social institutions for improving the lives of weaker citizens in a community as a social unit (Berger & Neuhaus, 1996); and as a socialist approach for dealing with demands of equality and social responsibility in the context of social problems (Boyte, H. C., & Evans, 1984). Empowerment can shape a person's character and the level of influence or degree of control they can assert over their life and their socio-political context as an actor (Pinderhughes, 1983; Gruber & Trickett, 1987). It is an interactive process between a person and the socio-political environment leading to external and internal change, where citizens develop their skills, abilities, and experience to drive societal change (Kieffer, 1984; Parsons, 1991).

Zimmerman defined an individual's empowerment as an active psychological process in the environment of a democratic setup (Rappaport & Zimmerman, 1988; Zimmerman, 1995, 2000). This process helps integrate self-acceptance and confidence, socio-political understanding, and an ability to play a significant part in decision-making and controlling resources. Zimmerman's framework is used extensively in the literature to understand and

improve healthcare goals (Chandola et al., 2004; Goodman et al., 2004), to understand youth participation (Rodrigues et al., 2018), or other socio-political issues dealing with power imbalance among the players in any context. The *process of empowerment* is also defined as an active and iterative one, formed by the circumstances and the events (Cattaneo & Chapman, 2010). At its core is human endeavour attempting to shift from a passive state to an active one based on the ideas of participation and engagement (Altermark & Nilsson, 2018). This becomes even more critical as empowered citizens can contribute back to their communities and nations using their digital participation skills (Kar et al., 2019).

2.2 ICT and citizen empowerment

ICT4D literature has a clear divide based on two streams of thought and theory (Sein et al., 2019) regarding the relationship between ICT use and citizen empowerment. Some scholars doubt the potential of ICT in citizen engagement, stating that digital initiatives can potentially lead to exclusion and the reinforcement of social barriers (Fraunholz & Unnithan, 2009; Mariën & Prodnik, 2014). Scholars also warn that the data revolution in governance might further widen the digital divide as it builds upon pre-existing social differences (Cinnamon, 2020) and strengthens participation barriers (Krishna, 2021). In contrast, the other group believes in the potential of ICT to develop better knowledge networks in societies that can help the marginalised voice their opinions and have better control over their fate in a digital social setup (Brinkerhoff & Wetterberg, 2016; Treré, 2016). Blakeley (2010) presents this divide through the perspective of governmentality and defines two paradoxes: first, the presence of multiple stakeholders doesn't necessarily dilute the State's power, and; second, the breadth of available participatory practices doesn't ensure citizen participation. Other scholars, like Boulding and Wampler (2010), employed the perspective of Amartya Sen's capabilities approach (Sen, 1999) and suggested that citizen empowerment positively facilitates the expansion of the public sphere. This can allow citizens to exercise rights and

forge bonds of solidarity with other citizens. Pandey and Gupta (2018) tried to establish and validate the relationship between ICT and developmental initiatives taken by governments employing a comprehensive evaluation framework focusing on different types of impacts created by such initiatives.

Recently, scholars have explored the possibility of DCE by changing the pre-existing power relations in the society with the help of strategically aligned public-value delivery using ICT (Mali & Gil-Garcia, 2017; Li et al., 2020). Scholars suggest that ICTs based value co-creation in e-governance, improvement in overall quality of service, feeling of accountability, and openness can improve citizens' trust and adoption of digital participation mechanisms (Chohan & Hu, 2020b; Hu et al., 2019). However, DCE can be sustainable only if initiatives can achieve long-term ICT engagement with the citizens. In some cases, short-term engagement could also improve citizens' feeling of empowerment if their interests are accounted for with immediate gratification in the form of incentives and feedback (De Mesquita et al., 2018; Gün et al., 2020; Mohamudally & Armoogum, 2019). The relationship between sustainable development goals (SDGs) given by the UN and the usage of ICT to achieve them is also explored in the literature. Researchers call for a conscious effort by policy practitioners and designers employing the idea of policy-coherent sustainable development (PCSD) (Rothe, 2020; Sánchez-Tortolero et al., 2019). We find a new conceptualisation of the ICT4D field with contemporary issues, discussing ways to improve citizen e-participation in governance (Heeks, 2020b, 2020a). The growing role of social media in organising collective action and participatory monitoring for evaluating local initiatives can help make DCE socially sustainable and more effective (Cieslik et al., 2021; Kibukho, 2021; Ye et al., 2021). Across all these deliberations in the research body, it is also established that governments cannot achieve sustainable DCE without improving individual capabilities. Only this can promote the feeling of voluntary participation and ownership over

initiatives to tackle local issues (Hoque, 2020; Vaidya & Myers, 2021; van Biljon, 2020), and this forms our core motivation for taking up this study.

3. SELECTION OF LITERATURE

To study the evolution of DCE literature, we chose the Scopus and Web of Science (WoS) databases. These are two of the most extensive repositories for research literature, allowing users to search and filter papers covering different fields of study. This is particularly useful as we expect the concerned literature for our review will be touching many areas of research and application. As a methodology, we followed the systematic literature review process as depicted in Figure 1 (Chauhan et al., 2016; Gupta et al., 2018; Kapoor et al., 2014; Williams et al., 2015).

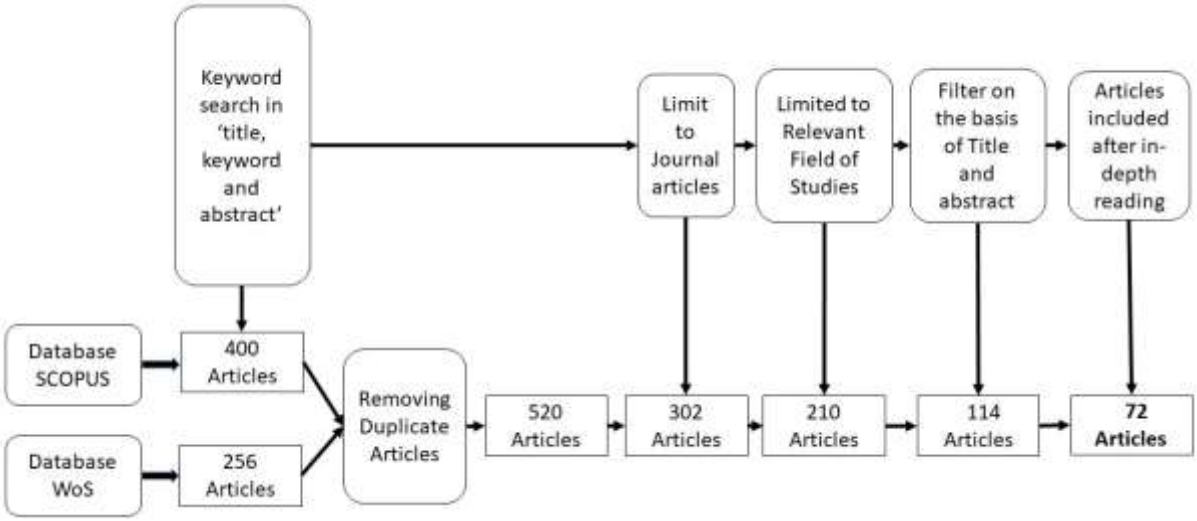

Figure 1. Stepwise selection process

A keyword search was conducted on these databases using three keywords: "Digital Citizen Empowerment", "Digital Empowerment" and "Citizen Empowerment" with OR operator in "Article-title, keywords or Abstracts" field, which resulted in a total of 656 results. De-duplication was done before moving ahead, which left us with 520 unique articles.

To ensure a better quality of peer-reviewed literature, the studies were restricted to journal articles, resulting in 302 documents. In the next phase, fields of study were restricted only to "Social-studies, Computer Science or Management" to keep the search relevant to the context of this study, leaving 210 documents to cover. Based on the reading of abstracts, we shortlisted 114 articles for in-depth reading. All this filtering was done by 15th April 2021. After reading these filtered papers in depth, we selected 72 documents for the review (the complete list of selected studies is available in the Appendix).

4. LITERATURE ANALYSIS

The search resulted in a pool of literature distributed over two decades, of which more than 50% has been published in the last five years. The studies overlapped with a few other research fields, namely: Computer Science; Arts and Humanities; Business, Management, and Accounting; Economics, Econometrics and Finance; Environmental Science; Earth and Planetary Sciences; Engineering; Psychology; Energy; Mathematics; and Medicine, which is indicative of interdisciplinary research work.

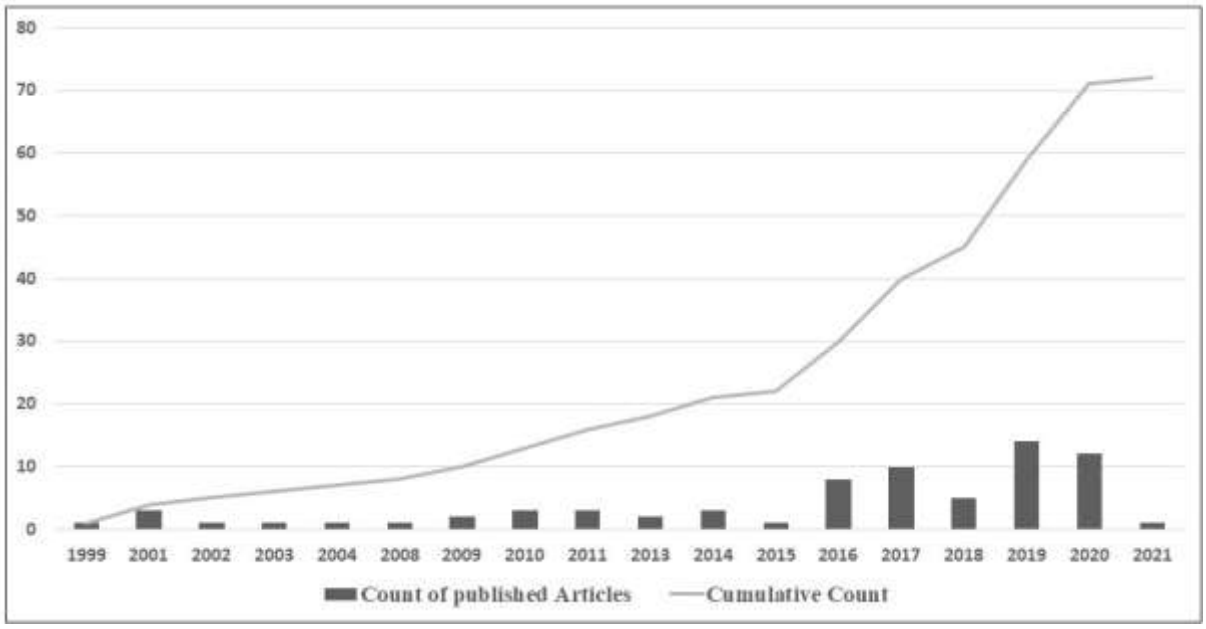

Figure 2: Distribution of selected articles

Spain and the USA were leading nations of the authors in this area of research, with 37 articles each, followed by the UK with 21. Only three articles were found to be from India. The literature is mainly applied research and is based on cases from around the world. At the same time, some papers solely focus on the theoretical discussion around the concept of empowerment or a combination of both applied and theoretical research. In total, we identified 15 entirely theoretical papers, 22 descriptive case studies, 29 case studies that had a rich theoretical contribution, and 22 studies with an empirical method to support their findings.

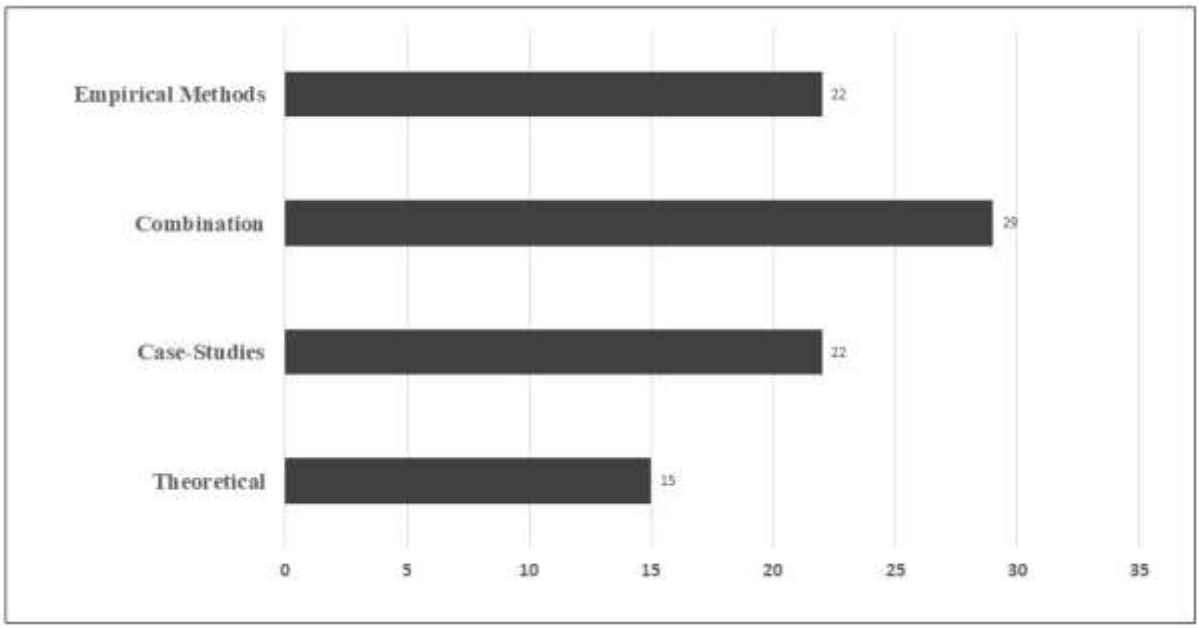

Figure 3: Distribution of literature on methodology

Almost all the studies are related to the socio-political empowerment of the citizens of a region/state/country. The prominently discussed theme was engaging citizens through different types of government initiatives. Most of the literature revolves around top-down initiatives started by the governments and adopted by citizens. However, eight studies focus on bottom-up initiatives started by citizen activists, and one piece focused on the opinion of administrators or service providers on initiatives of citizen empowerment.

We uncovered four significant themes of literature based on different streams observed in selected corpus and internal discussion among the authors. These themes correspond to the different types of strategies adopted by national, state, or municipal governments to improve citizen voice and participation in designing and deploying policy initiatives for e-governance:

(1) Multi-channel Service Delivery for e-governance (MCSD) (Bay-Meyer, 2013) for a more service-delivery-oriented e-governance;

(2) Participatory Budgeting (PB), a tool of civic engagement that allows citizens to participate in budgetary decision-making processes (Boulding & Wampler, 2010) with a focus towards financial inclusion;

(3) Deliberative Governance (DG), a form of governance where every policy decision is based on deliberations with the citizenry and adopts both the elements of consensus decision-making and majority rule (Park et al., 2017);

(4) Digital Activism (DA), the most citizen-inclusive approach that incorporates feedback and diversity in priorities even through online platforms (Bucy & Gregson, 2001).

These themes are identifiable from the case studies covered in the selected corpus of papers, and a detailed discussion of them is covered in the following sections.

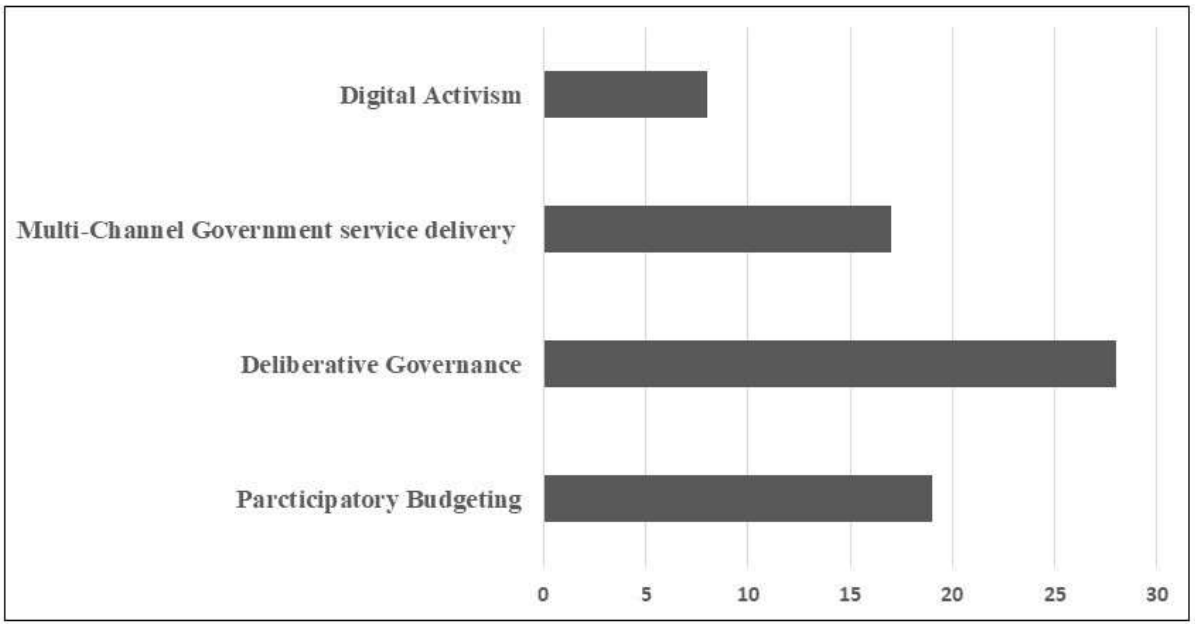

Figure 4: Major themes in the literature

A keyword association map was generated using the VOSviewer software (van Eck & Waltman, 2010), short for visualization on similarities. This allowed us to check the consistency of the selected corpus with our research goals. We used a Scopus data file in RIS

format containing authors, title, journal, publication year, keywords, affiliations, and references.

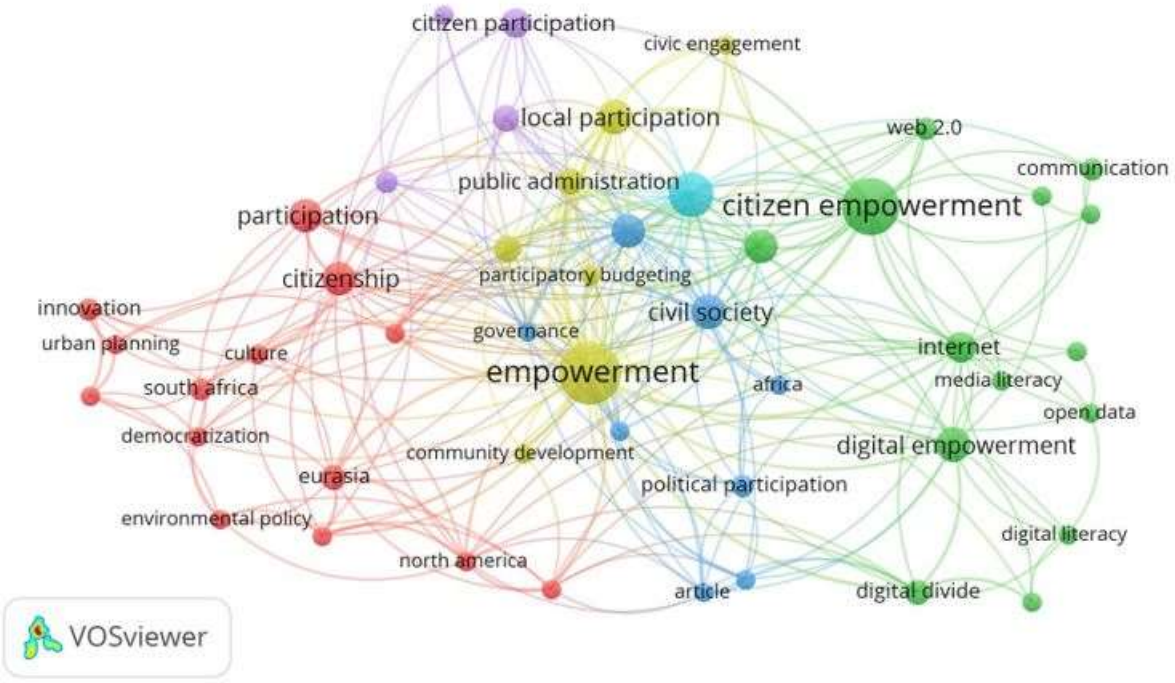

Figure 5: Keyword association map of the selected literature

Since the area we chose to study intersected with multiple other areas of study, we chose another classification to study the distribution of literature selected in our study given by Barki, Rivard, and Talbot (1988). It lists out 1,100 keywords in nine top-level categories: Reference disciplines, including External environment; Technological environment; Organisational environment; Information Systems (IS); IS management; IS development & operations; IS usage; and IS education & research on the Information Systems area. The purpose of choosing this classification theme was to lay out the distribution of the selected studies into subclasses of the Information Systems area to observe different points of focus or enquiry in the chosen corpus of our research.

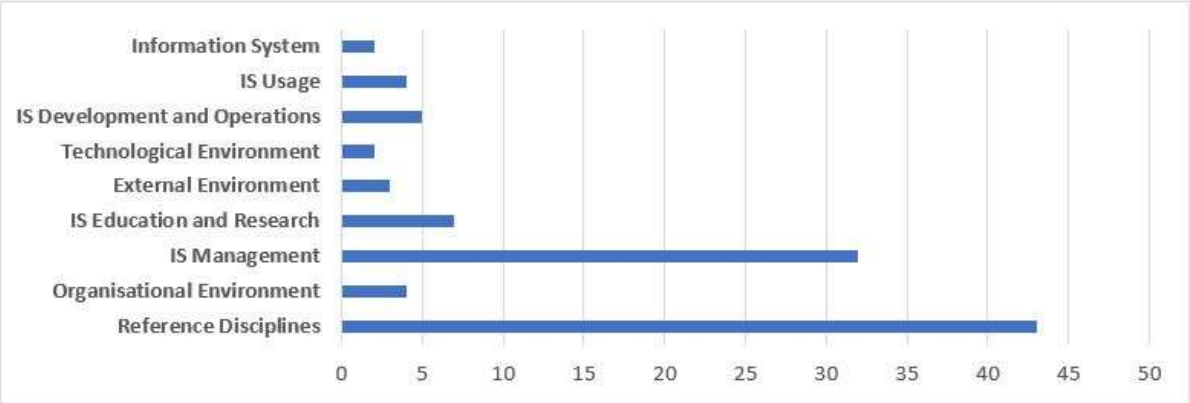

Figure 6: Distribution of studies based on keyword classification

We saw that most of the studies fell into the reference discipline category. This can be explained, as we designed our search filters to focus on articles in the area of social sciences. This is because the context of our search was around the use of ICT in governance, while the second category was IS management.

5. FINDINGS OF REVIEW BASED ON MAJOR THEMES FROM LITERATURE

This section explores the four major themes identified to study the interaction of different stakeholders in a democratic setup for delivering DCE. We have also attempted to identify the significant supportive or obstructing factors for each of these themes. The objective was to uncover the contextual relationship between the different stakeholders.

5.1 Multi-Channel Service Delivery for e-Governance

The use of ICT and digital strategies by democratic actors (governments, elected officials, media, political organisations, citizens/voters) for political and governance processes of local communities, nations, and the international stage has been termed as e-democracy. E-government is a subset of this setup and pertains to provisioning services, information, and e-participation of the public (Riley, 2003; Vyas-Doorgapersad, 2009). It refers to the processes and structures that encompass all forms of electronic interaction between the government

(elected) and the citizen (electorate). Information and knowledge sharing are essentials in its functioning, which can bring about change in the form of the citizenry from passive to active. Norris (2003) supports that the growth of e-governance can modernise and deepen democracy in countries or constituencies where the public has become disenchanted with the traditional channels of participation in representative democracy. ICTs in governance could be used to solve problems like corruption, poor information access, lack of transparency and accountability, high cost to citizens for access to services, and a lack of quality service delivery (Agrawal et al., 2007). Automation, informatisation, and transformation can help solve all the problems listed above in a democratic structure.

In contrast, Riley (2003) also argued that there is a move towards 'surveillance societies', which endangers the fundamental principles of democracy. May and Chadwick (2003) argued that e-governance leads to reinforced managerialism in the public sector rather than facilitating public consultation and participation. It may seem like a cost-effective option to deliver good governance, but it may work adversely in developing democracies due to a lack of infrastructure and education (Fraunholz & Unnithan, 2009; Kariuki & Tshandu, 2014; Mariën & Prodnik, 2014). After analysing the literature in depth, it can be summarised that the idea of e-governance has great potential for empowerment. However, it can still fail to deliver if the commitment of governments and citizens' ability or motivation to act are lacking. This is of particular importance as in democratic setups, empowering processes are driven from both government and citizens.

The literature in this focus area outlines the following factors to ensure the success of state machinery for service delivery: first, development of a robust and transparent governance infrastructure for information sharing and service delivery with universal access; second, developing platforms as services to deliver governance to all in a transparent manner; third, minimising offline state–citizen interaction to avoid opportunities for corruption;

fourth, regular audits and public-feedback opportunities to maintain the quality of services delivered; and fifth, maintaining accountability through policy design to ensure service delivery and sustainability (Shelley et al., 2004; Bhatnagar, 2002; Brinkerhoff & Wetterberg, 2016; Svärd, 2017).

5.2 Participatory Budgeting

PB is the process of involving citizens in decision-making for budget allocations in a constituency, with the hope that the involvement of low-income or marginalised groups in budget allocations can help improve their quality of life (World Bank, 2008). It is also influenced by Sen's Capability Model for citizen empowerment, assisting citizens in exercising their rights and making collaborative bonds with others to expand their own sphere of influence (Sen, 1999).

This type of active citizenry helps keep the government officials and service providers in check while distributing and delivering resources to ensure efficiency and minimal leakage (Boulding & Wampler, 2010). PB was developed and implemented first in Brazil, and it has found worldwide acceptance. It has helped deliver positive or mixed results in many democracies worldwide, like in Italy, Spain, Korea, and China. PB in the literature is seen to operate on three basic principles or logics of administrative strengthening. First, the administrative logic of introducing active citizens in governance; second, the political-reforms logic that can help strengthen citizen politics and community mobilisation; and third, the empowerment logic of moving the power balance in favour of citizens in a state–subject relationship (Baogang, 2011).

The literature is unanimous on two caveats towards achieving empowerment goals: the government's control over people's participation in the decision-making process, and local government officials' resistance. They contribute this condition to the debate of expert

knowledge vs. popular mandate (Ganuza et al., 2016), leading to a divide between the opinions of the governed and the governing. Also, the literature suggests that although the long-term implications of PB may change the state–citizen interaction completely, the short-term social impacts are limited (Boulding & Wampler, 2010). The potential of crowdfunding projects run by citizens using a digital platform created and legitimised by the administration is also established (Gooch et al., 2020). Some crucial factors outlined in the literature regarding the success of PB initiatives are: first, strong state support to ensure inclusive representation of all stakeholders; second, availability and sharing of information in the same capacity to all stakeholders; third, provisions to express and record opinions of all stakeholder groups; fourth, avoidance of the problem of elite capture; and fifth, active targeting of the marginalised to maximise the benefits of budget goals for significant social change and reduction of the socio-economic divide.

5.3 Deliberative Governance

In 1980, Joseph M. Besettee introduced the concept of Deliberative Governance, representing a democratic setup where deliberations are central to the decision-making process. The idea behind this concept was the belief that modifications and adjustments could be made to individual interests to create policies for the common good (Park et al., 2017). Researchers have discussed this method of engagement and outlined characteristics of successful deliberations in a democratic setup. First, all participants are considered and treated equally, free to question or intervene, and everyone has an equal weight of opinion. Second, deliberations should result in the process of social learning. Third, the deliberating body should be inclusive of all the stakeholders that can be affected by the decision taken; and fourth, there is enough relevant information, engagement, and discussion to be able to forge a consensus among conflicting interests (Newman, 2011; Parkinson & Mansbridge, 2012; van der Merwe & Meehan, 2012).

We see DG being adapted for two different types of structure. The first is the policy jury advocated by Robert Dahl in 1970, who viewed DG as a counter to the limitations of elective democracy. It has remained popular in recent times and is adopted by countries like South Korea nowadays for better municipal administration. In this structure, representatives from different stakeholder groups are chosen to assist the administration in reaching the best possible policy decisions and delivering the common goal for local development (Chaudhuri & Kendall, 2020). The second form is called Negotiated rulemaking, or 'Reg-Neg' (regulatory negotiations). Here a committee is formed with elected representatives, community leaders, civic body organisations, and subject-matter experts to discuss and develop policies. This disintermediation and direct involvement of the public in policy decisions result in citizen empowerment and democratisation of the policy-setting process (García-Peñalvo et al., 2019; Garcia et al., 2020; Sixto-García et al., 2020). Long-term support for collaborative communities, imparting a sense of ownership over the design and operation of digital initiatives, is the key to achieve sustainable deliberative governance (Dusi, 2019). The use of ICT-based deliberative governance is also explored for empowering marginalised and tribal communities using digital innovation and tools to solve their local administrative issues. Researchers also see a reinforcement of the pre-existing societal divisions with explicitly visible benefits if the designers and managers of the initiative are not careful (Leong et al., 2016; Okunola et al., 2017; Young & Gilmore, 2017). Local administrations also stand to improve in time by preparing the younger generation for participating in local democratic governance and using deliberative platforms (Thijssen & Van Dooren, 2016). The process of deliberative democratic decision-making may suffer when citizens, politicians, and administrators are strongly divided by ideology, religion, regional issues, ethnicity, generations, and other socio-political schisms, economic disparities, and identities (Bay-Meyer, 2013; Hendriks et al., 2013; Park et al., 2017; van der

Merwe & Meehan, 2012). It is also essential to validate and generate support for deliberative decisions made with the public to legitimise the actions of reg-neg committees or the policy jury, ensuring acceptance and sustainability for such initiatives.

Scholars have discussed factors that facilitate and ensure the successful implementation of such initiatives targeting DG: first, inclusive participation of all stakeholders; second, setting up of an unbiased information-sharing infrastructure to break the silos; third, promotion of shared leading and mutual understanding of issues; fourth, setting up ground rules to run neutral debates with a focus on consensus-building; and fifth, designing an ICT platform based on these rules to facilitate transparent and open discussion on policy decisions. Similarly, factors that may hinder such practice are noted in the literature as: first, deeply divided representation based on creed, caste, religion, and other social constructs; second, the problem of elite capture, which may lead to concentration of power in place of distribution; third, an unbiased commitment of the state in providing support to these initiatives; and fourth, ensuring that the ICT tools used in the PB initiative are actively targeting the marginalised without bias so that the expected social goals can be achieved (Park et al., 2017; Saguin, 2018).

5.4 Digital Activism

Political and social movements are the mainstays of democratic exercise of citizen power (Bucy & Gregson, 2001). DA refers to the phenomenon where civic protests and activist action takes shape and is conducted on the web sphere. Some of the most common forms seen throughout the literature are online petitions, cyber campaigns, and video activism (counter-surveillances) on social media platforms (Coromina, 2017). Literature gives us cases such as the Arab Spring and the #metoo campaign, where the internet and Web 2.0 technologies have been crucial in voicing people's concerns in oppressed political situations through user-generated content (Soengas-Pérez & Assi, 2017; Hermida & Hernández-

Santaolalla, 2018). Access to information and the internet is now seen as a fundamental human right. It forms the foundation for promoting activist behaviour online along with the low cost of access and basic digital literacy (Casero-Ripollés, 2017). Researchers call for a shift towards the context of connective action in place of collective action (Leong et al., 2019) and the association of human dignity with citizen activism and empowerment (Leidner & Tona, 2021). Digitally active citizens can use and leverage ICT to drive collective action by developing self-generating knowledge networks. They can engage in crowdsensing initiatives to monitor the performance of local governments, enforcing transparency and accountability (Georgiadou et al., 2011; Fasoli & Tassinari, 2017; Schradie, 2018).

The corruption of mainstream media and the dilution of their role in delivering information to the public has given rise to digital journalism (Gertrudis-Casado et al., 2016; Nothias & Cheruiyot, 2019). Studies were conducted on the need to generate a new type of political content based on big data (Treré, 2016). Policymaker also have recognised the need to study citizen opinions and sentiments on digital platforms like twitter (Ahn et al., 2021; Mohamed Ridhwan & Hargreaves, 2021). Research also highlights the need to be careful against elite capture and the algorithmic manufacturing of consent and privacy violations in the name of security (Svärd, 2017). Contextual factors that play a significant role in the promotion of cyber-activism are: first, ensured access to public ICT infrastructure; second, providing a low cost of access by employing proper policy mechanisms; third, ensuring a basic level of digital literacy across all social classes and active targeting of marginalised groups to avoid elite capture of the medium; fourth, unrestricted and unregulated internet for all; and fifth, designing of internet governance policies by following a multi-stakeholder approach involving governments, civil society, and academia.

Table 1: Comparative summary of literature themes of digital empowerment

		Themes Covered in the Literature			
Dimension		**Multi-Channel Service Delivery**	**Participatory Budgeting**	**Deliberative Governance**	**Digital-activism**
	Objective	Leveraging ICTs to ensure availability of governance to all (Vyas-Doorgapersad 2009; Subramanian and Saxena 2008; Fraunholz and Unnithan 2009)	Use of ICTs to crowdsource public opinion on matters of budget and resource allocation (Baogang 2011; Blakeley 2010; C. Park 2003; Naranjo-Zolotov, Oliveira, and Casteleyn 2019)	Using ICTs to involve citizens in administrative decision making (Pirannejad and Janssen 2017; T. I. Park, Kim, and Rosenbloom 2017b; Bartoletti and Faccioli 2016; Hendriks, Bolitho, and Foulkes 2013)	Leveraging ICTs to mobilise people on topics of public concern and oppose the abuse of state power (Treré 2016; Nothias and Cheruiyot 2019; Leong et al. 2019; Hermida and Hernández-Santaolalla 2018)
	Approach	Top-Down approach; pertaining to development of service delivery infrastructure and	Top-Down Approach; Calls for crowdsourcing of public opinion of	Top-Down Approach; involvement of public as decision makers (Parkinson, John;	Bottom-up approach; can exist without government support but requires high

		efficient operationalisation of channels (Ashman 2001; Shelley et al. 2004; Subramanian and Saxena 2008; Fraunholz and Unnithan 2009; Vyas-Doorgapersad 2009)	matters of budget allocation (Sanderson 1999; Bucy and Gregson 2001; Maier 2001; Boulding and Wampler 2010; Baogang 2011)	Mansbridge 2012; Mariën and Prodnik 2014; Newman 2011)	citizen mobilization(Leong et al. 2019)(Penney 2020)
	State-Citizen Interaction	Low; most of the effort is from government (Subramanian and Saxena 2008; Vyas-Doorgapersad 2009; Kariuki and Tshandu 2014)	Medium; Government initiates dialogue with people to make them aware and collect their opinions on resource allocation (Bhatnagar 2002; Subramanian	High; Both the State and Citizens are decision makers so equal power and responsibilities (Kim 2010; Blakeley 2010; Hendriks, Bolitho, and Foulkes 2013;	NA; Can exist without government support and mostly seen as a tool for dissent (Leong et al. 2019; Nothias and Cheruiyot 2019; Soengas-Pérez and Assi 2017)

			and Saxena 2008; Touchton and Wampler 2014; Durnová 2019)	Bartoletti and Faccioli 2016)	
	Accountability	Accountability lies with the government (Vyas-Doorgapersad 2009; Kariuki and Tshandu 2014; Joshi 2014; Fox 2015)	Accountability lies with the government (Kim 2010; Baogang 2011; Saguin 2018; Altermark and Nilsson 2018)	Accountability lies with both the government and citizen (Brinkerhoff and Wetterberg 2016; Wenene, Steen, and Rutgers 2016; Pirannejad and Janssen 2017; Fraunholz and Unnithan 2009)	Accountability lies with citizens and civic bodies (Leong et al. 2019; Treré 2016)
	Scale discussed in literature	Discussion ranges from city to nation-wide networks for service delivery(Agrawal,	Cases cover municipal, county and state-wide initiatives but no country-	Cases cover municipal and city-wide cases but no country or state level instance	Has no restriction of scale as it can exist devoid of state

		Shah, and Wadhwa 2007; Vyas-Doorgapersad 2009; Subramanian and Saxena 2008; Bhatnagar 2002)	wide case (Blakeley 2010; Baogang 2011; Smith 2014; Ganuza, Baiocchi, and Summers 2016; Saguin 2018)	(Bartoletti & Faccioli, 2016; Bay-Meyer, 2013; Blakeley, 2010; Hendriks et al., 2013; Gün, Demir, & Pak, 2020)	support(Leong et al. 2019)
	Facilitating Conditions	Strong state commitment, availability and access of ICT infrastructure, Low cost of access, compulsory levels of digital literacy (Blakeley 2010; Vyas-Doorgapersad 2009; Fraunholz and Unnithan 2009; Subramanian and Saxena 2008; C.	Strong state commitment, availability of ICTs to create awareness about budgetary issues, proper representation of all stakeholders (Shelley et al. 2004; Smith 2014; Gertrudis-Casado,	Strong state commitment with high levels of citizen participation, ICTs to create collaborative platforms for governance (Svärd 2017; Ganuza, Baiocchi, and Summers 2016; Smith 2014; Durnová 2019; Naranjo-Zolotov,	High level of citizen activism, unrestricted access to ICTs, freedom to express online (Hermida and Hernández-Santaolalla 2018; Nothias and Cheruiyot 2019; Leong et al. 2019; Soengas-Pérez and Assi 2017)

		Park 2003; Bhatnagar 2002)	Gértrudix-Barrio, and Álvarez-García 2016; Svärd 2017; Saguin 2018)	Oliveira, and Casteleyn 2019)	
	Type of ICT Deployed	ICT Infrastructure to ensure availability and access for all; Platforms as services (May and Chadwick 2003; Bhatnagar 2002; Agrawal, Shah, and Wadhwa 2007; Vyas-Doorgapersad 2009; Subramanian and Saxena 2008)	Specialised platforms to provide budgeting information to citizens with feedback communication loops to crowdsource data (World Bank 2008; Baogang 2011; Bay-Meyer 2013; Hendriks, Bolitho, and Foulkes 2013; Ganuza,	Networking Platforms were citizens can freely communicate with each other and Government officials over different issues concerning their lives (T. I. Park, Kim, and Rosenbloom 2017b; Cuevas-Cervero 2017; Angelidou and Psaltoglou 2017; Smalskys and Šilinskyte 2016;	Typically involves citizen interaction over popular social media such as Twitter, Facebook etc. while also focusing on mobile devices which can enable citizen journalism by the use of audio-visual user generate content (Mariën and Prodnik 2014; Leong et al.

			Baiocchi, and Summers 2016)	Bartoletti and Faccioli 2016; Hendriks, Bolitho, and Foulkes 2013; Parkinson, John; Mansbridge 2012)	2019; Hermida and Hernández-Santaolalla 2018; Svärd 2017; Soengas-Pérez and Assi 2017; Gertrudis-Casado, Gértrudix-Barrio, and Álvarez-García 2016)

6. DISCUSSION

Table 1 presents a comparative view of the four identified literature themes allowing us to see the bigger picture of DCE in modern democracies. It attempts to give a literature review exploring bridges between different research clusters, building up a single knowledge area based on a review method employed by Raghuram et al. (2019). The themes correspond with the ladder of citizen participation in policy development, as defined by Arnstein (1969) and improved by Connor (1988). Heeks (2020a) discussed a similar ladder of citizens' e-participation, outlining different roles taken by citizen users during the participation process. We found that the MCSD initiatives are identical to the rungs of Education and Feedback using ICTs; PB initiatives could be seen as similar to the rungs of Education, Consultation, and Joint Planning. If we consider Deliberative Governance, it is related to the higher rungs of Mediation, Litigation, and Resolution/Prevention. These initiatives are based on the state's efforts and participation in response to these efforts. From the point of citizen power, this

comparison holds meaning as all these models require increasing levels of citizen education, feedback, and participation in the policymaking process.

We observed this similarity with one more framework of citizen participation given by Rosanvallon (2008), who defines democracy as being of expression, involvement, and intervention. We note that the MCSD and PB initiatives correspond to the Democracy of Expression. Service delivery and feedback networks for participation pave the way for informing people and soliciting their opinion on resource allocation decisions. The democracy of involvement dimension is reflected in the DG initiatives where policies are designed and operationalised based on the collective decision-making of state and citizen. At last, the democracy of intervention can be seen in the acts of DA taken up by citizens when they get together to make their voice heard and intervene in the state's functioning.

Our study aimed to move beyond the notion of citizen from a mere user to empowered individuals who can leverage ICT infrastructure as solution innovators or collaborators in designing and implementing policies and initiatives that govern society. Keeping this in mind, we suggest the matrix view of these e-governance initiatives based on political and IS standpoints for a better understanding (see figure 7).

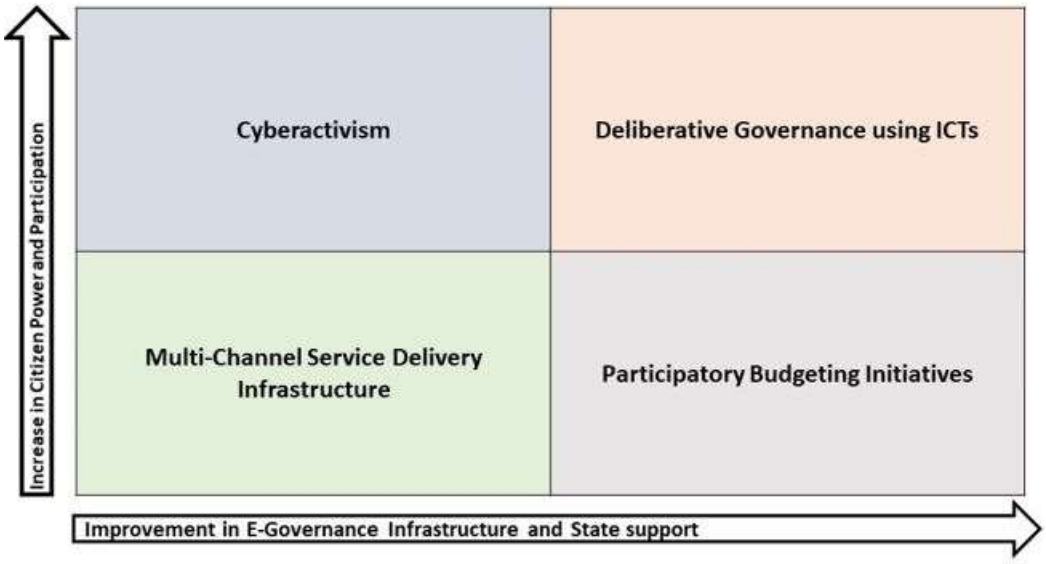

Fig 7: Stages of the evolution of Digital Citizen Empowerment

The axes here denote the theoretical foundations of the DCE process. The horizontal axis is inspired by the IS-dominant literature. It draws from the evolutionary model of e-governance given by Layne and Lee (2001), defining the different stages of developing an ICT infrastructure. The vertical axis draws from the social sciences side of the literature and majorly from the various models of citizen power, as discussed earlier. The matrix is divided into four quadrants. Each quadrant is associated with one of the themes identified, considering the level of interaction between the Government and its citizens.

One of the major issues covered in the literature is the persistence of the digital divide. Scholars used the theory of diffusion of innovations to explain this divide that is seen in society (Shelley et al., 2004), helping us understand that adopting any technology is a gradual process and differs from person to person depending on their attitudes. A method of crossing this divide to empower citizens through digital inclusion projects was discussed by Smith (2014). It involves a hierarchical structure of institutionalised inclusion projects based on a reliable technical infrastructure for all, leading to training citizens and increasing their awareness in terms of using the technology, providing equal opportunity for all to interact

with and influence the technology, and finally, enabling transference of skills so that normal users could be transformed into digital innovators (Fraunholz & Unnithan, 2009).

The literature also invokes the theory of elite capture (Saguin, 2018) and elite pluralism (Bucy & Gregson, 2001), which talks about governance driven by the technocratic elites as the general public are disengaged and disinterested in political action. This acts as a structural and social barrier for participation and engagement logic of e-governance and is a hindrance to citizen empowerment. Scholars have called for a change in such governance measures to involve the marginalised masses actively. The concept of *monitorial citizenship* is explored with the economic model of democracy (Bartoletti & Faccioli, 2016), discussing the cost and benefits of participation as an instrument of DCE. A monitorial citizen can evaluate government policies, services, and public administration performance through interaction with different sources of information and media. Three other forms of citizenship are also noted in the practice of e-governance for empowerment: the single-click citizen with primarily online activity and presence; the deliberative citizen who participates and promotes discussions on different forums; and finally, a citizen who can represent the 'wisdom of the crowds' and undertake crowdsourcing activities for citizen activism.

Newman (2011) invokes the neo-institutional theory from political science, discussing the attitude of citizens towards digital means of service delivery and interaction with the administration. The study notes a shift of professional discourse towards co-production and collaborative design of e-governance mechanisms. The literature also warns of past experiences where these new mechanisms were reduced only to symbolic actions, and no substantial change was observed. Scholars point out crucial factors that affect the overall formulation and implementation of any initiative targeting the digital empowerment of citizens: first, organisational differences that arise due to the attitudes, notions, and personal goals of different people involved in the process; second, strategies adopted to communicate

with the masses; third, how to select citizen representatives ensuring participation of the marginalised; and finally, bringing together the people responsible for designing and laying down any such initiative and the actual users of the initiative's service for collaborative design and policy formulation (De Mesquita et al., 2018; Fasoli & Tassinari, 2017; Fucg & Wright, 2001).

The discussion of empowerment in the context of public service paradigms is also noted following the rise of Digital Era Governance in the 2000s (Wenene et al., 2016). It describes the shift of citizens' role from mere consumers of e-services to collaborators and co-designers of these services. Scholars also discuss accountability as a remedy for lacunas in the current government models. We can also explore the same angle in our literature based on the Principal-Agent Accountability Model given by the World Bank (2004). It defines two routes through which accountability flows. The first is *state accountability*, which focuses on institutions that monitor or control abuse of citizen rights by public agencies or branches of the Government, also called Supply-side accountability. The second, *social accountability,* refers to action by citizens and civil society to hold government officials responsible for reporting and answering for their actions, also called demand-side accountability. The literature in the area of DCE has a lot of focus on social accountability as a remedy for government inefficiency and ineffectiveness. But scholars note that without the balance of both these sides of accountability, the goal of citizen empowerment may be a distant dream (see Bukenya, Hickey, and King 2012; Fox 2014; Gaventa and Barrett 2012; Joshi 2014).

7. CONTRIBUTION TO THE THEORY

Through this study, we have attempted to explore the landscape of digital citizen empowerment for establishing the knowledge societies of the future. We tried to present a conceptual model of the analysed literature during this review in figure 8. The model encompasses the key stakeholders, themes, action points for the practitioner, and theoretical

blocks covered in the literature, which are crucial for the phase-wise development of the information society (Rao, 2005).

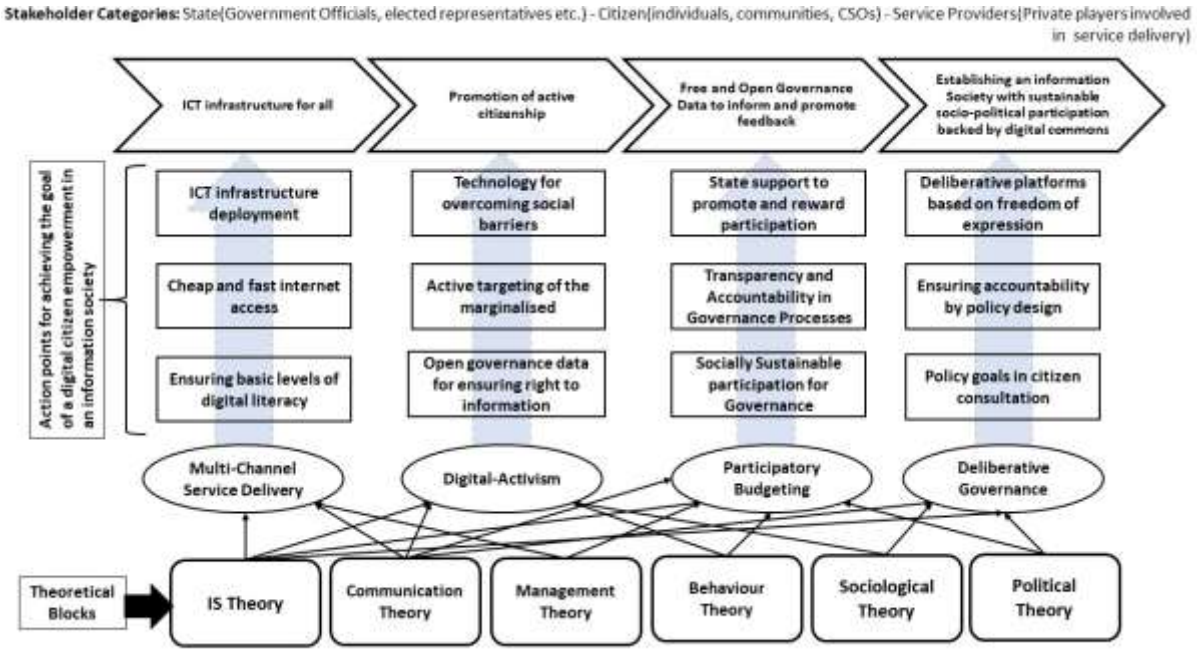

Fig 8: Conceptual Framework for Digital Citizen Empowerment

The conceptual model presented in figure 8 summarises the literature we have reviewed to understand and explore the concept of DCE and different strategies deployed by governments to deliver empowerment to their citizens. It presents the theoretical foundations laid down in the literature for understanding DCE and how they relate to these four major strategic themes of empowerment initiatives which are complete fields of knowledge in their own right. The framework attempts to incorporate the four distinct stages of development of knowledge society which are defined in the literature as: first, provisioning ICT infrastructure for all; second, promoting active digital citizenry; third, provisioning free and open data access about government policy and actions, and fourth, the establishment of a digitally connected society with sustainable socio-political participation backed by digital commons.

These phases are supported by specific action points depending on the type of strategy needed to achieve them successfully. It is a compilation based on our internal discussions and

our analysis of the selected literature. These phases are outlined based on available institutional support and level of citizen power, and active participation in the administrative process. The first two phases are the fundamental blocks of building the prerequisite ICT infrastructure, followed by promoting the public's participation and avoiding the problems of the digital divide and elite capture. There is an overlap between the literature for DG and PB as PB turns into DG with a gradual increase in citizen power and available opportunities to participate (Fischer, 2006). We have also noted that DA forms the backbone for such an interaction between the state and citizens. Without active citizens who participate voluntarily and are willing to make their voice heard, such initiatives would end up being there just for show (Naranjo-Zolotov et al., 2019).

By laying down the foundations of an MCSD framework of ICTs, governments could ensure fast and low cost of access to the web with a bare minimum standard of digital literacy (Nedungadi et al., 2018). This would help connect all corners of a state and citizens to the Government, reducing the number of intermediaries. The next phase is to be focused on the promotion of active citizen participation on these new democratic ICT platforms and portals by leveraging the ability of the internet to promote both collective and connective action. This would be augmented by the availability of open government data and active inclusion of the voice of the marginalised by the Government to reduce elite capture (Hossain et al., 2018). The target here would be to improve the efficacy of people as individuals and members of communities socially or geographically. The third phase starts with the active collaboration with citizens using ICTs for budget planning and distribution of resources for the people they are meant for. This phase would be contingent on the success of the last two phases and would need better levels of accountability and transparency in government processes. With active recognition and awarding of participation efforts, governments can

increase the public value of participation, making it socially sustainable (Bataineh & Abu-Shanab, 2016; Jain Gupta & Suri, 2017).

The last phase of the conceptual model depicts the overlap PB shares with a deliberative democratic setup. We can only reach the utopian levels of DG when we have a participation-friendly base in the socio-political system to start with. Deliberative citizenship is the outcome of active and voluntary participation from citizens in local governance issues in their communities or geographical areas (Baogang, 2018). The action points laid out in the literature cover both the government and citizen issues. Governments must ensure the availability of deliberative platforms on which people could share, discuss and build consensus upon a common set of ideas and rules that govern them. The citizens are also expected to actively contribute to the deliberations to keep the conversation going as the policy outcomes, and associated social good would be contingent on the same (van der Merwe & Meehan, 2012). Such deliberative platforms would help achieve better transparency and accountability for governance and enable the people to consult on and contribute to policy decisions.

Our model would help researchers to better understand the phenomenon of DCE for better e-governance in developing nations. It could be used as a base to study the growth and establishment of information societies of the future in which cities and villages would be ‘smart’. Every household and individual would be connected to each other and the Government and their service providers. This study attempts to give a macro view of the process of digital era governance with the active participation of people as prosumers of government services and initiatives to solve administrative and social problems at a local or national scale. This differentiates our paper from other ICT4D papers as most of them are focused on a single issue or a single instance from one of the identified themes. However, they acknowledge the presence of different contextual factors but do not explore them in

detail as it falls out of scope of their study. Their contributions are also crucial as, without the detailed micro accounts of those studies, it would not have been possible to develop this conceptual framework for DCE. Our conceptual model focuses explicitly on the problem of citizen empowerment as that is the key to sustainable participation crucial for the success of any collaborative governance initiatives in digital societies of the future. Our study outlines the overall process of digital society development by defining it in a phased-out matter and laying down specific policy action points to focus on based on the different guiding objectives or problems of different phases of development.

8. IMPLICATIONS FOR PRACTICE

We studied the triadic model of State-Citizen-Service-Providers interaction, covering the flow of accountability and the factors that affect these interactions in the context of policymaking for digital empowerment. The paper created an overview of various strategies for the political empowerment of citizens using digital means, and from this a conceptual model (figure 8) for working towards the digital empowerment of citizens was derived. The DCE framework can help governments at different phases of developing e-governance capability to focus and actualise their efforts to foster and create the information societies of the future wherein governance would be enabled via democratic platforms with equal powers and associated accountability for all stakeholders in the triad. The action points given in this model give out specific policy objectives to be targeted for delivering empowerment to the people. These factors could also be seen as points of policy evaluation in the context of DCE. The model also accounts for the rapidly changing nature of technology and how it interacts with social and political factors in any setting to deliver policy goals targeting the overall improvement of human capital and societal good.

Our findings outline a phased-out plan to develop knowledge societies with empowered citizens and break down all these phases into specific policy objectives based on

theoretical understating and building upon governance use-cases worldwide. For example, let's take the case of the first phase, i.e., *ICT infrastructure for all*. It is the outcome of the MCSD strategy and includes three broad policy goals: first, ensuring basic levels of digital literacy in the citizen population; second, providing affordable and fast access to the internet, and third, developing and deploying the region-wide physical ICT infrastructure. Based on our understanding from the literature about government initiatives worldwide, we can see how these policy objectives are critical and instrumental in reaching necessary policy outcome and successfully implementing the strategy of MCSD. In the same way, we can explain and expand this understanding for all the phases of developing the information society and deliver DCE covered in the model. All the phases are drawn out from different stages of information systems development. They can act as guideposts for governments who want to move towards a better state than they are now in the context of DG. Practitioners and policymakers can use these theoretical blocks and specific policy objectives under each phase to develop a policy audit checklist or maybe as a check right from the beginning of policy deliberations and development to ensure achievement of the outcome of DCE.

When seen in the light of theoretical discipline they are drawing from, these objectives can also provide an idea of the type of human resource and academic or policy experts we might need to operationalise these objectives for achieving the overall goal of DCE. Along with this, the model can also help outline the need for specific technology infrastructure required at different stages to complete DCE. The infrastructure needed at different phases would be different. As for MCSD, it might need a service delivery network that will most probably be a one-way communication in essence. Such an infrastructure would be obsolete and limiting for other strategies like PB or DG as we need platform technologies there, which incorporate feedback and facilitate fully fledged dialogues and deliberations between different stakeholders in the governance process.

9. CONCLUSION

The area of Digital Citizen Empowerment explores how digital technologies could be leveraged to strengthen the core of the anthropocentric structure of a democratic government. Empowering citizens is the key to changing their state from mere consumers of DG services to prosumers, collaborators, and solution innovators who can partner with policymakers to deliver improved policy outcomes. It is crucial that participation from the citizens is voluntary and never mandated for the development of a democratic e-government ecosystem that is sustainable and works as a self-generating knowledge network. Transparency, awareness, and accountability are seen as solutions for this problem. Also, having more participation is just one part of the solution, but the complete goal is also dependent on the quality of participation.

Our study uncovered four distinct strategic streams used to engage citizens using ICTs: MCSD, PB, DG and DA. We further discussed these strategies in the light of citizen power and ICT frameworks. We concluded that governments and civic bodies should strive for a balance between social and state accountability to fill in the gaps left by older models of democratic governance. We were able to synthesise and present the different promoting and obstructing factors of these strategies and incorporated them into the conceptual framework of DCE. This conceptual model proposed by us outlines specific research and policy points based on different strategic themes and theoretical foundations for achieving stagewise development of empowering processes leading to the establishment of the information societies of the future.

10. LIMITATIONS AND FUTURE RESEARCH

We would like to acknowledge some limitations in undertaking this study, and the first one would be our inclusion of studies only from the Scopus and WoS platforms. The search string used by us might also be particular and limiting in the mining of relevant literature, and

maybe this can be expanded upon in future studies in the area. Only studies published and available in the English language were included in our review. Only articles published in peer-reviewed journals were considered, which may have resulted in some relevant conference papers being left out. Although these decisions were conscious and mutually agreed upon by the co-authors, we note that some studies might have been excluded.

Future research can also expand our study and focus on exploring problems like: How can we use behaviour strategies to better design policies that promote participation for empowerment? Scholars working in the field of DG or IS could use the research design after improving on the limitations to studying the four covered themes of DG, PB, MCSD, and DA separately and in detail to fill in the gaps and build upon our study.

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