Using the lens of Max Weber's Theory of Bureaucracy to examine E-Government Research

Aby Jain
Temple University
jain@temple.edu

Abstract

Kurt Lewin famously proclaimed, "There is nothing so practical as good theory", signifying that a good theory lends itself to being applied in a variety of contexts. This paper uses the lens of Max Weber's theory of bureaucracy to examine contemporary E-Government related research and literature. Two major, prevailing themes emerge from this exercise. The first theme that emerges is that IT (information technology) is a tool for 'reforming' bureaucracy. The second, somewhat contradictory, theme is that E-Government failure may be explained as a consequence of bureaucracy. Each of these themes is discussed in detail. These themes are also explored via case studies.

The paper concludes that current E-Government research does not offer adequate clarity on the issue of how E-Government and bureaucracy impact each other in reciprocal ways; and calls for future research into these issues.

1. Introduction

Kurt Lewin famously proclaimed, "There is nothing so practical as good theory" [44] (page 51), signifying that a good theory lends itself to being applied in a variety of contexts.

Indeed, researchers in the burgeoning discipline of E-Government have used a variety of established theories and theoretical lenses to study E-Government. For example, Scholl [65] has used Stakeholder Theory to examine E-Government research, Bardach [10] has used Network Theory to examine IT (information technology) enabled interagency collaboration and Lazer [43] has used Diffusion of Innovations related theory to examine the impact of computerization on innovation within governments.

Note: E-Government has been variously defined in the literature (c.f. [74]) and for the purposes of this paper E-Government is defined as the use of information and communications technologies to improve the functioning of government.

This paper uses the lens of Max Weber's theory of bureaucracy to examine contemporary E-Government related research and literature. Two major, prevailing themes emerge from this exercise. The first theme that emerges is that IT (information technology) is a tool for 'reforming' bureaucracy. The second, somewhat contradictory, theme is that E-Government failure may be explained as a consequence of bureaucracy.

The paper presents detailed illustrations of each of these two themes from E-Government literature and also explores these themes using a large number of existing E-Government case studies. The paper concludes that current E-Government research does not offer adequate clarity on the issue of how E-Government and bureaucracy impact each other in reciprocal ways; and calls for future research into these issues.

The paper is organized in the following way. The next section, i.e. Section 2, presents a detailed discussion of Weber's theory of bureaucracy. Section 3 illustrates how the two aforementioned themes emerge from contemporary E-Government related research and literature. Section 4 explores the two themes using a large number of actual case studies on E-Government projects and programs. Section 5 offers concluding remarks, implications for E-Government policy and directions for future research.

2. Weber's Theory of Bureaucracy

Max Weber's Theory of Bureaucracy [11] [29] [76] [77] describes a new organizational form (i.e. bureaucracy) that Weber noticed had started emerging in Western society during the second half of the nineteenth century. According to him, in this new type of organization, leadership and authority were derived from a more 'rational' framework than was the case before. Previously, authority was derived from either

charisma or tradition. In the case of charismatic authority, followers obeyed gifted leaders out of devotion, loyalty and respect. Traditional authority, on the other hand existed due to historical reasons and people obeyed a person in power for the simple reason that the person was in a position of traditional power, for example in the case of monarchical or other hereditary leadership positions. Weber believed that authority in the new, bureaucratic organizational form was more 'rational' because leaders were recognized and obeyed for subscribing to values of logic, efficiency and reason. Such organizations functioned on the basis of 'legitimately' derived laws, rules and regulations. And laws, rules and regulations derived their legitimacy from the consistent, disciplined, rationalized and methodical calculation of optimum means to given ends. Weber posited that bureaucratic action was typically oriented towards solving problems and that bureaucratic decision-making was guided by the objectives of efficiency, calculability and predictability. Consequently, decisions were more rational because they were made 'without regard to persons', i.e. were immune to personal, irrational, and emotional aspects.

Weber identified three key features of bureaucratic organizations. Firstly, bureaucracies had a formal and unambiguous hierarchical structure of power and authority. Secondly, bureaucracies had an elaborate, rationally derived and systematic division of labor. Thirdly, bureaucracies were governed by a set of general, formal, explicit, exhaustive and largely stable rules that were impersonally applied in decision-making; moreover, all decisions and communications were recorded in permanent files and such records were used to refine existing rules and derive new ones.

Additionally, Weber also noted that bureaucracies entailed a separation of personal from official property, and that bureaucrats were usually selected on the basis of their qualifications (and not nepotism), were appointed (not elected), and were compensated via a salary.

According to Weber, the goal of bureaucracy - the reason why it had evolved - was to maximize efficiency. He posited that bureaucracies were technically efficient instruments of administration because their institutionalized rules and regulations enabled all employees to learn to perform their duties optimally.

In recent times, the word 'bureaucracy' itself has come to acquire a negative connotation. Today, it is not considered complimentary to label an organization 'bureaucratic'. In fact, it is a highly unflattering appellation. The reasons for this are many and are discussed shortly. However, it needs to be stressed most organizations that are termed 'bureaucracies' today are not exactly bureaucracies of the Weber variety. They may exhibit the features of Weberian bureaucratic forms, and thus may be considered 'formally' bureaucratic, however, they would not be considered 'substantially' bureaucratic, i.e. bureaucracies in the sense Weber had originally conceived them. Weber in fact regarded bureaucracy a tremendously efficient organizational form. And according to him, among its various benefits were the impartiality imposed on the decision-making process and the stable administrative structure it facilitated.

However, Weber did criticize bureaucracy for its tendency to impose excessive controls on employees, putting them into what he termed an 'iron cage'. He also lamented that bureaucracies could become more powerful than society, and become an end to themselves, instead of a means for serving society.

Although Weber was largely positive about bureaucracy, several scholars have criticized various aspects of this organizational form.

In order to understand why the term 'bureaucracy' has come to acquire a negative connotation in society today, some of the important criticisms of bureaucracy will now be discussed.

According to Merton [50] [51] a fundamental failure of bureaucracy was its tendency to foster 'goal displacement'. Excessive adherence and conformity to rules and regulations resulted in rules becoming ends in themselves, and sometimes prevented organizations from achieving their real goals. Additionally, organizational members in bureaucracies often tried to apply formal rules and procedures in unsuitable situations - for example in unique situations, treating them as routine - thus resulting in dysfunctional outcomes.

Selznick [67] discovered the phenomenon of 'sub-optimization' in bureaucracies; i.e. delegation of authority resulted in organizational sub-units pursuing goals that were different from the stated goals of the organization as a whole.

Burns and Stalker [18] observed that highly bureaucratic organizations were resistant to change. A prevailing atmosphere of hierarchy, control, efficiency and predictability meant that organizational members favored self-continuity and felt threatened by change. Such organizations, thus, were poor at innovating or at embracing new ideas.

Gouldner [32] found that the 'govern according to rules' culture in bureaucratic organizations led to the consequence of members following the minimum possible rules in order to get by. Thus it was problematical to obtain much more than minimally acceptable behavior from members.

Blau [16] proposed that in bureaucratic organizations, certain people who knew how to 'play

by the rules', i.e. became gradually more powerful. Thus power tended to shift from the nominal leaders of these organizations, who did not necessarily know how to play by the rules, to people who did.

Apart from these major, general criticisms of bureaucracy, there have been a large number of studies that have examined and criticized more specific aspects of bureaucracy such as corruption, inefficiency, concentration of power, misuse of power, poor decision-making, political interference, failure in regional contexts, managerial frustration, job dissatisfaction, low creativity, organizational conflict and other dysfunctions (c.f. [17] [21] [24] [25] [34] [36] [39] [40] [42] [48] [49] [53] [63] [64] [69] [71] [72]).

However, researchers have also found that bureaucracy works well in certain contexts [48] and the theory of bureaucracy has been used in a variety of contexts to analyze and understand organization in society [23]. For example, it has been used to explain the evolution of society in communist USSR [20], to describe the decline of the ancient Roman army [28] and to evaluate the development of the British pottery industry during the industrial revolution [41].

3. E-Government and Bureaucracy

As discussed earlier, the key features of Weberian bureaucratic organizations are that they are hierarchical, maintain division of labor and are governed by rules. Hierarchy results in vertical differentiation while division of labor entails horizontal differentiation within an organization's structure.

An examination of contemporary E-Government research and literature through the lens of Weber's theory of bureaucracy results in the emergence of two major prevailing themes concerning the relationship of E-Government to bureaucracy. The first theme that emerges is that IT (information technology) can be a tool for 'reforming' bureaucracy. The second, somewhat contradictory, theme is that E-Government failure may be explained as a consequence of bureaucracy. Each of these themes is discussed and illustrated in detail below (the two themes are also explored via case studies in section 4 of this paper).

3.1. *Theme 1:* IT as a tool for 'reforming' bureaucracy:

The first theme that emerges is that IT (information technology) can and should be used as a tool for reforming the ills of modern bureaucratic organizations. According to this view, IT can be a driver and enabler of change and reform due to its boundary challenging nature, and governments can be reengineered and reinvented via IT to serve society better. This view holds that the key features of Weberian bureaucracy, i.e. hierarchy, division of labor and rigidity of rules have led to a situation in bureaucratic organizations where processes are 'stove piped' (i.e. highly inflexible) and information is held in 'silos' (i.e. not shared properly); this has resulted in government bureaucracies being inflexible and unresponsive to the needs of citizens. This theme upholds that IT can foster improvements in collaboration and information sharing within government bureaucracies, and can thus make government flexible, responsive and efficient. Some illustrations of this theme are now presented.

In a memorandum on the subject of Electronic Government to the heads of executive departments and agencies of the U.S. federal government, President Bill Clinton [19] instructed agencies to design E-Government systems that "promote access to government information organized not by agency, but by the type of service or information that people may be seeking". Thus, the president instructed that E-Government be used to deconstruct horizontal differentiation within government agencies. (Interestingly, it should be noted that this is an executive order, which uses institutional hierarchy, a feature of bureaucracy, to give a directive that seeks to break down horizontal differentiation, another feature of bureaucracy).

This same theme, i.e. E-Government should be used to break down features of bureaucracy, is echoed in a variety of other governmental and quasi-governmental outlets. For example, the report of the National Performance Review, authored by Vice-President Gore [31] recommended that government agencies should "re-engineer government activities, making full use of computer systems to revolutionize how we deliver services". A report from OECD found that availability of technology was a driver as well as an enabler of change by making certain types of government functions more feasible and creating new expectations from them. The report claimed that "E-Government can be a major contributor to reform" and that "ICTs (information and communication technologies) have underpinned reforms in many areas" [54]. A report from the White House on E-Government strategy advises that E-Government initiatives should be used to enhance inter-agency collaboration and to reduce "small hat," agency centric thinking" [59]. In addition to presidential directives, such efforts are also being bolstered in the U.S. via legislative mandates, such as the Government Paperwork Elimination Act [33] and the E-Government Act [22].

Various researchers and policy analysts are also optimistic or convinced about the potential of E-Government to reform bureaucracy. For example, the head of a public policy think tank avers [78]:

> "I see electronic government as being a more collaborative style of government, featuring:
> - More collaboration with external sectors in making policy and in delivering services;
> - More collaboration with citizens
> - More collaboration within and among governments, domestic and international
> - More collaboration within the workplace"

Bellamy & Taylor [12] justify such views, that government can be reinvented via technology, on the basis of the 'boundary challenging' nature of information technology; i.e., IT enables new information flows that challenge past norms and capabilities. Allen et al. [1] propose that E-Government initiatives can allow public administration to transcend its traditional hierarchical structures of accountability. Fountain [26] writes that "Information technology in conjunction with the redesign of organizational process flows has diminished the amount of red tape and accelerated the delivery of government services for some members of the public." And in our final illustration, Okot-Uma [55] posits "Electronic Governance (eGovernance) offers an opportunity for governments to re-invent themselves, get closer to citizenry and forge closer alliances and partnerships with diverse communities of interest, practice, expertise, conviction and inter-dependence within the context of national development agendas".

3.2. *Theme 2:* E-Government failure explained as a consequence of bureaucracy:

The second, somewhat contradictory theme that emerges is that E-Government initiatives have failed, or will potentially fail because of the bureaucratic nature of government organizations. This view is skeptical of the capability of IT (information technology) to solve the problems of bureaucracy; and according to this view, instead of fixing such problems, E-Government initiatives may themselves fall prey to these problems. This view explains past and current E-Government program failures as a result of existing bureaucratic structures (i.e. structures caused as a result of the key features of Weberian bureaucracy, namely hierarchy, division of labor and rigidity of rules); and according to this view, bureaucratic reform may be necessary *before* E-Government initiatives can succeed. Some illustrations of this theme are now presented.

Van Wert [75] notes that the success of E-Government efforts is potentially challenged because bureaucrats "want to hoard information, not collaborate, and want his or her organization to 'shine' at the expense of another" because "In a traditional sense, it's about ownership which leads to credit which leads to increased resources."

Similarly, Marche and McNiven [47] assert that due to the way accountability is administered in government, it reinforces stove-piping of organizational procedures. They write "public administration has a general reputation of functional insularity" … "This refers to the tendency to not integrate service provisioning across departments when responding to citizens' needs. In part, this has been driven by deeply entrenched practices and cultures, supported by the tradition of ministerial accountability. In part, it was driven by the fact that it was administratively very difficult to integrate systems and practices between departments." The implication here is that in order to reform stove piping, the system of accountability may need to be changed before benefits from information technology can be realized.

Lazer [43], comparing public and private sectors, states "with survival less of an issue, and relative performance more difficult to measure, bureaucratic inertia is likely a greater barrier to adopting successful innovations in the public sector than in the private."

Friedlander [27] suggests that E-Government efforts may face problems in gaining acceptance in bureaucratic government organizations because they call for "a new type of public servant, one comfortable in collaborative and horizontal relationships rather than one whose expectations – and career path – lie in hierarchical decision making structures and clean distinctions between policy discussion and program execution". Thus, by upsetting the status quo, E-Government efforts make themselves vulnerable to being undermined by key stakeholders.

Bannister and Walsh [9], referring to the potential political problems faced by E-Government programs write, "Throughout the 1990s, the technology and operational reach of the DSCFA (an E-Government program in Ireland) had gradually extended beyond the organizational boundary of the department. As the department linked to more and more external systems the potential for political problems increased. Government agencies (not to mention Ministers) are protective of their territory and there was a growing risk that the DSFCA would be seen as infringing on their territory." Thus, E-Government initiatives may face resistance due to their potential for upsetting the existing status quo.

Jellinek [37] echoes these views, and writes about E-Government initiatives that "there are various internal tensions that make these projects incredibly difficult to properly define, let alone achieve"…. "the

largest set of problems (is) that of actually getting different departments and agencies to work with each other, to share information and even budgets in pursuit of better services for the citizen" and "there is an age-old rivalry to overcome between departments used to fighting each other tooth and nail for a chunk of the overall government spending pot. Government departments are used to working as separate units, answerable only to their responsible minister. There are potential legal problems with watering down these clear lines of responsibility, not to mention problems with data protection law."

Skepticism about E-Government's potential to reform bureaucracy extends to the government too; for example, Li [45] writes "There is a gap between the rhetoric about the potential of e-government and the reality on the ground. In particular, public sector organizations involved…. appear to be more skeptical about the ability of ICTs to break down barriers within and between organizations than those who advocate E-Government as a solution to this problem."

Murray [52] writes "what is becoming clear is that the process of putting public services online is about much more than IT. It demands fundamental changes in the public sector's traditional structures and practices and in the relationship between the state and its citizens." And according to our final illustration of this theme [38] "Poor governance cannot be cured by e-elixirs. Computers and Internet access will not undo corrupt, bloated bureaucracies or ineffective public institutions. Political elites and entrenched bureaucrats – particularly in places where government jobs have high profit margins – may resist"

4. Case Studies

The two emergent themes are now explored via illustrations from E-Government case studies produced by the World Bank, the United Nations Development Programme, the Institute for Development Policy and Management at the University of Manchester and others. In the case of theme 1, in section 4.1, we see IT being successfully used to break down the key features of bureaucracy, i.e. hierarchy, division of labor and rigidity of rules. In the case of theme 2, in section 4.2, we see that these very features of bureaucracy are considered the cause of E-Government failure.

4.1. Cases Studies: *Theme 1:* IT as a tool for 'reforming' bureaucracy:

- The state of Massachusetts is building solutions that facilitate a 'single face' of the government at all levels of the government [70].
- Massachusetts sponsored a project with other states to connect government buyers with suppliers of IT products and services. This project enables a high label of collaboration between states governments in their interactions with IT vendors and has been termed a success [70].
- The U.S. department of defense has commissioned a set of websites to rationalize the department's procurement process. This 'online mall' offers DoD customers a single access point through which to acquire off-the-shelf, finished goods and items in all stores and catalogs available to the department [70].
- Computerization of the state owned Indian railways' reservation system increased rail staff morale, reduced corruption and improved customer service [35].
- An electronic procurement system established by the government of Chile has made the government's financial transactions more transparent, increased collaboration between firms and agencies and sharply reduced opportunities for corruption in the bureaucracy [61].
- Econsumer (www.econsumer.gov) a website launched by the U.S. Federal Trade Commission allows consumers to file international, e-commerce related complaints; thus allowing consumers to bypass what previously were complex bureaucratic procedures for reporting complaints. These complaints are used by law enforcement agencies and trade commissions to fight consumer fraud around the world.
- Computerized interstate border checkpoints in a part of India have reduced corruption and increased state revenue [62].
- Computerized land registration offices in a part of India have increased process efficiency and transparency [13].
- The Philippines Customs Bureau has instituted an online system to process various documents and transactions such as clearance of imports and payment of duty. The system has reduced costs of processing, reduced corruption and increased revenue collection [14].
- The local government of Seoul, Korea created an online system to publish rules, procedures and other information related to services, permits and licenses issued by it. The system increased process transparency and reduced corruption [60].
- The U.S. federal government's FirstGov portal (www.firstgov.gov) provides a single point interface to seamlessly access all governmental agencies and also provides detailed information on

various services provided by these agencies, thus reducing search complexity for citizens.

- In Peru, the government has enabled online verification of the legal status of property, including businesses, homes and personal estates. Formerly, getting the required information took at least three weeks, whereas now it can be obtained immediately [66].
- Computerization of government records in Nepal has brought about dramatic improvements in planning planning processes, and in the provision of information services for agencies [73].

4.2. Cases: *Theme 2:* E-Government failure explained as a consequence of bureaucracy:

Note: In the original case studies, the identities of some of the authors were concealed, possibly because they were reporting on the sensitive subject of E-Government failure.

- Bangladesh's National Data Bank Project, designed to electronically consolidate data from different government agencies failed because, among other reasons, "rational, depersonalized processes were not used for selection of other project personnel" and there were "concerns about interference and self-interest from government officials in the proposal process" [5].
- Computerization of part of a tax department in India failed due to political antagonisms between various groups of officials [68].
- A management information system developed successfully for a particular district in India was not adopted by other districts because of a 'not invented here' syndrome that prevailed in the bureaucracy [15].
- An information system designed to aid decision-making for fisheries management and development activities in an East Africa country failed due to, among other reasons, a lack of bureaucratic commitment to the system "that included deliberate neglect and denial of the system's value, coupled with a level of arrogance about their own importance" [6].
- An IT project to provide Web-based community and council information in Durban, South Africa failed due to, among other reasons, a "lack of understanding and support for the project within the Council, leading to resistance to opening channels of communication with the public" [3].
- A program to computerize internal services of the ministry of foreign affairs in a West African state failed because, among other reasons, procurement tenders for the information system "were being awarded on the basis of personal relations between officials and the businesses" and because "Some aspects of the application threatened the privileges of diplomats: promoting videoconferences meant reducing overseas travel" [56].
- A management information system to assist with management of the universities in Nigeria failed because, among other reasons, "There was resistance to the project and to new ways of working within the individual universities and other parts of the system" [2].
- A project to create an integrated personnel information system for employees of the South African Government failed because the system attempted to change bureaucratic processes too radically, when most senior staff were unsympathetic to such changes [7].
- An effort to create an integrated information system for the defense forces of a middle-eastern country failed in large part because it tried to introduce "a fundamentally different set of working practices" and "conflicted directly with both the traditional culture and the self-interests of at least some senior figures" [8].
- An Electronic Voter Registration system in Uganda failed due to, among other reasons, the inability of the Interim Electoral Commission to "create conditions in which the system would not only be used impartially, but be seen to be used impartially" [4].
- A system to integrate port operations in Cameroon has partially failed because, among other reasons, it "has met with resistance from many of the public servants involved" [57].
- A project to computerize public sector banks in a south Asian country partially failed because, among other reasons, "objectives and values of many bank staff were out of synch with those implicit within the design as required for effective functioning of the system" [30].
- A system to provide a web presence to the department of tax in Cameroon partially failed because, among other reasons, tax service personnel "were reluctant to alter their working patterns to incorporate the Web" [58].

5. Concluding Remarks

This paper has examined contemporary E-Government research and literature through the lens of Weber's theory of bureaucracy. The paper finds that two somewhat contradictory themes emerge from this exercise. While according to one theme, IT can be used

to override and reform features of Weberian bureaucracy such as hierarchy, division of labor and rigidity of rules; according to the other theme, these very features have the potential to render E-Government projects unsuccessful.

There is no doubt that E-Government is here to stay and is the way of the future. Also, there is no doubt that E-Government impacts bureaucracy in various ways (ironically, E-Government has added to bureaucracy in Virginia, where a new cabinet post, secretary of technology has been created [21]. However, there is also a danger "that organizations could be tempted to adopt the 'idolized' approach to the use of ICTs (information and communications technologies) to achieve organizational transformation. This approach sees ICTs as providing simple answers to what are complex organizational and cultural issues" [45].

The findings in this paper suggest that the issue of how E-Government and bureaucracy impact each other in reciprocal ways is quite complex. The current status of research into this issue does not offer adequate clarity into the underlying processes at work or the likely outcomes to be expected. Future research efforts are thus required to get a better understanding of these issues.

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