Policy Dialogue, Collaboration and ICTS
A Mobilization Decision Theory Perspective

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Abstract: The use of ICT to support activities in the policymaking process is on the increase. At the inception of the COVID-19 pandemic, Government agencies around the world relied on ICTs to either remotely support and/or enable policy-making activities. Policy-making activities occur via collaborative processes between interested parties by means of dialogue. Some extant ICTs utilized by government agencies support and enable collaboration and dialogue. However, the decision on what ICT to adopt is not always easy as a result of the failure of some ICTs to support the task they were designed for. As a result due diligence is needed by public service administrators to decide on which ICT to adopt. This implies a decision process required to decide if the public agency will mobilize resources to acquire and implement the ICT. But as most government agencies around the world have adopted ICT to support dialogue and collaborative activities in their policy making decision. This paper provides the result of a study where the mobilization-decision theory was used to analyse and explain reasons why government agencies around the world, aside the pressure from COVID-19, made the decision to mobilize resources to acquire, implement and utilize ICTs for policy dialogue and collaboration.

Keywords: Policy, Public Policy, Dialogue, Mobilization Decision Theory, ICT

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1. Introduction

The essence of this paper is to use the mobilization-decision theory to explain why public authorities make the decision to adopt ICT to support remote dialogue and collaboration during the process of developing public policies. The essence of the paper is to further promote the Mobilization-Decision theory by pointing to the explanatory power it holds in explaining phenomena. The theory is a peer-reviewed theory proposed by Williams (2021). The theory was abstracted from his Ph.D. thesis. The theory has been used to explain a phenomenon as will be discussed later in this paper.

Although this paper promotes the Mobilization-Decision theory, the phenomena observed are also important. In the late 1990s and 2000s, there was a strategic push globally using both regulative and facilitative ICTs policies, which among others, were aimed at implementing e-government (Williams, 2020) (Lopez Carbajal, 2018). The drafting of the policies was the easier part, however, the implementation of these e-government policies was more successful in most western countries than in most developing countries (UN DESA, 2020). There are cases where certain e-government initiatives were abandoned (Heeks, 2002), and others where they had to be improved upon based on lessons from part project initiatives in order for them to work (see (Yeboah, 2015)). Hence one analyses the bi-annual UNPAN e-government survey over the years, overall there has been a gradual improvement in the implementation of e-government services in the Americas (Exclusive of North America) and Asia (UN DESA, 2020). There have been challenges in sub-Saharan Africa (ibid). Hence one could observe that by the enactment and adoption of e-government policies, government agencies around the world, so perceive the usefulness of ICTs. But there have been task fitness challenges, which casts doubts on the actual use of ICT in existing governance processes. In some countries in the Nordics, the process had to be changed to adapt to the possibilities made by the ICT (NordRegio, 2019) (DANIDA, 2012). This obviously had negative consequences for government staff that had to be reassigned. As a result in some Jurisdictions, there is resistance to change that ICTs to the adoption of certain ICTs in government agencies (TUC, 2021). However, in 2020 at the inception and heat of the COVID-19 pandemic. There was uncertainty on how to deal with the pandemic from a scientific perspective and

there was no vaccine. Hence different countries globally instituted lock-downs. However, despite either the limited or no implementation of essential e-government services in developing countries and the hitherto limited or no implementation of collaborative ICTs for e-governance in advanced countries, government agencies were able to work remotely using ICTs to carry out their function (Hennick, 2021) (UN DESA, 2020). One such function is policymaking, which is the core function of government agencies.

This implies that, despite the challenges experienced in the implementation and adoption of e-government services globally, government agencies were able to make the decision to mobilize resources to implement e-government services they considered essential. As mentioned earlier, the decision to mobilize resources to implement these e-government services has in some jurisdictions enabled remote collaboration and dialogue in the policy-making process. Furthermore, the prior decision to mobilize as well as actual mobilization of resources to implement such ICTs enabled government agencies to survive the COVID-19 pandemic. Hence the question this paper will provide answers to is: what decision factors triggered the mobilization of government agencies (in the case examples) to mobilize resources to implement collaborative and dialogue enabling ICTs to support remote policy-making processes? It should be noted that this paper does not make the claim that all government agencies globally have adopted collaborative and dialogue-enabling tools for their policy-making processes. Examples are provided in this paper on these government agencies. These examples save as case examples for this paper. Another thing worth noting is that the focus of the Mobilization-Decision process is not on mobilization. Rather the focus is on the decisions that result in mobilization. There are resource mobilization theories that explain mobilization. That is not the focus of this theory. Furthermore, the focus of the Mobilization-Decision theory is on pre-cursors of a specific action (in this case mobilization), and not on the adoption process. In adoption theories, the Mobilization-Decision theory is a borderline between behavioral intention and action.

So based on this background, the Mobilization-Decision theory is used to explain the factors behind the decision by government agencies towards adopting collaborative and dialogue-enabling ICTs for policy-making processes. The paper relies on observations from case examples. The paper is divided into 7

sections. The first section is the introduction. The second section is the state of the art on the evolution in the relationship between ICTs with policy dialogue and collaboration. The third section provides an overview of the Mobilization-Decision theory and a reference to the original paper about the theory. The fourth section is the methodology. Data gathered in the process is presented in the fifth section of the paper. The sixth section is the discussion, guided by the Mobilization-Decision-Theory and the last section is the conclusion.

2. The Evolution of collaboration, dialogue, and ICTS

The enabling, storage and transmission of remote bi/multidirectional communication and complex computations are the foundational reasons for the existence of Information technology and Communication Technologies from ancient times (CHM, 2019) (Williams, 2020). However, the evolution from the mundane to the sophisticated forms of Information and Communication Technologies has been slow over the millennia but very rapid in the last couple of decades. Despite the evolution, the reason for the emergence of new ICTs has been the same. However, the functionalities of extant and emerging ICTs have evolved in divergent ways, while still enabling communication driven by operating systems that support complex computation.

In the 1800s, there was a slow adoption of ICTs by public agencies in the US, Europe, China, Japan, etc (ibid). The rate of adoption of these ICTs increased, slightly in the 1960s and later 1970s in these regions and countries (Williams, 2020). By the year 2020, most public agencies around the world had access to basic ICT in the form of telephony. Hence they made verbal dialogue possible between government agencies. Furthermore, there was a greater adoption of computers by public authorities in the year 2020, as opposed to the 1960s, when public authorities that had access to the then UNIVAC computers were very few (Calhoun, 1956).

From a communication standpoint, the value of information and communication technologies to public organizations is its support for dialogue. Telegraphs supported very concise but limited written dialogue. The cost of sending telegraphs as well as the limited amount of words that could be sent per telex placed limitations on effective dialogue (Williams, 2020). Telephony on the other hand supported

spoken dialogue. Initially, the cost of use of telephony did in some cases limit the length of dialogue. However, over the decades, the cost of the use of telephony has been more affordable by the day, leading to greater use of the different forms of telephony that emerged over the years. The value of computers for written dialogue in public organizations emerged with the advent of email messaging systems. Emails replaced postal mails as the means for Intra and inter-communication and dialogue within and between public organizations.

The convergence of ICTs which began in the 1960s/1970s and was widely adopted with the commercialization of the Internet and the World wide web opened up the possibility for remote collaborations. The collaborations were enabled by audio/visual, file sharing, and eventually real-time collaboration applications embedded in ICTs. The convergence of ICTs was supported by the increase in bandwidth which opened up the possibility for the delivery of bandwidth-intensive multimedia and multifunctional applications via service platforms. The value of ICT to public organizations from this standpoint is remote collaboration.

Policymaking in all forms of governance is sustained more in contemporary times through dialogue (outer dialogue) or policy dialogue (Dovlo et al., 2016). Dialogue occurs in the form of consultations supporting either collaborative or non-collaborative policy-making approaches. Obviously, there could be exceptions to the rule where an absolute monarch or any form of authoritarian makes a policy without consultation. However, even with these exceptions, there are often consultations with close advisers. Nevertheless, communication serves as a digital tool that supports remote policy dialogue. This is more so in the last couple of decades than it was in the last century.

However, policymaking in all forms of government is not always sustained via collaboration. For example, absolute monarchs can issue policy statements without collaborating with anyone. Some dictators might do the same. However, in most forms of government, there is some form of collaboration in the policy-making process. The forms of collaboration are greater in democratic set-ups. However, in other forms of government, various committees, and inter/intra agency working groups do engage in collaborative activities in order to either conceive, define and develop policy proposals for high-level civil servants. Such committees and working groups could be confined only to the executive arm of the legislative arms

of government. They can also be committees and working groups that consist of both arms of government.

The collaborative and dialogue-enabling properties of ICTs have evolved to fit into the collaborative and dialogue functions in the policy-making process. Meaningful verbal dialogue in the form of consultations between two policymakers at a time was possible via the telephone. Although the telephone over time enabled multi-party calls, moderating such conversations could be challenging if the discussion is tense. Often physical meetings will be required to trash out pending issues. However, with Voice over IP solutions (VoIP), though remote, parties can see each other's body language and gesticulations, and hear each other, leaving little room for ambiguity in the information transferred. Hence the quality of information exchanged with Voice over IP, even in tense situations is greater than the information exchanged with the telephone. However, the challenge with core VoIP is that the policymakers will require a separate digital channel to exchange written dialogue and share files. Often that is done via email. But with converge collaborative tools and workspace such as Microsoft Teams. The VOIP, file sharing, message exchange, and collaborative workspace are integrated with one ICT application. So all remote participants would carry out the same function they would in a physical meeting even though they are working remotely. Hence there is an increase in the task-fitness of ICTs to collaborative and dialogue functions in the policy-making process. The concept of task fitness is that of Goodhue (Goodhue, 1995).

The increase in task fitness is driven by the upgrade and innovative convergence of rich and lean media into current ICT platforms such as MS TEAMS. Rich media according to the Media Richness Theory (Daft, Lengel, & Trevino, 1987) are media sources that support the transmission of equivocal issues as opposed to lean media (Dennis & Valacich, 1999). The figure below illustrates media that are considered rich and those considered lean.
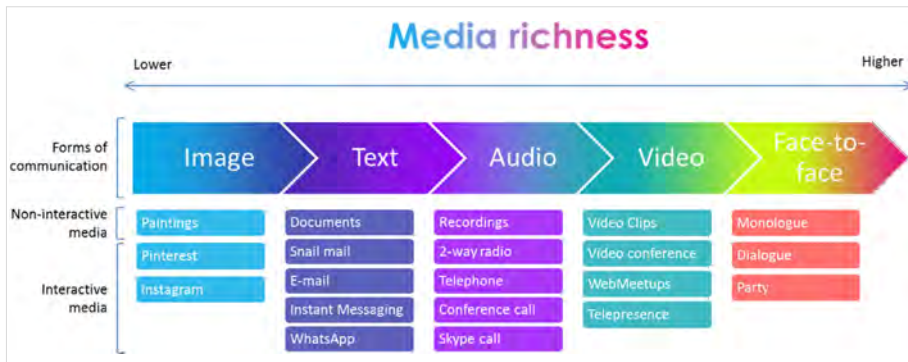
Figure 1. Media Richness

Source: (UXDesign, 2019)

The innovative convergence of media with different levels of richness in current ICT applications enables policymakers to utilize current ICTs platforms for specific dialogue and collaboration-related functions that require either lean or rich media or both. The innovative convergence also supports convenience in the performance of the tasks, low cost of organizing meetings (as costs associated with physical meetings are eliminated) (Breton, 2021) (Rockport Analytics, 2013), and the organization of environmentally friendly policy-making activities that require policy dialogue and policy collaborations.

The relationship trend between policy dialogue, collaboration, and ICT is bound to continue into the future. However the reason for the adoption of ICTs by public organizations, despite these obvious relationships is not often straightforward. As mentioned in the introduction, some ICT projects have been abandoned and some have failed. In some cases, the decision to mobilize resources to adopt certain ICTs failed. However, there are other cases where it succeeded. Hence in this paper, the authors will provide examples where some ICTS are used in certain Jurisdictions and use the Mobilization-Decision theory to explain why government agencies made the decision to mobilize resources to implement and use the ICT for policy dialogue and collaboration.

3. Theotical framework used for analysis

The inquiry guiding this paper is to understand the reasons public agencies decide to mobilize resources to implement ICTs that support dialogue and collaboration to support their policy-making processes. The theory used to provide this explanation is the Mobilization-Decision theory. The rationale for using the Mobilization-Decision theory is explained in the introduction. The theory was developed by Williams (2021). It has been peer-reviewed and is now being promoted.

Mobilization-Decision theory is a mobilization theory. As the name implies, the theory argues that mobilization is not spontaneous, rather it is a rational process. The rational process could occur either subconsciously or on a conscious level. This rationality is inherent in humans and programmed into nonhumans. Hence it is impossible for an action to occur without the checklist for the rational processes being ticked and the decision made to mobilize the available resources to perform an action.

The theory is not a theory of adoption, although it can be used to partially explain behavioral intention in adoption theory. Hence the theory can also be adapted as either an adoption theory or a resource mobilization theory.

The theory posits, as alluded to earlier, that the decision to mobilize resources is not a spontaneous action, rather it is a rational process triggered by certain factors. The factors that trigger the decision to mobilize include, either the availability or perceived availability of resources; cooperativeness, congruence, and value. Resource availability is self-explanatory. Congruence here implies similarity in thought. In a human-to-human interaction, where one human is mobilizing the other to act, congruence refers to "similarity in thought" or "thinking alike". In a human-to-machine interaction, congruence refers to the fact that the technology or machine "performs as advertised". Hence, there is congruence between what the human perceives of the technology and what the technology delivers (Williams, 2021). In a machine-to-machine interaction, congruence implies connectivity. If connectivity fails then there is no congruence. Cooperativeness in a human-to-human interaction is the evidence or perception of the willingness of the intended human to be mobilized to act. In other words, there is a willingness to work together. In a human-to-machine and machine-to-machine interaction, cooperativeness implies operational compatibility (ibid).

Value in human-to-human interaction is diverse. It could be economic, social, or cultural. In a human-to-machine interaction, the value applies more to the human. The machine is inhuman and does not derive value in its operation, however, it produces value. Similarly, in a machine-to-machine interaction, the machines produce value, else the machine-to-machine setup will not exist. Hence, value is still important in this context.

In the context of this chapter, the human-to-machine aspect is considered. The "machine" in this case is ICT which is a cluster of different technologies. So in this paper, the human-to-machine interaction will be denoted as a human-to-technology Interaction. Two classes of actors are identified by the theory. In a Human-to-human interaction, there is the mobilizer and the mobilized. The former is the visionary, who has already undergone self-mobilization and is out to mobilize the latter (ibid). In human-to-machine and machine-to-machine interactions, the former is the master and the other the slave (ibid). Hence, in this paper, the human agents are the master, mobilizing the technology "ICT"- the slave- to facilitate pre, during, and post policy-making activities.

Based on the theoretical overview, in the next section, the role of resources, congruence, cooperativeness, and value in the decision to mobilize ICTs for pre, during, and post-policy-making activities will be highlighted.

4. Methodology

The methodology used for this paper is qualitative. The research approach adopted in this paper is a combination of inductive and deductive reasoning. The phenomenon here is the use of extant ICTs in the pre, during, and post-policy-making activities. Inductive reasoning via desktop research and deductive reasoning using the Mobilization-Decision theory is used to explain why the observed phenomena exist. The philosophy behind inductive reasoning is interpretivism. In interpretivism, the construction of reality and knowledge is not based on external facts or empirical evidence alone but also on our internal reflections and mental construction of how we interpret the facts before us (Walsham, 1995). Interpretivism is not generalization because the mental construction of meaning is guided by concrete inductive methodologies and or deductive theoretical frameworks.

In this paper, the inductive methodology used is phenomenology (Husserl, 1937) (Heidegger, 1975) (Farina, 2014). The Heidegger approach was adopted for this paper as the authors did not set aside pre-existing ideas in the interpretation of the phenomena. The phenomenon observed is the use of ICTs for policy dialogue and collaboration by sample public agencies in selected jurisdictions. The sample public agencies were identified via purposive sampling. The phenomena were observed not for this paper, but in another project for the period of 4 years, aimed at understanding the role of Twitter in the setting of the public agenda during the Trump presidency. Hence the authors were aware of these cases. The mental conceptualization of the phenomena, as it was being observed, was influenced by the researcher's background in the field of ICT for development and ICT policies. The observation of the initial phenomena resulted in the accidental discovery of the growing relationship between ICTs, and policy dialogue and collaboration. This resulted in the conception of the idea behind a series of papers. The first step in this series of papers is to understand the basis of the decision by the observed public agencies to mobilize resources in order to implement these ICTs to facilitate policy dialogue and collaboration.

Data gathering was via desk research and third-party data source produced by the government agency in questions, academic literature, and literature from consulting firms. These secondary data sources were already analyzed at the source and descriptive analysis was employed to understand what the data collected indicated as a whole in relation to the research question.

To answer the why question, the Mobilization-Decision theory was used as a deductive tool that provided an explanatory framework as to why public agencies over the years have found ICT applications useful for facilitating dialogue and collaboration in pre, during, and post-policy-making activities.

5. Analysis of some ICT applications used by government agencies

The literature points to the use of different ICT applications by government agencies and government organizations in the policy-making process. This class of ICT applications includes text-only applications, voice-only applications, a voice-text hybrid application, a Video communication application, and a hybrid application consisting of video, Voice, and text applications (Cao & Che, 2007).

Table 1. ACT applications, technologies, and their supported data types

Type of data transmitted	The application used in accessing the transmitted data						
	email	SMS	fax	Fixed-line telephony	Mobile cellular telephony	VoIP applications	Video conferencing
Text	x	X**	x		x	x	X*
Voice					x	x	x
Video				x	x	x	x
Multimedia					x	x	x

*Could also be cloud-based services eg. ZOOM.

**Transmitted via mobile-cellular technology as well. It is also transmitted via messaging apps and Internet SMS services

Table sources: (Cao & Che, 2007) (Williams, 2021)

Each of these applications enables the transmission of either text, voice, video, or a combination of the 3 and graphics (multimedia).

The use of text-based applications

Emails SMS and fax (if still in use) support the transmission of the text. They were and are still useful in the communication of formal and informal written communications between stakeholders involved in the policy-making process. Such communication could be aimed at presenting policy proposals, negotiating policy positions, forging alliances in the policy process, or just information dissemination. Nevertheless, text-based ICT applications facilitate remote communications in the policymaking process. Such communication could be during the agenda-setting, formation, decision-making, implementation, and evaluation of policies. Nevertheless, their level of usage varies. Email is used the most because it supports the transmission of a great deal of text at a cheaper cost than fax. Fax in some cases is charged per page (HK building, n.d.). It could be argued that emails are natural successors to handwritten letters. Hence, there is some form of path dependency there. Aside from that, for email, once payment is made for access to the Internet, one can send as many emails as they want. SMS is used for informal communications in the policymaking process. The amount

of text SMS can transmit per time is as low as 160 characters per page and it is charged per page. Hence not ideal. However new SMS services enabled by chat services allow for much more characters. The relevant policy documents have to be transmitted as attachments and not as text to make the information transferred readable. Nevertheless, the inability to transmit more text with SMS makes it difficult for policymakers to use it as an official means of communication in the pre, during, and post-policy-making process. Although extant VoIP applications and video communication applications support the transmission of text, the same challenge experienced with SMS exists here. In this case, the text application supports file sharing and chats but not the organized presentation of ideas, as one could do with email.

The use of Voice-based applications

Voice based-applications support instant and mutual exchange of information. It also supports instant feedback. It has been very instrumental in the presentation of policies, arguments on policy positions, and mobilization of allies. Voice-based applications also create instant connectivity to decision-makers in the policymaking process. Hence, government agents, private sector agents, agents representing civil society, and other interest groups can quickly relay the interests of the decision-makers on the issues being discussed. On the other hand, the different agents and decision-makers from each stakeholder cluster are also able to reach out to each other in real-time. The use of voice-based applications in some cases could shorten the negotiation process, as the different parties would know their stand sooner than later when they are debriefed. Furthermore, government agents and private sector agents in either the discussion or negotiation would have the assurance that the positions they take are in line with their agency's interest in the proposed policy.

However, unlike the use of text applications, conversations on voice-based applications cannot be recorded or stored without the consent of the parties at both ends of the conversation. Recording such conversations without consent would be unethical. This then creates a dilemma where most substances in the conversations are lost. That is because the agent will have to process the information received and deliver what he or she thinks is necessary either to their

superior or team and or agents from other agencies. This is not because the agent wants to hide information, but he or she has to judge if what he or she has to relay is relevant to the topic at hand. However, in the case of text-based applications, there is the tendency, for archival purposes, to document agreements, positions, and relevant inputs of what was said at the policy meeting. Hence every party to the policy process can learn more about the position of different stakeholders on the issue being discussed.

Video-based applications

Video-based applications have evolved since their conception in 1870, their technology and market maturity in the 1990s, and their rapid evolution in the 2000s (Wolfe, 2019). From the 1960s to the 1990's video-based applications transmitted only video and voice signals (ibid). Within this period Government agencies, (mostly in the west), where there was supporting network infrastructure, used video conferencing tools for Tele training and remote meetings (teleconferencing) (Stewart, 1989). As the capabilities of network technologies evolved, so did video conferencing applications and their cost of access. This evolution enabled video conferencing technologies to be delivered using the World Wide Web. This was when VoIP-enabled webcams emerged (Wolfe, 2019). The emerging VoIP-enabled webcams were portable, cheap, and easy to install and use over the Internet as compared to previous video conference machines such as those produced by Picturetel in the 1980s (Wolfe, 2019). By the 2000s, video conference technologies became part of multimedia platforms. Its mode of delivery changed from provider to customer basis to cloud delivery. The evolution is still ongoing.

The advantage of video-based applications is the fact that it enables remote face-to-face interactions. As the technology evolved, so did the capacity of users it could cater for. Today tools like ZOOM webinars can cater to up to 500 participants. It is not clear how many video-based applications were used before the COVID-19 pandemic. But during the global lockdown, the use of video-based services for policymaking making activities did increase. Hence, there was no suspension in the business of governance.

The downside of video-based applications, as mentioned earlier, is that it still does not effectively covey equivocal transmission of non-verbal information. It is

not clear from research what role non-verbal information or body language plays in policymaking.   Video-based applications

Multimedia applications

In this paper, multimedia refers to the use of more than two means of data transfer to facilitate communication. As mentioned earlier, some video applications are delivered in a multimedia environment. In this paper, a platform that utilizes voice, text, video, and graphics for communications via one platform is seen as multimedia (Ballantyne, 2008). Multimedia platforms enable multiple interactive possibilities. It is not just about the type of data transmitted on the platform, it is about the possibility of other forms of interactions such as file sharing.

Multimedia applications used for policymaking are delivered via communication platforms and social media platforms.

1. Communication platforms

Communication platforms such as Microsoft TEAMs, ZOOM, Webex, Adobeconnect, Google Meet, etc. enable interactivity via the combination of text, voice, video, and graphics. Some of them such as Microsoft TEAMS take interactivity a step further by supporting real-time collaboration. These platforms provide convenience for the policy stakeholder when they interact on these platforms. Rather than desperate voice, text, or video tools to communicate, these tools are integrated into one platform. However, the interactive tools by themselves support limited collaborations. For example, to work on the same document on ZOOM, you need to use separate collaborative tools such as Google Docs, and share screen on Zoom but then work on Google docs. This is where collaborative communication platforms come into play. An example of such a Platform is MS TEAMs. On MS TEAMS, two or more policymakers could work remotely speaking to each other via video communications, share on MS teams, co-draft documents on MS TEAMs, invite a third party, etc. Therefore, it supports the works of different small committees working on different policies. Aside from that, the video capability can be used to make one-on-one calls to either share ideas, present proposals, negotiate, collaborate and even host small meetings, small seminars, and large webinars. To customize MS TEAMs for governments, the platform is one of the

tools provided in the Microsoft 365 government environment. Currently, there is evidence that government agencies used these interactive and collaborative communication platforms before the COVID-19 pandemic (Government of Canada, 2020) (Bullock, 2019). It is not clear how many governments have adopted Microsoft teams in the Microsoft 365 environment. But MS Teams is widely adopted by government agencies (Stephen, 2020). A greater part of the adoption occurred during the COVID-19 pandemic. Some government agencies such as the government of British Columbia in Canada have provided guidelines on how government agencies in that region should use MSTEAMS (GRS Province of British Columbia, 2021).

2. Social media applications

Social media platforms are where can see an engagement of government agencies, civil society, private sector agencies, opinion leaders, and individuals on policy issues. Ongoing research, reveals that policy announcements, policy arguments, policy proposals, and different forms of public input to policymaking are found on social media. In literature it is argued that these policy-related activities on social media have enabled transparency (Mickoleit, 2014) in the policymaking process, moving discussions from the corridors of power to the public domain. Some Social media platforms such as Facebook are equipped with VoIP functionalities. However, at the time of this research, it was not clear, how much it is used in the policymaking process. As of 2018, some government agencies in 97% of UN member states had social media accounts. Social media adoption by government ministries and agencies is evident at the national, regional, and local levels of governance (Mickoleit, 2014). The countries without social media presence in 2018 were Laos, Mauritania, North Korea, Swaziland, and Turkmenistan (Lüfkens, 2018).

Social media platforms are part of web 2.0 technologies. They enable user-generated content and the different social networks encourage interactivity. Social media has evolved from a text and file-sharing platform to become a multimedia platform. Today, text, video, voice, and different dimensions of graphics are transmitted on social media. As of today, social media networks as we know it are evolving gradually to become a web 3.0 platform, thanks to the metaverse effort by Facebook.

Nevertheless, there are lots of social media platforms out there. Most applications for these services are delivered via mobile cellular and increasingly smartphone. Government agencies as mentioned earlier are not far behind in the adoption of social media applications. As shown in table (2) below, the most used social media application was Twitter, followed by Facebook, Instagram, and YouTube. As seen in table 2, Twitter has fewer active users, compared to other social media platforms. However, it is the most popular social media platform used by Government officials and government institutions. At the time of the study by Lüfkens (2018), 951 Twitter accounts were identified (ibid). Either head of state, head of government, and foreign ministers of 187 countries owned 372 of these Twitter accounts. Government institutions in the 187 countries owned 579 of the identified accounts.

**Table 2. Social media platforms used by most government agencies
(UN member states)**

	Number of users in millions (2021)*	Popular social media platforms used by UN member states (%) (2018)
Facebook	2,853	93
Youtube	2,291	80
Whatsapp	2000	
Instagram	1386	81
Facebook messenger	1300	
Wexin/wechat	s1242	
Tiktok	732	
QQ	606	
Douyin	600	
Telegram	550	
Sina Weio	530	
Snapchat	514	11
Kuaishou	481	
Pinterest	478	
Reddit	430	

	Number of users in millions (2021)*	Popular social media platforms used by UN member states (%) (2018)
Twitter	397	97
Quora	300	
periscope	?	49

*Ranked by number of active users

Sources: (Lüfkens, 2018) (Statista, 2021)

Facebook, Instagram, and YouTube are also very popular social media platforms used by government agencies. It could also be an argument that Facebook is the most used if one does not see a dichotomy between Facebook and Facebook Messenger. In that case, it could be argued that Facebook is attractive to government agencies because it can reach more citizens.

Nevertheless, despite the low subscription to Twitter as compared to Facebook, there is evidence of some government agents using more of the platform to communicate with their followers. For example in 2020 as seen in figure (2) below, members of US congress produced a bit more than 500 000 tweets, compared to a bit more than 240 000 Facebook posts and 64,000 press releases.   Youtube was used less.
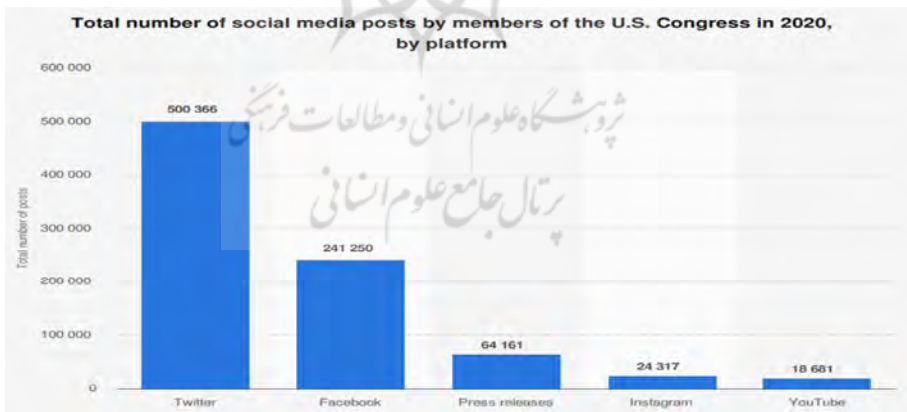

Figure 2. Total number of social media posts by members of the U.S Congress in 2020 by platform

Source (Statista, 2020)

One reason for this is that Twitter is originally designed solely for textual conversational interactions between a single user and multiple followers. Followers can also create small "digital villages" around hashtags on issues they care about. Hence, politicians and government agencies can galvanize support for issues that they either care about or feel their constituents and citizens care about. Furthermore, Twitter is a mobile-friendly lean media where textual input to conversations is succinct, easy to read, and easy to respond to. However, today the platform does support the transmission of very short video clips that either provide support to the tweets or are messages in themselves

The functionalities of Twitter and other social media and the promise of direct engagement with constituents enable government agencies and officials to directly engage with their constituents. Hence, it is now trendy for government agencies and officials to own a Twitter handle as seen in figure (3) below.
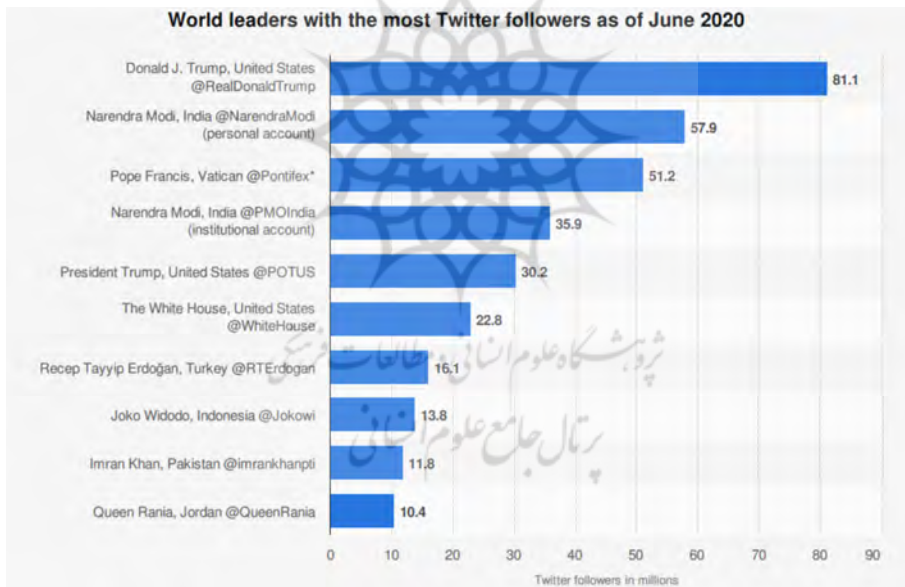

World leaders with the most Twitter followers as of June 2020

World leader	Twitter followers in millions
Donald J. Trump, United States @RealDonaldTrump	81.1
Narendra Modi, India @NarendraModi (personal account)	57.9
Pope Francis, Vatican @Pontifex*	51.2
Narendra Modi, India @PMOIndia (institutional account)	35.9
President Trump, United States @POTUS	30.2
The White House, United States @WhiteHouse	22.8
Recep Tayyip Erdoğan, Turkey @RTErdogan	16.1
Joko Widodo, Indonesia @Jokowi	13.8
Imran Khan, Pakistan @imrankhanpti	11.8
Queen Rania, Jordan @QueenRania	10.4

Figure 3. World leaders with the most Twitter followers as of June 2020
Source: (Statista, 2020)

As seen in the figure above, government agencies (e.g) the white house and government agencies are directly connected to millions of people. Anytime a tweet

emerges from any of these agencies and officials, their followers are notified by Twitter, enabling the followers to directly react to the tweets they receive.

In this paper, the focus is on the use of ICT in the pre, during, and post-policy-making process. On Twitter from a cursory view, one can see announcements on surrounding policy intentions by public officers, and public response to such intentions. How public officers relate to these responses, in general, is unclear, but they do respond, and retweet tweets they find relevant bringing them into the discussions and arguments surrounding intentions. An example can be seen in the case of the US, where, the then, President Trump and his officials engaged in public debates surrounding their policies on border security, immigration, trade, etc. However, he was not alone in engaging with the public as it pertains to their policy intentions. The figure below presents an insight into world leaders who in June 2020 engaged in policy discussions with their citizens on Twitter.
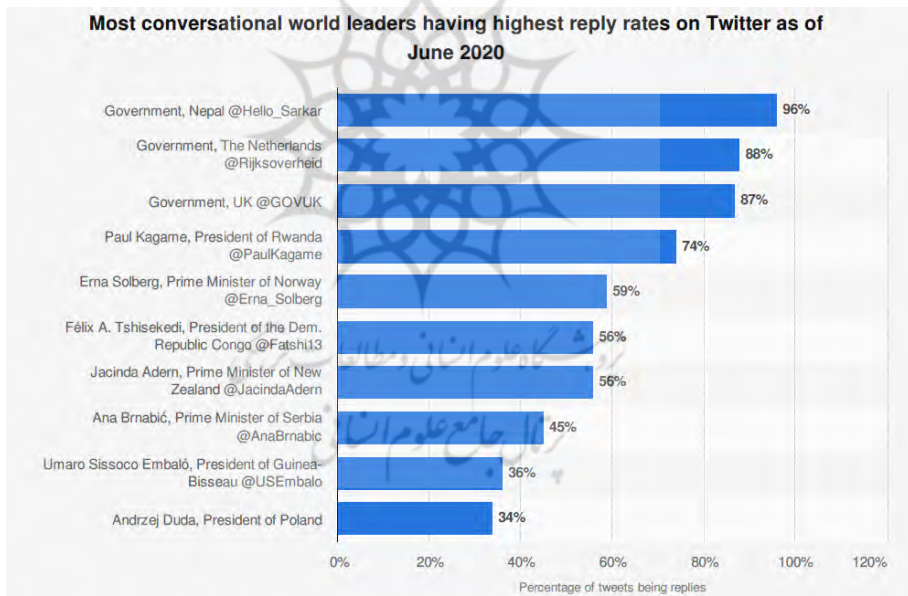

Figure 4. Most conversational world leaders have the highest reply rates on Twitter as of June 2020

Source. (Statista, 2020)

Twitter is not used exclusively. Different world leaders use more than one platform to drive home their policy-related messages. Unfortunately at the time

of publishing this paper, it was difficult to chance on data on how world leaders use Facebook and YouTube. Nevertheless, in the same vein, it is not clear if government agencies do analyze input from social media for their policymaking process. What is clear though is that opinion leaders are more likely to be heard than the "average joe" on the street.

6. Analysis and discussion

In this section, the Mobilization-Decision theory is used to explain the decision by government agencies to adopt ICT applications. Here the impact of value, cooperativeness, congruence, and resource availability (Vital resources) is discussed.

◇ Dialogue as value: Policymaking processes are enabled by tasks and activities. There are myriads of tasks associated with policymaking activities. These tasks are nominally defined and allocated (Alesina & Tabellini, 2008). These tasks that are dialogue-related are performed via documentation and stakeholder engagement activities. These tasks whether performed by an independent agency or via the synergy of multiple stakeholder agencies are often collaborative. There are always teams, working groups, etc. working on the fine details of the policy and providing feedback to the relevant stakeholders. In the performance of these tasks, there are bits and pieces of policy dialogue. In this paper, these bits and pieces are termed micro-policy dialogue processes. This could be in the form of team meetings or working group meetings. These teams and working groups could be from multiple stakeholder agencies or single stakeholder agencies. Micro here implies that the different teams are discussing the policy as it relates to them and the input they have to offer to the broader policy issue being discussed. Middle management into meso-policy posture aggregates cumulative micro policies. The aggregated meso-policy posture becomes an input for dialogue at the macro-policy dialogue stage. This could be dialogue at an inter-ministerial group, meetings of heads of government agencies and those of the private sector, civil society, etc. The tasks and activities supporting and enabling the dialogue in these three policy-dialogue ecosystems occur in the policy planning, policy analysis, policy research, policy implementation, and policy

evaluation processes. Policy planning, policy analysis, policy research, policy implementation, and policy evaluation are the five functions in the policy-making process (Abert, 1974). However, in the absence of dialogue, stakeholder input to the policymaking process will be lacking and public authorities would have no idea of how their policies will affect the populace.

Now as described in the previous section all ICT applications discussed facilitate policy dialogue. This included dialogue transmitted via text, video, voice, or multimedia. Some multimedia applications also enable collaboration. Therefore, ICT applications used so far are adopted because government agencies could see their operational value in the policy dialogue process. There are ICTs not yet utilized by government agencies for enabling dialogue in policymaking processes. These ICTs applications include virtual reality, drones, etc. The reason they are not adopted is that they provide no operational value to the government for enabling policy dialogue as of yet. Aside from operational value, ICT applications provide economic and to some extent value as mentioned earlier in this paper. One could argue that operational value takes precedence as government agencies in the West and Asia adopted ICT applications as policy support as far back as the 1950s (Williams , 2020). ICTs were not cheap then. However, the adoption of ICT applications then was far less than today because it was expensive back then. Secondly, as ICTs evolved, and became cheaper together with the cost of network access, there was growth in usage. Imagine COVID-19 occurring when ICTs were expensive, government activities would have been affected. Nevertheless, the fact that it is cheaper and environmentally friendly to use ICTs drives the value of ICT towards facilitating policy dialogue and collaboration.

◇ **Congruence:** Congruence is a mental state of mind. It is a form of perception. In a human-to-technology interaction, technology is advertised. If the human perceives that the advertised technology will be useful, then there is congruence. If the perception is negative, then there is no congruence. In some cases, congruence has nothing to do with the current state of the technology. Rather it has to do with the potential of the technology if modified.

Congruence is sometimes required to identify value. The value presented by ICTs for the dialogue itself was not enough for government agencies to adopt

ICT. Research points to the fact that Government agencies at the dawn of extent ICTs were not keen on adopting the service (US congress, 1960). Although the cost of the ICTs then was an issue, the military and census bureau saw the value of ICTs (Williams , 2020). However, an important reason for the resistance towards the adoption of ICT applications was the technology's immaturity and the fear of loss of jobs to computers (US congress, 1960). Hence, the machine was seen as a threat and there was no congruence between the human user and the technology. Furthermore, although in theory, the technology could facilitate dialogue to do so you needed access to the electric telegraph or multiple telephone lines provided by different operators. Nevertheless, government agencies did not perceive that the congruence for policy dialogue in the three stages of dialogue mentioned earlier.

However, the situation changed over time. ICT applications evolved and there was an ever-increasing distinction between ICT network applications. From the 1970s, onward, there was a convergence of networks; in the 1990s convergence of markets, and the 2000s there was a convergence of platforms. The commercialization of the Internet and the evolution of broadband networks made it possible for the emergence of innovative ICT dialogue applications. Government agencies in the West in the 1980s, Asia in the 1990s, and the rest of the world from mid later 1990s onward began identifying with the potential of emerging ICT applications to facilitate policy dialogue among others (Lopez Carbajal, 2018). Hence if one could borrow the concept of "interresement" from the Actor-network theory just for the purpose of an analogy; policymakers begin to *"interesse"* (Callon, 1986), or interpose policy paradigms aimed at creating an enabling environment to coerce, then extant, ICTs to meet its policy dialogue needs. Part of the interressement was to facilitate the reduction of the cost of access to ICTs and encourage innovation. One could say that Microsoft Government 365 and Zoom for government are indirect outcomes of such policy interventions.

The congruence of the benefits of ICT applications to policy dialogue has been on the increase. This is seen in the description of the increase in the use of social media to encourage policy-related dialogue. Although it could be argued that innovations resulting from government ICT policies in the 1990s

onward enabled the emergence of social media, it is important to note that there was no direct investment in social media by governments to use it to promote policy dialogue. However, the perceived congruence from social media emerged from the fact that citizens, civil society, and businesses found it useful for connecting to friends, family, and customers, and for promoting social issues. Government agencies were laggards, as they could not see its usefulness on time until after they saw how others used it.

Hence congruence, on one hand, was via the observation of the trends led by the telecom industry and on the other hand the active "*interessment*" (Callon, 1986) of public policy paradigms aimed at facilitating the availability of ICT applications to meet the policy dialogue needs.

◇ **Cooperativeness:** It is interesting to note that a lot of attempts to implement ICTs in the operations of government services have not been successful (Rajala & Aaltonen, 2021). One of the reasons for this failure is that the technology is not compatible with the tasks and processes for which the technology is designed to serve. This is a known fact based on studies conducted on this issue (see examples (Elkadi, 2013) (Seo, Tan, & Warman, 2018)). In such instances, the technology is not cooperative with what it was purchased to do. However, the increase in the use of ICT applications in public organizations points to the fact those government agencies have over the years found some ICTs cooperative (UN DESA, 2020).

Cooperativeness, unlike congruence, is evidence-based. The evidence could be either because of a pilot study, small-scale usage in a department, an observation of the ICT working perfectly in a similar environment, or a push from the provider. An example of the push is in Africa, there are different Microsoft Initiatives in South Africa, Kenya, Nigeria, and Ghana, etc. In these initiatives bothering on the reduction of poverty and inequalities, Microsoft has been able to introduce its products to African governments and relevant stakeholders. This has worked well as Ghana's Government has adopted Microsoft 365. One of the reasons listed for the adoption is the possibility to "cut cost and speed up collaborations"… in the decision-making processes (Microsoft, 2020). The push reveals the cooperativeness of the technology to the policymaking process – in the case of this paper facilitating dialogue.

Hence, cooperativeness is one of the reasons for the adoption of ICT applications for public policy dialogue.

◇ **Resource availability:** It is possible to either have the resources or see the potential for getting the resources needed to perform an action and not know what to do with it in the absence of value, cooperativeness, and congruence. It is also possible to identify value, congruence, and cooperativeness but either lack or do not see the potential for getting the resources to act. However, in the implementation of ICT services used for policy dialogue, there is a need for vital resources. The world vital points to resources that are needed only by that organizations. One organization's vital resource may not be another organization's vital resource. Examples of some vital resources are but are not limited to:

◆ **Connectivity resources:** These include resources needed to access broadband internet connectivity and local Area Networks. Broadband Internet connectivity enables different stakeholders to remotely conduct policy dialogue activities. Local Area Network (LAN) connectivity enables mono organizational and mono team policy dialogue activities. Resources needed to access both broadband internet and Local Area Network include access equipment and terminal equipment in the form of workstations and their supporting infrastructure.

◆ **Office resources**: To participate and function in policy dialogue processes, policy stakeholders will require diverse office resources. For example, some might require specialized meeting rooms where their ICT application is set up. They will also require support resources. Such support could be in the form of human resources (e.g IT personnel etc) and other organizational resources (lighting, coffee machine, seminar room, access to local LAN, etc).

◆ **Financial resources**: This includes financial resources for technical, organizational, and operational activities related to the policymaking dialogue process. The lack, absence, or inadequacy of finance is enough to hamper the decision to mobilize resources to implement ICTs used for policy dialogue.

- ◆ **Policy resources:** Every stakeholder organization involved in the policymaking process is guided by its internal policies. Some policies also govern the purchase, operations, and use of ICTs. Especially now that there are security concerns, there are IT policies on how to use and store data on multimedia ICT platforms used for policy dialogue. A policy that restricts or prohibits the type of ICT application or the level of usage, in some cases, may impede the decision to either sign up or implement the ICT in-house. For example, the UK banned the use of ZOOM for confidential business due to security issues (Guardian, 2020). Another example is that of Massachusett, who in the early days of the COVID-19 pandemic, the state governor authorized a time bound use of virtual meetings in the state civil service (Cowperthwaite, 2021). Such measures were not keenly contested as it was an emergency situation. However as restrictions were lifted in 2001, lawmakers had to debate on the necessity of a law that would continue to permit virtual meetings. At the time this paper was written the Bill H3224 ("An Act relative to virtual meetings of appointed statewide public bodies")was being debated (ibid). The bill, if passed, would mandate virtual meetings for public servants in the state of Massachusetts. The passage of the bill will make virtual meetings a legal policy in individual public agencies in the state. In both cases, the absence of the policy that enabled the usage of ZOOM will stop further decisions to mobilize resources to implement ZOOM in other UK agencies and vice versa. Hence policy resources are important in this case.

These factors based on the examples provided are part of the reasons ICT applications are adopted for policy dialogue. Although these factors are discussed are adapted to policy dialogue, the aim of the adoption of ICTs by government agencies today is to develop lean and well-functioning public services. At the core of the aim are shared, services, collaboration, cost reduction, and efficiency in the governance process. Hence, if one goes back to the question posed by the paper, the answers will still be the same. Value, in this case, is the aforementioned core aim of the governance process. Congruence, in this case, marketing props by application providers and evidence of the use of shared ICT application resources

in society reveals its potential for the delivery of lean, collaborative, and efficient governance. Cooperativeness, in this case, application providers such as ZOOM and Microsoft, have gone to great lengths to customize their shared services to be compatible with government tasks, processes, and security requirements. Finally, there are connectivity resources both within the government and between government and citizens, there already exist e-services and e-processes in some jurisdictions (mostly in the West), there are human resources that can deliver and use these resources, and the services are competitive and affordable to government agencies, etc. So these four factors are evident as well when it comes to the core aims of governance. Hence the decision to mobilize resources to adopt the service is positive as well. Hence, for example, the adoption of these ICTs during the COVID-19 pandemic was not accidental.

Conclusion

The basic takeaway from this paper is the theory provides explanatory powers to the phenomena. The concepts in the theory have been used to provide to explain why Government agencies from the selected examples increasingly adopt ICTs to promote, and support policy discussions and collaborations. In the course of the explanations, it is evident that some ICTs, such as the social media application Twitter do possess limitations to dialogue, but their value in initiating policy dialogue is not in doubt. Furthermore, it is evident that policymakers have been able to identify the rich and lean media that suits their purpose for dialogue and collaboration respectively. It is likely that government agencies in the selected countries will continue to make decisions towards mobilizing resources to adopt newer and innovative ICTs for policy dialogue and collaboration once they can identify the value, congruence, and cooperativeness of the ICT to their targeted task and if they have the resources to implement the ICT in their establishment.

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