

Social Media Enabled Public Value Creation for A Saudi Arabian Municipality: A Critical Realism Paradigm Perspective

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Abstract— Globally, government organizations including local government agencies have become progressively interested in using social media applications to open new venues of interactions with citizens. Due to the nature of social media applications in terms of users' ability to generate content, a higher level of engagement is expected to take place for not only to deliver public services but also to design as well as render innovative public services. Despite the growth in literature on social media, there is still a limited understanding on what mechanisms should be employed to create public value by using social media applications. This study therefore aims to identify the causal mechanisms and other enabling other conditions that jointly explain public value creation using social media applications. To address this concern, we report on the development of a model to investigate public value creation using social media applications. The model has been empirically evaluated using a qualitative case study in a large Saudi Arabian Municipality from a critical realism perspective. The model and empirical evidence together contribute towards establishing a theoretical foundation for research into the impact of social media applications for public value creation. In addition, municipality managers can learn useful lessons drawing on our findings. The study also presents a methodological contribution to social media research by providing insights into the application of critical realism ontology and methodology for assessing public value creation through the use of social media applications.

Keywords— Social Media, Public Value, Critical Realism, Municipality, Saudi Arabia.

I. INTRODUCTION

In general, social media applications have become important communication tools between government agencies and citizens by enhancing the effective delivery of public services, supporting public awareness on safety issues (e.g. natural disasters and traffic issues), and facilitating democracy through greater citizen involvement to effectively address challenges faced by public [1-4]. Government agencies now use social media applications to communicate with their key stakeholders: citizens, business communities, emergency service agencies and many other stakeholders. In the context of the local government, social media is vital in fostering commitment of officials and citizens to collaboration for promoting public service innovation (e.g. generating ideas for creating new public services). Local government agencies are

using social media applications as channels to offer opportunities for: a) increased citizens' participation and engagement in local government decision making, b) improved transparency and accountability by demanding government agencies to share greater information with the members of the public [5], c) decreased corruption by observing and controlling behaviors of government employees [6], d) co-production of public services by enabling government agencies and the public to develop and design government services together, and e) development of innovative solutions by exploiting public knowledge to address societal problems [7].

Social media applications practices in the public sector include a various types of social networking services, such as Facebook, YouTube, blogs, Twitter or other digital media sites to support an organization 's objectives, service delivery, as well as relationship between management and the publics [8] Improving public

engagement and public services is crucial for achieving public value such as fairness, trust, transparency and integrity [9].

Local government agencies, which represent the closest tier of government to public, have been motivated them to promote greater engagement with their key stakeholders [10]. The promoted engagement via social media applications may result in discrepancies of views held by citizens and government officials about what the priorities of what public services and public value should be delivered. This issue of discrepancies of views has not been yet rigorously examined in the social media Literature. Despite the vast amount of existing literature focusing on government agencies' value from social media applications, little studies have systematically focused on the application of social media in a local government context, thus influencing public value. While social media initiatives are promising in promoting public value, there is an inadequate research aimed at understanding the phenomenon and assessing its influence on decision-making processes for public value creation, specifically, in the developing countries context [11]. Unlike developed countries, where the democratic process is already advanced and well-operationalized, developing countries are generally known for low democratic progress. Social media in such a context could potentially significantly influence democratic progress. A number of scholars are calling the IS and e-government researchers' communities to investigate the influence of social media on public value creation [8, 12-16]. In this regard, it is considered that the application of Critical Realism Paradigm (CRP) is suitable to better understand how public value is created via social media. Furthermore, in the existing literature on public value creation, there has been a notable lack of rich insights into the application of the CRP in terms to understand the role of social media as a channel to create public value.

This study therefore adopts CRP in a Saudi Arabian local government context to better understand how social media applications influence the creation of public value. Therefore, the contributions of this study are three folds: a) a research model, as a conceptual base, that provides a rich understanding of the mechanisms and conditions of public value creation for the context of developing countries, particularly, in Saudi

Arabia, b) a methodological contribution to existing literature by proposing CR [17-19], c) a contribution to practice by providing guidelines for social media users including citizens as well as government officials to better utilize social media capabilities to create public value. Building on the above-mentioned gaps, this study seeks to answer the following research question:

How does the use of social media applications as channels to create public value for the local government context, as perceived from the perspective of two key stakeholders (government officials, citizen representatives)?

The study is organized as follows: First, the related background literature is reviewed. Next, the model and the theoretical foundations of the model and propositions are presented; this is followed by a discussion of the case study. The model and propositions are evaluated from the analysis of the data. Lastly, the study findings are consolidated with previous literature and conclusions are drawn.

II. RELATED LITERATURE

This section highlights three key aspects involved in this study: social media use by public organizations in general, public value, and social media and e-government. Each aspect is briefly explained below:

A. *Social Media Use by Saudi Citizens and Public Organization: A Brief Description*

Saudi Arabia began censoring Internet access as official government policy in 1999. The Saudi Arabia government announced the implementation of a strategy to screen, monitor, and censor the use of the Internet. The monitoring of the Internet use is managed by King Abdulaziz City for Science & Technology (KACST). The number of active social media users in Saudi Arabia is over 28 million in 2023 [20]. Internet penetration among Saudi nationals is about 93 percent and this may well account for the increasing popularity of online video streaming throughout the country. The use of social media in Saudi Arabia is thus progressively increasing. However, in the existing literature for social media use in Saudi Arabia, few studies have looked into the role of social media use by government organisations. For example, Al-Aama [21] examined how Saudi municipalities use Twitter to communicate with citizens. The

study identified the most important topics that attract citizens to participate in social media applications (e.g. project construction information, new regulations about licencing, and public service announcements). Another study is reported by Al-Saggaf and Simmons [22] who investigated social media data posted by citizens and government officials on social media accounts during two major natural disasters. They concluded that social media helped users to communicate the gravity of the damage caused by the disasters. Their findings indicate that posts were about discussing what has actually happened, and why and who was responsible. These posts focused on criticizing the government calling for action to be taken to remedy the situation. Therefore, no studies exist for the context of Saudi Arabia that discusses the role of social media applications for PV creation.

B. Public Value

The term 'Public Value' (PV) is considered the most discussed topic in the last twenty years in the broader public Administration (PA) literature [23]. Therefore, this has resulted in many definitions of PV. According to [24], PV can be meaningfully interpreted as a "management paradigm; a government rhetoric, a narrative, or even a performance management tool". However, [25] consider PV as "maximizing the utility of government to civil society by providing services directed towards the public good". [26] define PV as "context specific preferences of individuals on the rights, obligations, and benefits to which citizens are entitled as well as the obligations of citizens and their designated representatives".

For the purpose of this study, we adopt the definition of [26] since it refers to designated representatives who influence PV creation, and additionally we concur with the idea that the operational process of public services delivery should be guided by the values that are potentially sought by citizens.

When it comes to considering how PV might best be realized, [9] triangle represents the most well-known framework for understanding PV creation [27]. [9] coined the term 'PV', and identified the basic idea behind PV as being the 'Strategic Triangle'. Such a triangle involves three vital factors: a) creating something substantively valuable, legitimate and politically sustainable, b)

making it operationally and administratively feasible, and c) considering available internal and external capabilities. More specifically, the triangle is designed to ensure that decision-makers take into consideration the following three key questions relating to the public service delivery: is it legitimate and politically acceptable? Is it operationally feasible? and, is its purpose publicly valuable? In that way, the triangle is a guide for coordinated collaboration among all stakeholders [27].

C. Social Media and E-government: PV-based Frameworks

The use of information and communication technology [1] across the public sector is regarded as an important step in generating PV, thus linking it to the development of the e-government in a citizen-government focused cooperation [28].

As a result, the adopted technologies, policies and outcomes of e-government initiatives can be assessed with regard to the resulting increment of the public organization's ability to deliver PV [28]. Consequently, PV mainly takes into account the roles citizens may have (e.g. users and administrators), and the significance of e-government systems as realized by the citizens when they interface with public organizations or when they access public services [29, 30].

There are a number of studies that empirically test the hypothesis of PV for: a) the e-government context in general [28, 30-32] and b) social media for government services as a part of e-government services (e.g. [16, 33-35]).

[31] for example, created an evaluation system for electronic services established on a PV structure and heuristically authenticated their hypothesis based on two case studies in the UK. A comparable analytical framework for social media was also developed by [16]. Their work was to assess the effect of electronic services and was founded on the PV structure (trust, outcome, and services). However, such studies, with approaches mainly based on defined indicators meant to assess economic performance and the effect of the public administration's adoption of e-government, often fail to include the political and social effects of the creation of PV [36]. PV may be better conceptualized with the help of social media springing from [9] strategic triangle, which is an empirical device for use by public officials. No

previous studies focusing on PV theory have relied on the applications of CRP to explain the causal powers between conditions and mechanisms to trigger events, in our case PV. Furthermore, the divergent and convergent opinions between government officials and citizen representatives in relation to the public value creation process on social media applications have not yet been examined in existing literature. Consequently, scholars are of the opinion that further initiatives should be taken to investigate these aspects [12-16].

III. THEORETICAL BACKGROUND OF THE MODEL

As a part of developing the research conceptual model, five major individual constructs have been derived from relevant literature including information systems and public administration disciplines. These individual constructs are discussed below.

A. Social Media Capability

Multiple definitions exist for social media capability (SMC) in the Information System (IS) literature. Moreover, social media capability is also equated with social media affordance. These divergent ideas discussed in the existing literature cause confusion due to similarity of meanings. To avoid such confusion, we have decided to integrate both concepts into a single one, which is referred to as social media capability.

Therefore, we adapted the Braojos-Gomez, Benitez-Amado, and [37] definition of social media capability as “the ability of local government agencies to utilize social media functions, features and characteristics for fostering public engagement to execute government activities” (p. 445). Existing IS literature provides evidence that social media capabilities can have an impact on government activities (e.g. customers/citizen engagement) and the overall organization performance [11].

B. Trust in Social Media

III.IS literature further highlights the importance of trust for the social media context [38]. Trust has been examined from two perspectives: a) trust in government behavior through business processes performed on social media applications (e.g [39, 40], and b) trust in people, either government officials or citizens, in their use of social media

applications [40, 41]. However, trust in the technological part of social media has remained largely ignored [38]. [42] argue that citizen participation on social media applications encourages a feeling of belonging, boosts government legitimacy, and increases trust in government. Likewise, [40] have reported a number of factors such as systems quality and content quality. These factors are related to social media use and affect the level of confidence of both government and citizens. Consequently, the engagement based on trust in the technology should be considered.

C. Public Engagement

Public engagement has gone through many developmental stages in different contexts, and has been affected by ideological, social, political and methodological means [43].

The concept of public engagement is still evolving through new means of digital communications, like e-government and social media, which are built on web 2.0 technology. Various levels of public engagement have been reported in the literature.

For example, in Arnstein [44] famous ladder of citizen participation, there are three levels of public engagement, which are then further broken down into eight levels. In contrast, [45, 46] have only two levels of communication. Another recent topology is provided by DePaula, et al. [47], where engagement on social media is classified into information provision, input seeking and symbolic presentation. In this study, we classify public engagement into three levels: information dissemination level, consultation level and co-creation level. The information dissemination level refers to the information posted on social media applications, both by citizens and by government officials, for their own benefit. Consultation is a limited two-way communication channel that allows stakeholders and citizens to contribute their opinions on some issues. Finally, the co-creation level involves citizens on social media applications in decision-making processes, such as planning and designing policy, services, strategies and allocating budgets, etc.

D. Public Service Innovation

Recently, there has been a great deal of professional and scholarly interest in “innovation”

in the public sector [9, 48, 49]. However, there exists no consensus about the definition of innovation for the public-sector context. In this study, we have adapted multiple definitions to include different components of public service innovation such as type of change, transformation or innovation. These definitions [48-50] are combined as follows: “The implementation of a new or significantly improved product (good or service), or process which results in significant improvements in and/or a complete transformation of outcomes in the form of efficiency, effectiveness and/or quality”. This definition incorporates four categories of public service innovation developed by [51]: a) developmental change (the significant improvement of existing services delivered to existing users), b) expansionary innovation (utilizing an existing service and delivering it to a new group of users), c) evolutionary innovation (creating new services for current users), and d) total innovation (supplying new services to new users) [52].

E. Classifications of Public Value

Classifying PV represents another area of ongoing research that ranges from ‘professional and managerial values’ to encompassing issues such as ‘social values’ and ‘democratic values’. Many studies classify PVs based on different dimensions [23, 53-56]. From a careful review of these taxonomies, the taxonomy mentioned by Bannister and Connolly [54] which is established by Kernaghan [56] is chosen for this study as the basis for measuring PV. This is because a) most proposed classifications lack even the most basic requirements to assess their validity and usefulness, except for Kernaghan [56] work, which has not yet been criticized [57]; b) it has been classified based on public services, whereas other taxonomies have been classified on a general knowledge of values in the public administration disciplines; c) there are many duplications in the value sets of other taxonomies: for example, accountability, user democracy and professionalism can be found twice in at least three dimensions of work [23]; d) it introduces professional values as a separate dimension, which relates more to internal activities such as effectiveness and efficiency; and e) each dimension in [56] taxonomy is applicable to social media use in the government context.

IV. RESEARCH MODEL

The proposed research model (Figure 1) consists of five constructs as discussed in Section III. The model is structured to establish the linkages between the constructs: social media capability, trust in technology, public value theory [9], public engagement, and public service innovation. Each link is further discussed and relevant propositions are formulated accordingly.

Social media capability is related to social media enabled public engagement: (e.g. information sharing, visibility and editability) assists organizations in running mass collaborations between executives, employees and citizens. The local government agencies’ proficiency in sharing, co-creating, discussing and modifying user-generated content facilitates information sharing, interaction and connection with citizens [58], thereby improving citizens’ participation and interrelatedness. For example, citizens might engage in the council’s social media applications and want to stay informed about the council’s activities and future launch of services [59], or there could be collective intentions to deliver better services. Moreover, providing a useful and easy way to access information through social media influences the public to interact with others and return to the organizations’ social media applications and websites [60, 61]. Social media capability is used to engage with citizens with the aim of developing service innovations. These capabilities can be successfully utilized to support public engagement at various levels. This directly leads us to the following proposition:

P1: Social media capability is related to social media enabled public engagement.

Trust in social media technology is related to social media enabled public engagement:

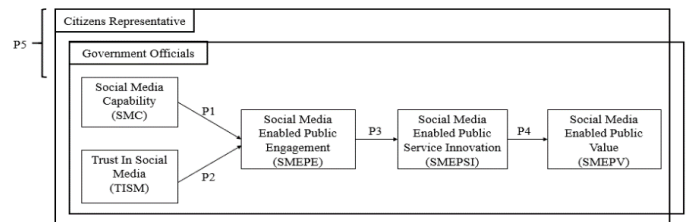


Fig. 1. Social Media Enabled Public Value: A Research Model

Trust in a government’s social media is an important measure to increase public engagement with citizens. The degree of the public’s trust of the government is a measure of the extent to which

the government achieves its goals. The relationship between trust in social media applications and public engagement has also been observed in recent studies [40, 62]. Warren, et al. [62] found that trust in using social media applications influences the public's propensity to engage with government officials. Park, et al. [63] concluded that the direct involvement of a government's leading officer increases the public's trust in using social media. Therefore, the following proposition is derived:

P2: Trust in social media applications is related to social media enabled public engagement.

Social media enabled public engagement is related to social media enabled public service innovation : Public engagement between citizens and government officials in the development and subsequent implementations of innovations in public services holds a great deal of importance in terms of the success of the public service innovation process [64]. Innovations could be made in public service delivery to create and sustain relationships between government agencies and citizens, encouraging citizens to participate in the provision, implementation and consumption of public service delivery, and bringing services even closer to the consumers. This requires digital intermediary channels such as social media to produce innovation in public services. In general, the broader IS literature has paid less attention to information communication technologies [1] in the production of innovation in public services for the public sector. However, several authors have addressed the potential of social media for the innovation of public sector organizations [50]. Most of these studies have focused on the technological aspects of social media, while other aspects have not received equal attention. Researchers have argued that the engagement between citizens and government officials in the process of public services delivery could promote innovative ideas Linders [58]. Mergel [65] suggests that innovation in public services is not limited to the use of social media applications, but compared with other ICT applications, public engagement is observable. Therefore, the following proposition is derived:

P3: Social media enabled public engagement is related to social media enabled public service innovation.

Social media enabled public service innovation is related to social media enabled PV: Emerging alternative approaches to public service delivery and changing social expectations make social media use at the local level a prerequisite for creating PV. Today, public service innovation constitutes a vital part of countries' administrative reforms. This is because governments have questioned the traditional concept of public service delivery in the context of New Public Management (NPM) [9]. Therefore, alternative approaches have been introduced by facilitating innovation in public services and allowing citizens to be part of the process of designing, planning and implementing innovation [66]. Alongside this, the PV could go hand in hand with innovation in public services. Today, citizens expect public institutions to provide public services not only in an efficient way, but also in a participatory and accountable way. In fact, it is believed that the involvement of citizens through social media applications in every stage of public service design and delivery can help improve public services through a better understanding of citizens' changing priorities and through the accumulation of citizens' information and ideas [58]. In return, PV can be maximized. Therefore, the following proposition is derived:

P4: Social media enabled public service innovation is related to social media enabled public value.

Key stakeholders' perceptions of PV: Governments have been paying increasing attention to the implementation of social media technology to help innovate in the design and delivery process of public services. Such innovation includes the delivery of improved (e.g. efficient, effective) public services to citizens. However, there are concerns about who decides what public services innovations should be applied, as citizens and government are considered to be co-producers of services. Therefore, the realization of the delivered services should be guided by the opinions of both government and citizens [15]. In particular, it is unclear whether and how citizens and governments' perspectives on social media coincide and/or diverge in terms of the scope and objectives of innovation in public services and therefore the value created. [67] stated that government officials are confident about e-government's effects and outcomes, but

citizens are apparently less sure. The way citizens and government officials perceive value can differ because government officials may demonstrate bias about the role of social media for value creation due to their investment in and commitment to the use of such technology. This may not be reflected in the opinions and viewpoints expressed by citizens about PV created through social media, because they are unlikely to have technological bias or unfavorable perceptions of social media applications supported by local government agencies [67]. Therefore, the following proposition is derived:

P5: There is a difference in the perceptions of key stakeholders (e.g. government officials and citizen representatives) towards how social media affects public value.

V. RESEARCH METHOD

Justification of Research Approach: Application of CRP

There are three domains of reality according to CRP: a) the domain of the empirical relates to people experiences, b) the domain of the actual relates to the events that people directly or indirectly experience, and c) the domain of the real to the generative mechanisms that contribute to these and other related events [68]. The generative mechanisms can initiate events that occur in the actual domain, and the events could be empirically observed. The generative mechanisms described as structured material and immaterial entities. This description includes other events and experiences, which have causal powers that can be (partially) generated by the meaning people give to them, and instantiated by intentional or unintentional, and rational or irrational actions of people [68].

A critical realist researcher tries to understand as much as possible by analyzing the three domains: the real, the actual and the empirical, and the interplay between the three entities: structures, mechanisms and events (Figure 2).

A CRP perspective can be used to seek understanding the societal events/effects associated with introducing new structures (e.g. new ICT systems such as social media used by

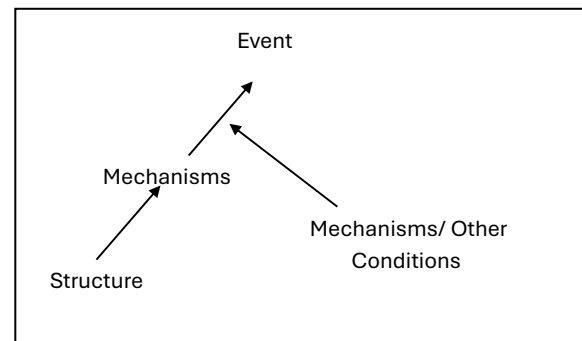


Fig. 2. Critical Realist View of Mechanisms ([69], p. 15)

municipalities in developing countries context), and explaining the mechanisms associated with those structures [70]. However, CRP does not aim to uncover general laws that predict outcomes, but rather to identify the underlying mechanisms that have generated the phenomena of interest (i.e. public value creation) and could do so again. We therefore argue that a methodology derived from a critical realist philosophy can serve as a suitable lens to reveal mechanisms and new conditions that may have generated to create events (i.e. PV).

[71] condoned the use of existing theories as a starting point for empirical research: “Once a hypothesis about a generative structure has been produced in social science it can be tested quite empirically, although not necessarily quantitatively” (p. 62). However, existing theories may not necessarily reflect reality accurately, and some theories may be more correct than others. According to [71], ‘researcher should /avoid any commitment to the content of specific theories and recognize the conditional nature of all its results’ (p. 6). For this reason, the identified constructs borrowed from different theories and relationship among them (as reported in Section III) are treated as initial theories. The initial theories facilitate a deeper analysis that can support, elaborate, or deny relationships to help build a new and more accurate explanation of reality. With no existing framework to explain the association of social media capability, trust in social media, public engagement, public service innovation and PV, our study represents a theory-building endeavor conducted from a critical realist ontological perspective. This study is intended to investigate how local governments use social media applications to create PV. This study can be described as information systems evaluation

research [72]. A critical realist IS evaluation research searches for mechanisms and conditions to explain why events happen, rather than predicting events, and aims to develop and test theories grounded in practice [73, 74]. As an initial step in CRP studies, our study focuses on possible causal mechanisms which could produce events, rather than descriptions of empirical events themselves [69].

A. Critical Realist Case Study

Determination of the method to be applied in research is fundamental. A CRP case technique is appropriate, especially in plainly bound, but composite, occurrences such as organizations, inter-organizational relationships or nets of connected organizations [75, 76]. In determining causality, the researcher may be required to go beyond or narrow the preliminary boundary, because it is clear that the causal mechanisms are more narrowly focused than previously thought. Yin [77] asserts that questions about ‘how’ and ‘why’ are better answered through qualitative methods. In our study, we used a single case approach in capturing mechanisms (social media capability, trust in social media, public engagement and public service innovations that are interlinked to produce events [PV]). Moreover, this approach helps us locate various conditions that trigger mechanisms. The unit of analysis used for this study is a single local government agency that implemented at least one social media application for its service activities.

B. Data Collection Method

To gain deep understanding, data was collected from semi-structured interviews undertaken in a large municipality in Saudi Arabia. The interviews were undertaken with five government officials (e.g. deputy mayor for regional areas, deputy mayor for IT, social media coordinator, bridges construction manager, and public relation manager), and six citizen representatives. They have working experience with the council for over 5 years on average. Except the social media coordinator, the remaining ten participants were males. The average time duration of the interviews was around 40 minutes. The citizen representatives are closely working with the municipality and have been elected by citizens to convey their

services’ requests, issues and suggestions to the decision makers of the municipality. The public value theory argues that the preferences of individual cannot be combined to reflect what society wants from their government. Citizens with elected representatives decide together what the values they are looking for as a collective preferences [36]. Therefore, we have decided to interview citizen representatives, not ordinary citizens who are served by the municipality.

C. Data Analysis

Data coding analysis was done at two cycles following the approach of [78]. A coding scheme was developed based on the interview questions derived from literature. In the first cycle coding, we use a primarily provisional coding. It begins by compiling a predetermined “start list of set codes prior to field work” [79]. These codes are of anticipated categories derived from literature review. The deductive reasoning has been applied in the first cycle code as suggested by [78]. The deductive reasoning is always theory driven and resulted in codes and relationships (mechanisms) created to label a chunk of a descriptive paragraph to group empirical data into themes and subthemes reflecting social media capability, trust in social media, public engagement, public service innovation and PV.

After that, the second cycle coding was done (i.e. inductive reasoning). In this case, pattern-matching coding is applied. Codes and propositions were evaluated using pattern matching [80], which enabled us to identify an emergent theme, configuration, or explanation about relationships among constructs shown in our model. The initial mechanisms were theory driven and the new emergent themes (conditions) are data driven; going back and forth using inductive and deductive reasoning is also called retrodution in critical realism paradigm. The implementation of retroductive reasoning to determine how and why contingent conditioning of causal mechanisms may or may not impact real events [75]. Combining these types of reasonings with the methods of data analysis proposed by [78], to the best of our knowledge; has been not regularly used in e-government research. This provides a methodological learning curve for IS and e-government researchers community to learn

interesting way of analysis using retroduction reasoning.

The empirical findings presented in the next section are reported as the intensity of the relationship among constructs. To report an intensity of a relationship, three-point scale measurements are considered: weak relationship, moderate relationship and strong relationship. Weak relationship is when at most one or two dimensions of a construct on one side are affected by at least one dimension of the related construct. Moderate relationship is when at least two dimensions of a construct on one side are affected by at least one dimension of the related construct. A strong relationship is when all dimensions of a construct on one side are affected by at least one dimension of the related construct.

VI. EMPIRICAL FINDINGS

This section provides empirical findings using qualitative data analysis on interviews made in a large municipality in Saudi Arabia. The empirical findings are reported in light with [81] critical realist view. This includes the mechanisms in which they have been pre-identified from relevant literature on social media and e-government. The empirical findings also report other conditions which emerge from the data.

A. Empirical Findings: Mechanisms

The empirical findings report the intensity of the relationship mechanisms using the three-point scale measurement as discussed in section II. Table I shows the influence of mechanisms involved in all dimensions from each construct.

For the mechanism 1 at a broader level, all three dimensions describing social media enabled public engagement are found to be influenced by all three dimensions of social media capability from both perspectives, government officials and citizen representatives. The influence between the dimensions of social media capability (function, features and characteristic) of social media capability affects both types of engagement one-way and two-ways. For instance, the managing contact lists on social media applications as a part of feature dimension affect public engagement. The municipality officials on Twitter, for example,

TABLE I: Empirical Findings on the Mechanism

Stakeholders	Existence of relationships between dimensions of constructs (Mechanisms)								
	Construct dimensions	Mechanism 1 SMC → SMEPE			Construct dimensions	Mechanism 3 SMEPE → SMEPSI			
		SMEPE				SMEPSI			
	SM C	L	P	E	SM EPE	DC H	EXP	EVU	TC H
GO	FU	○	●	○	L	●	○	○	○
	FE	●	●	○	P	●	●	●	○
	CH	●	●	●	E	○	●	●	●
CR	FN	●	●	●	L	●	○	○	●
	FE	●	●	○	P	●	●	○	●
	CH	●	●	○	E	○	○	●	●
Stakeholders	Construct dimensions	Mechanism 2 TINSM → SMEPE			SME PSI	Mechanism 4 SMEPSI → SMEPV			
		SMEPE				SMEPV			
	TI SM T	L	P	E	SM EPE	ETV	DEV	PRO V	PEV
	GO	FN	●	●	●	DC H	○	●	●
HE		●	○	○	EXP	●	○	●	●
RE		●	●	○	EVU	○	○	●	●
CR	FN	○	●	○	TCH	○	○	●	●
	HE	○	●	○	DC H	●	●	●	●
	RE	●	●	○	EXP	●	○	○	○
					EVU	○	○	○	○
					TCH	○	○	○	○

Note: GO: Government Official, CR: Citizen Representative, SMC: Social Media Capability, FN: Function, FE: Feature, CH: Characteristics, TSMT: Trust in Social Media Technology, FN: Functionality, HE: Helpfulness, RE: Reliability, SMEPE: Social Media Enabled Public Engagement, L: Listening (information Dissemination), P: Participation (Consultation) E: Empowerment (Co-creation), SMEPSI: Social Media Enabled Public Service Innovation, DCH: Developmental Change, EXP: Expansionary Innovation, EVU: Evolutionary Innovation, TCH: Total Change, SMEPV: Social Media Enabled Public Value, ETV: Ethical Value, DEV: Democratic Value, PROV: Professional Value, PEV: People Value : ● Positive relationship ● Negative relationship ○ Neutral relationship ○ No enough Evidence

follow other government agencies, officials and municipalities without being noticed. Having the knowledge of other agencies’ opinions about the municipality through their accounts provides the government officials an idea of how best to engage with citizens. This type of communication is one-way communication where the municipality is listening to other government agencies’ opinions about the municipality’s performance. According to the social media coordinator (I2):

“It is useful, to be honest we have hidden contact list on Twitter account, we added other

competitors (other councils and government agencies), or any agent involved in the municipal matters, so we would like to see what these agencies are doing and what they are saying about us” (I2: SMC-FE).

The effect between the dimension of function and the two-way type of public engagement is the function of private messages. Citizens can have interactive conversations with government officials through private messaging. This kind of function on social media enables two-way communication. According to the public relation manager (I1):

“For the private messages, [social media team] is responsible for responding to citizens using private messages function. Social media team respond most of the time to guide citizens to the right department to solve their issues” (I1: SMC-FU).

The empirical findings of the case study suggested that the dimensions characteristic and functions have an impact on the type of co-creation of public engagement. As for the dimension of characteristics, the capability of idea storming on social media, citizens can make suggestions and provide ideas to overcome municipal services issues. Social media can be a good source for generating ideas. The public relation manager (I1) has confirmed that some of the good ideas are considered for implementation. However, the municipality does not acknowledge that these ideas come from citizens. Ideas are always about certain and well-known issues to citizens as well as government officials. If these issues have been addressed by government officials as citizens suggested, it is then known that government officials have taken citizens’ ideas seriously. According to the public relation manager (I1):

“It is possible that citizens make comments on specific issues, complain, or suggest of new ideas [via social media]. Some of the ideas are good ... we consider them [ideas] ... if the issue is known to them [citizen] we take their suggestion seriously” (I1: SMC-CH).

For functions like information editability, event creation and private messaging, citizen representatives confirmed that these functions are not found to be enablers of co-creation. For example, private messaging takes the place of

enquiries and request for services. It is never used as a way for collaboration between citizens and government officials to design a service.

Qualitative data analysis for proposition 2 (P2) at a dimensional level suggested that all three dimensions describing social media enabling public engagement are found to be influenced by all three dimensions (functionalities, helpfulness and reliability) of trust in social media technology from the government officials’ perspective. From the citizen representatives’ perspective, the case study findings suggested that only two dimensions of trust in social media technology (functionalities and reliability) have influenced the dimensions of social media enabled public engagement.

Government officials commented that social media applications provide freedom to the users to do whatever they want on social media applications. They can communicate with municipal staff through following their accounts (a type of one-way communication) or sending messages and replying to comments (a type of two-way communication). As for the co-creation type of communication, social media provides government officials the opportunity to create a poll or survey to seek citizens’ opinions for the purpose of enabling citizens to participate in the decision-making process. All these functionalities invite a great deal of trust in the technology of social media. The construction manager (I5) has confirmed that social media has various functions which enable the user to do what they want. Through social media, users can provide and receive feedback. This is two-way communication being performed on social media. According to him:

“I can see that twitter I trust it, I can upload content, we can get feedback... It gives me excellent indication of what people want and think” (I5: TISM-FN).

However, some government officials expressed a little bit of concern about the dimension of reliability as it affects the one-way type of social media enabled public engagement. Social media applications like WhatsApp have been disrupted. This is something beyond the user’s control. The parent company should deal with this kind of global disruption. The relationship between this kind of disruption and engagement is that citizens will also not be able even to engage with each

other. This means the minimum level of engagement will be no longer valid due to system disruption. Having said that, this barely happens and if so, the issue will be addressed in a very short time. According to the social media coordinator (I2):

“To some extent I trust using social media, social media is like any other software, and there could be downtime, I trust using social media but if the developer company decided to sell the app like what happened with WhatsApp...” (I2: TISM-RE).

For proposition 3 (P3) at an aggregate level, all four dimensions describing social media enabled service innovation are found to be influenced by all three dimensions of social media enabled public engagement. The case study findings suggested that the first level of one-way public engagement is found to affect only the developmental change, which is the first step towards public service innovation. This type of service innovation does not require a high level of engagement. Our finding highlights that for developmental changes that occur over time, it may be suitable to use the one-way communication type and two-way of public engagement. For example, the social media coordinator (I2) has confirmed that social media is an excellent method to publish new information about services, requirements, and campaigns, among others. This type of information sharing will develop as citizens become aware of what they are entitled to have in terms of public services. Over time, citizens then will raise a culture of awareness. They will realize how best they can deal with public properties and services available to them. According to her: “SMAs are means to share any kind of information about council’s services, announcements, news etc... It could be also one-way communication if there is a certain message, we want to deliver to people” (I2: SMEPE-L).

Likewise, the citizen representative (I6) confirmed that the most used method of communication with government officials at the municipality is one-way for reporting problems and requests for services. If the government officials, then respond to those requests and services, over time there will be a developmental change in public services. According to him:

“They [government officials] reply to citizens about small services that they can deliver straightaway like dumping a hole in a street” (I6: SMEPE-P).

For expansionary innovation dimension, where delivering existing services to new users, a higher level of public engagement is required through two-way communication. Specific feedback is needed. This feedback will enable the municipality to deliver existing services to new citizens. Citizens’ feedback will be then collected, analyzed and sent to the right department within the municipality to perform an action. This action might be internal for enhancing the way services are delivered, where citizens might not be aware of this internal action, or externally where the output will be existing services which citizens will observe and use. The deputy mayor for information technology (I3) has remarked:

“We have many new services about licensing, parks, sports etc. And we share information about these services on social media and if there are many suggestions and complaints received on social media... (I3: SMEPSI-EXP).

Qualitative data analysis confirmed that government officials are not willing to receive suggestions from citizens. When that is the case, citizens then use social media to formulate a public opinion and start performing what they suggest themselves. A group of citizens have asked the municipality for a new service over social media, and where there was no response, citizens start working themselves on what they have suggested. According to the citizen representative (I9):

“The current situation is two-way communication between citizens and government officials... For example, citizens suggested a solution to dumping rubbish at the public parks through social media, the council did not engage ... instead, voluntary initiatives were then introduced by citizens on their own” (I9: SMEPSI-EXP).

For the ‘evolutionary innovation’, where delivering new services to existing users, a greater public engagement is essential. Two-way communication and co-creation types of engagement are suggested. The issue of licensing for construction projects is a good example of co-creation level of engagement for the evolutionary

innovation dimension. The municipality reengineered the process of obtaining licenses in a more efficient and effective way. This view is supported by the public relation manager (I1):

“Just yesterday we have launched a new service about draft site plan approval request... This service is done based on citizens’ feedback about this service received on social media... [explaining what was the issue and what citizens suggested] ... This causes too much pressure on the council’s staff...so the council decided to change the process [of licensing] ...” (I1: SMEPSI-EVI).

For citizen representatives, there is an attempt from the municipality to provide a chance for citizens to participate in decision-making through asking them to vote for the best fish market designed by the municipality. Citizens feel that voting for something that is already designed by the municipality is not enough. They wanted to participate in the design of the services in the first place. If the council does not provide this opportunity to them, citizens will then work on their own to fulfil their desires. According to him:

“Voting for the best design of the fish market was done through social media...But this is not enough, citizens must participate in more important decisions ... but if the designs themselves proposed by citizens, I do not think the council will consider them...” (I8: SMEPSI- EVI).

Public engagement for total innovation is that new services can be designed and delivered to target a new group of citizens like unemployed youth. The deputy mayor for information technology (I3) has confirmed that the new service of ‘food truck’ is introduced for the first time in the country supervised by the municipality. The idea was generated over social media discussion. Social media applications helped the municipality in promoting the service. The municipality announced the new services, how to fill out an application, how to get licenses and many other relevant issues. The idea was then welcomed by the citizens. According to him:

“Food truck, for example, yeah it is started from a group discussion on WhatsApp among council’s staff, so they decided to do it and be the first council to do it. It was then promoted through twitter and we made campaign on how to get the license” (I3: SMEPSI-TCH).

Empirical findings confirmed that the total innovation type of public service innovation, where new public services are created for new citizens, is not reported at the municipality. This view is reported from the citizen representative when he confirmed that this type of service will be delivered on special occasions which has nothing to do with social media. According to him:

“Social media helped to allocate certain parts of parks to people with special needs for the activities and also for pregnant women the council has allocated certain foot bath for them but that’s not enough and I do not think this has to do with social media, it is already scheduled services and approved to be implemented not because people ask for it on social media” (I7: SMEPSI-TCH).

For mechanism 4 (P4) at a relationship level between the dimensions describing social media enabled public service innovation and the dimensions describing social media enabled PV, empirical findings confirmed that relationships do exist. Qualitative data analysis showed that the professional values and people values dimensions are the most realized values by most government officials. However, the least realized by government officials are the ethical values and democratic values. Although all PVs have been realized by almost all participants from both government officials and citizen representatives, democratic and ethical values are less realized compared to the professional values and people values. For example, delivering existing services in urban areas to a new segment of users in rural areas can be initiated through use of social media. Those citizens living in rural areas can use social media through creating hashtags on Twitter to express their concerns and ask for services which are new services to them. According to the public relation manager (I1):

“Yes, they helped [to increase ethical values] for example, the possibility of creating Hashtag on Twitter, for example people of [Suburb name] created several Hashtags asking for public services ...like provided to other suburbs...” (I1: SMEPSI-ETV).

Another example is the influence between people’s values and evolutionary innovation; a citizen representative asserted that this relationship exists. However, delivering new services to current citizens is entirely designed and delivered

by citizens themselves. Again, this shows fairness, compassion and courage to serve the community. According to him:

These values are there among citizens themselves, so as citizen representatives engaging with citizens on social media like WhatsApp and Twitter... social media helped for individual matters and for society as whole” (I8: SMEPV-ETV).

B. Empirical Findings: Other Conditions

As indicated above, there might be other conditions that affect the way mechanisms work. Through the retroduction analysis, we were able to identify other conditions, such as media type, content type, council capability and demographics. These conditions are briefly described below.

Media types: refers to whether texts, images or videos posted on social media applications have different effects on public engagement. Citizens engage with images and videos on social media more than text. The council has exploited this by uploading infographics about current or new services for education and awareness. According to the public relations manager (P1):

“The council uses all types of media (images, video and text); photos and video have the most effect because they explain more to people than the text.... infographics are images you can share on social media platforms that can condense many words into one picture...” (I1: MED).

Content Management: refers to type of content and how the way content is expressed can affect citizens’ engagement and attract more citizens to visit and engage with the council. This view was supported by the social media coordinator (I2) when she remarked:

“We found that it is a good idea to separate the regular news that may interest small groups of people from being published on the main account, so we created the ‘ATH’ account mainly for general news about the city. But if we want more engagement then we have to use the main account” (I2: CONT).

Organizational Capability: After the emergence of social media, citizens’ requests for services skyrocketed. However, some requests are just beyond the capability of the council. This view

was supported by the social media coordinator (I2) when she stated:

“Social media helped, actually... [engaging and delivering services] ...but the council did that because the capabilities are there in terms of labor and location. People need to understand the council sometimes does not have the capability of delivering services” (I2: ORGC).

Demographics: Differences in demographic factors, such as age and location, have a direct impact on public engagement and public services on social media. This view was supported by the public relations manager (I1) when he made the following comment:

“The requests for different services come from different segments of society through social media, but I think the elderly use social media the least. We also promoted events for women and children, and I can say that the feedback received from young people is more than old people” (I1: DEM).

VII. DISCUSSION

In this section the empirical findings are discussed in light of relevant existing literature. The section is divided into two parts. First, cross-comparison of the identified mechanisms between government officials and citizen representatives is discussed. The discussion addresses the four validated propositions (mechanisms) identified in the conceptual model in Section IV. Second, the emergent conditions are discussed in light of CRP of [81].

A. Cross-Comparison: Mechanisms

The overall result of the cross-comparison for each stakeholder about each proposition is shown in Table II.

Table II. Overall Proposition Status

No	Status (GO)	Status (CR)	Convergent or Divergent
P1	Strongly supported	Strongly supported	Convergent
P2	Strongly supported	Moderately supported	Divergent
P3	Strongly supported	Strongly supported	Convergent
P4	Strongly supported	Strongly supported	Convergent

Note: GO: Government Official, CR: Citizen Representative.

From table II, it can be clearly seen that there is no major divergence of opinions between government officials and citizen representatives among all the identified mechanisms except mechanism 2. In this research we found the influence of social media capability on public engagement to have no major differences between government officials and citizens representatives. Both government officials and citizens representatives are aware the social media capabilities and what they can offer for better engagement. These findings are in line with the previous studies [11, 59]. Mechanism 2 is the only one that shows discrepancies in the views between the two stakeholders about trusting the technology of social media. Our results suggested that government officials trust the technology when it comes to the first, one-way type of communication. This may be because a high level of interaction with the technology is not taking place. However, citizen representatives seem to trust the technology not only for one-way communication, but also for two-way communication.

In terms of the influence of social media enabled public engagement on social media enabled public service innovation, mechanism 3, there is a convergence of opinions between government officials and citizen representatives. Despite the overall agreement between the stakeholders on the influence of public engagement on public services innovations, government officials believe that they provide all three types of engagement from the lowest (one-way) to the highest (co-creation) while the citizen representatives believe otherwise. Government officials and citizen representatives alike believe that engagement through social media has enabled expansionary and evolutionary types of innovation. For the case of citizen representatives, they use social media among themselves without involving government officials. Citizens can be innovative using social media applications to create new services for themselves. This observation is in line with the view expressed by [82], who labelled it as 'ideation'. This is because of the nature of social media, which allows users to create, access, and share their own content [61].

Therefore, social media is considered useful for innovation in public services.

Mechanism 4 highlights the influence of social media enabled public service innovation and social media enabled PV. In this study, we focused on a less-discussed aspect of the PV: the citizen perspective as well as government officials. Even though [9] initial work on PV emphasizes the public manager's perspective, in his recent work [83] acknowledged that it was inappropriate to avoid the citizen perspective. The PV theory argues that individual preferences cannot be aggregated to reflect what society wants from the government. Citizens decide together via elected representatives what they value as a collective and these collective preferences reflect what is valuable when government action is concerned. According to, [84] PV should also include value from the citizens drawn from their experience.

The most PV dimension influenced by social media enabled public service innovation is people values followed by professional values. The most influencing type of innovation is developmental change. This may be because there have been no new services designed or deliveries of services to a new segment of citizens. At this stage, a development of the current services provided by the municipality is ongoing. However, government officials believe that almost all types of social media enabled public services innovation are influencing the realization of PVs. This is not true when applying the same concept for citizen representatives, as it can be seen that only three dimensions of social media enabled public services innovation to have been influenced. This may be because the government officials believed that social media provided a total innovation in terms of public services, while citizen representatives believed otherwise. Building on this, there is a convergence of opinion between government officials and citizen representatives about three mechanisms. Opinions diverge less, however, about the influence of trust in social media technology on social media enabled public engagement. Although there is a divergent opinion in almost all mechanisms, there are divergent opinions between government officials and citizen representatives on the actual application of those mechanisms as highlighted in section VII. This concludes that proposition 5 (P5) is partially supported. Proposition 5 (P5) stated that there

exists a difference in the perceptions of local government stakeholders (e.g. government officials and citizen representatives) towards how social media creates PV.

B. Cross-Comparison: Other Conditions

As shown in Figure 3, a causal mechanism is an explanation of how context, mechanisms and other conditions come together to trigger an event [69]. Four mechanisms were identified and postulated from the relevant literature.

These mechanisms, as reported in section VII, were qualitatively identified at a large municipality in Saudi Arabia from two main stakeholders. The mechanisms revealed can be compared with those proposed by the theory concerned, and confirming results contribute to establishing the boundary conditions of the theory. The outcome of the mechanism’s comparison, however, was contingent on other contextual conditions such as media type, content management, organizational capability and demographics. Our findings reported that engagement on social media can be subject to the type of media and how content is written and managed. This is in line with previous studies where the engagement between government officials and other stakeholders has been affected by content and media type posted on social media accounts [85]. Our studies reported that demographics such as age play a conditional role in engagement on social media. [86] highlighted that there are generational differences in the use of social media technology by organizations. A majority of younger people tend to shy away from personal contact and prefer online contact. The findings of this study are largely in line with this argument.

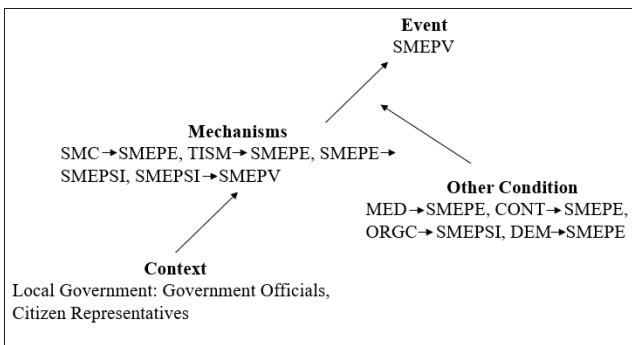


Fig. 3. Critical Realist View [69]

C. The Extended Research Model

The analysis of PV creation at the municipality is presented as a number of mechanisms. These mechanisms helped an assessment of our model confirm its applicability. No empirical evidence challenged any of the mechanisms. Through the retroduction analysis, we were able to identify new conditions (i.e. media type, content management, demographics and organizational capability). Those conditions have been identified from two stakeholders. There are no differences in realizing those conditions from the two stakeholders. Therefore, a set of new propositions have been made as follows:

P6: Different media types (e.g. text, images, videos and links) have a direct influence on public engagement.

P7: Content that is well managed and expressed in the interest of citizens has a direct influence on social media enabled public engagement.

P8: Differences in demographics factors (e.g. age, gender and location) have a direct influence on social media enabled public engagement.

P9: Organizational capability has a direct influence on social media enabled public service innovation.

Therefore, the new extended research model is shown in Figure 4.

VIII. LIMITATIONS AND FUTURE DIRECTIONS

There exist several limitations of this study which call for further research. The public value creation process generally involves multiple stakeholders. This study focuses only on two stakeholders: government officials and citizen representatives. Further studies are recommended to identify how other key stakeholders (e.g. private agencies, government bodies, higher level of authorities, ordinary citizens) contribute to the creation of PV. It would be an interesting idea to combine public value theory along with analysis of stakeholder salience model developed by [87], not only to identify the interest for each stakeholder when social media used at government agencies but to bridge the gap among them to achieve public interest. Another limitation is related to qualitative data analysis. The three- point measurement scale has been only applied to the initial mechanisms derived from previous

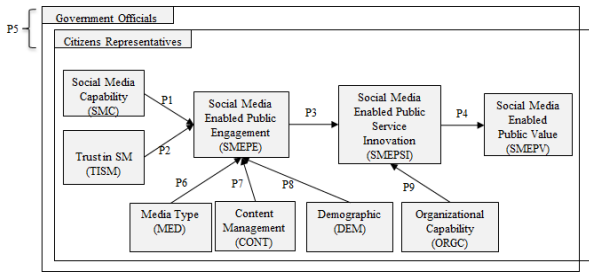


Fig. 4. social media Enabled Public Value: An Extended Research Model

literature and it has not been applied to those conditions derived from empirical data.

This is because there was not enough data to enable the researchers for formulating multiple dimensions for the conditions. Therefore, further research is required to further validate the conditions and expand them to have multiple dimensions in order to apply the three-point qualitative scale measurements. One further limitation of our study is due to its focus on a single local government organization. It is thus difficult to compare our results with other studies of e-government services use using quantitative methods for the context of public organizations context. Qualitative case study however is not designed to provide such comparisons. Hence, it is difficult to generalize our findings. The findings of this research serve as an empirical foundation for further research for such contexts using quantitative methods. Despite these limitations, we view it as important to better understand the actual use of social media in government to create public value.

IX. CONCLUSION

D. In this study, we have reported an initial evaluation of a theory-driven model that links a number of mechanisms (social media capability, trust in social media, public engagement, and public service innovation) to create PV as an event. The evaluation was done from two key stakeholders' perspectives. Results from our case study in a large municipality in Saudi Arabia provide support for the model and the proposed mechanism. Our results show that government officials and citizen representatives are alike capable and trusting of using social media technology. However, they have different views about the engagement level, service innovation and public value between the two stakeholders. Generally speaking, the government officials do believe that they have all three levels of

engagement on social media furthering all type public service innovation while the citizen representatives believe otherwise. This in turn has resulted in different views in realizing public values. Local government agencies as the closest tire of government should be considering the views of citizens living in their jurisdictions and facilitate their opinions to have higher level of engagement and participate in the decision-making process not only for public service delivery but also for delivery innovative public services. Our results also indicated couple of conditions or boundaries that local government agencies should also pay more attention to the boundaries or the conditions that limit them from interacting, delivering and innovating public services and therefore realizing public value. The findings of this study, through the initial evaluation of the model contribute to theory by enriching the IS and e-government literature and extending the applicability of theories applied in this study in developing countries. The model has improved our understanding by understanding the mechanisms and conditions for PV creation using social media applications for municipal matters. This has enabled creating a foundation for theory development in future social media and e-government research. Our study also presents a methodological contribution to IS research: we have provided insights into the application of CRP. Even though the literature has examples of applied empirical research using CRP, few have explicitly discussed their methods of data analysis (e.g. coding) or described how CR concepts resulted in their findings. One main purpose of this study is to provide an example of applied CRP analysis using retrodution reasoning (deductive and inductive) following the typical trajectory of a qualitative analysis of [75] two cycle coding: one is theory driven and the second is data driven. The practical contribution of the evaluated model offers useful guidelines to those who are responsible for making decisions for formulating social media strategy at local government agencies. These guidelines identify those mechanisms and conditions that the officials should care about when social media is used in the councils. This in turn will facilitate obtaining the desired events from the use of social media within local government agencies.

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تمكين خلق القيمة العامة من خلال وسائل التواصل الاجتماعي في البلديات السعودية: منظور وفقاً لنموذج الواقعية النقدية

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المستخلص. على مستوى العالم، أصبحت المنظمات الحكومية، بما في ذلك البلديات، أكثر اهتماماً باستخدام تطبيقات وسائل التواصل الاجتماعي لفتح قنوات جديدة للتفاعل مع المواطنين. نظراً لطبيعة تطبيقات وسائل التواصل الاجتماعي وما تنتجه من قدرة المستخدمين على إنشاء المحتوى، من المتوقع أن يحدث مستوى أعلى من التفاعل، ليس فقط لتقديم الخدمات العامة، ولكن أيضاً لتصميم وتقديم خدمات عامة مبتكرة. على الرغم من النمو الكبير في الأدبيات المتعلقة بوسائل التواصل الاجتماعي، لا يزال هناك فهم محدود للآليات التي ينبغي اعتمادها لخلق قيمة عامة باستخدام هذه التطبيقات.

لذلك، تهدف هذه الدراسة إلى تحديد الآليات السببية والعوامل التمكينية الأخرى التي تفسر بشكل مشترك خلق القيمة العامة باستخدام تطبيقات وسائل التواصل الاجتماعي. لمعالجة هذا الموضوع، قمنا بتطوير نموذج لدراسة خلق القيمة العامة من خلال هذه التطبيقات. تم تقييم النموذج بشكل تجريبي من خلال دراسة لبيانات نوعية في بلدية سعودية كبيرة، مع الأخذ في الاعتبار منظور الواقعية النقدية.

يساهم النموذج والأدلة التجريبية معاً في تأسيس أساس نظري للبحث في تأثير تطبيقات وسائل التواصل الاجتماعي على خلق القيمة العامة. بالإضافة إلى ذلك، يمكن لمديري البلديات الاستفادة من دروس مفيدة مستخلصة من نتائج الدراسة. كما تقدم الدراسة مساهمة منهجية في مجال أبحاث وسائل التواصل الاجتماعي من خلال توفير رؤى حول تطبيق منظور ومناهج الواقعية النقدية لتقييم خلق القيمة العامة من خلال استخدام تطبيقات وسائل التواصل الاجتماعي

الكلمات المفتاحية. وسائل التواصل الاجتماعي، القيمة العامة، الواقعية النقدية، البلدية، المملكة العربية السعودية.