THE SHIFTING LANDSCAPE OF PROFESSIONAL WORK AND POWER ON THE PROLIFERATION OF ENTERPRISE-LEVEL QUALITY CONTROL SYSTEMS

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ABSTRACT

Enterprise-level quality control (ELQC) systems such as Lean, Information Technology Infrastructure Library (ITIL), Six Sigma, and Capability Maturity Model Integration (CMMI) represent a relatively recent wave of best practices that add bureaucracy and standardization to the work of the professional. Much has been written about the negative phenomenological (experiential) effects of this new layer of bureaucracy on the professional worker. Less attention has been paid to the institutional level dynamics that this change represents. Therefore this paper draws upon literature bearing upon inter-professional competition as well as institutional processes to appreciate the effects of ELQCs more broadly. Foundational works by Max Weber and Emile Durkheim are used to emphasize the fundamental tensions between legal-rational authority (formal control) and traditional authority (informal/clan control). The analysis highlights a vertical competition within organizations between those professionals that implement and maintain the ELQC (the "process owners") and those who are directly responsible for the professional products/services. This offers a context within which to offer recommendations to managers to maximize the benefits and minimize the negative consequences of ELQC adoption.

Keywords: Bureaucracy, professionals, critical theory, labor studies, quality control, philosophy of technology

INTRODUCTION

This paper builds upon an earlier paper that explores the effects of enterprise-level quality control programs (ELQC) on work and organizations (Nugent, 2016). Examples of enterprise-level quality control systems include Lean, Information Technology Infrastructure Library (ITIL), Six Sigma, and Capability Maturity Model Integration (CMMI). However it is also clear that institutional spheres outside of the corporate world such as education, healthcare, law, and accounting are experiencing the implementation of similar programs that attempt to measure and control variables that were previously the responsibility of the individual professionals in these organizations. For the remainder of the paper I will refer to these in general as enterprise-level quality control systems (ELQCs).

The earlier paper drew from empirical ethnographic data from a defense contracting company in which CMMI had been implemented and focused on changes in how the worker experienced his or her work. The results showed that CMMI created a shift in accountability and quality control from the worker to the new administrative structure leading to feelings of alienation (Nugent, 2016). Note, this result is consistent with other research that explores the effects of bureaucratic structures on professionals (e.g., Blau & Meyer, 1987; Adler, 2016). However while these results are important in understanding the effects of increased bureaucracy on professionals who previously enjoyed a relatively greater amount of self-determination and control, they nonetheless are restricted to the phenomenology (experience) of the workers and could be greatly strengthened by a complementary analysis of structural and institutional factors.

To this end, this paper draws upon classic literature on professionals and bureaucracies to serve as foundation from which to consider how institutional-level variables are being affected by inter-professional competition.

LITERATURE REVIEW

It is interesting that two of the fathers of sociology, Emile Durkheim and Max Weber, had a particularly keen interest in professionals and professional work. This interest was less motivated by a goal to understand organizations and their functioning as it was to think about societies as a whole and the various types of authority, rules, controls, and cultural conventions that shape behavior across all institutional spheres.

To Weber there are three general types of authority: *traditional*, *charismatic*, and *legal-rational* (Gerth & Mills, 1946). Traditional authority is usually associated with feudalism and patrimonialism and is passed from generation to generation. Traditional authority is often somewhat arbitrary, developed by the group, and controlled various forms of servitude. Charismatic authority rests in an individual's ability to motivate and inspire others through their personality, communications, and missionary zeal. In contrast legal-rational authority undergirds the more modern forms of organization such as bureaucracies and professional institutions and appeals to existing established laws or to "natural laws" (rationality) (Gerth & Mills, 1946). Weber believed that modernity is characterized by a gradual erosion of traditional and charismatic forms of authority that is inevitable due to bureaucracy's objective superiority in terms of efficiency and control. He lamented that to the extent that traditional and charismatic forms included a belief in metaphysical beings or worlds, that their demise at the hands of bureaucracy has led to the "disenchantment" of the world:

> The increasing intellectualization and rationalization do not, therefore, indicate an increased and general knowledge of the conditions under which one lives.
>
> It means something else, namely, the knowledge or belief that if one but wished one could learn it at any time. Hence, it means that principally there are no mysterious incalculable forces that come into play, but rather that one can, in principle, master all things by calculation. This means that the world is disenchanted. One need no longer have recourse to magical means in order to master or implore the spirits, as did the savage, for whom such mysterious powers existed. Technical means and calculations perform this service. This above all is what intellectualization means. (Gerth & Mills, 1946, p. 139)

This does not mean, however, that the other forms of authority have disappeared in modern life. Political, religious, and business leaders continue to influence followers and charisma is recognized as a distinct and important style of leadership (Yukl, 2013).

Traditional authority represents a bottoms-up or organic set of customs and rules that have served individual or group interests over time. In particular, professional work is characterized by moral codes of conduct and traditions that are developed and maintained by professional groups of educators and practitioners (Abbott, 1988). While Weber saw the erosion of traditional authority, Durkheim (1957) saw it as a fundamental and important part of the fabric of society based on rules of morality:

> Now these rules are of two kinds. The first apply to all men alike. They are those relating to mankind in general, that is, to each one of us as to our neighbour. All rules that set out the way in which men must be respected and their progress advanced – whether it be ourselves or our fellow-men – are equally valid for all mankind without exception…. The function of the rules of individual moral code is in fact to fix in the individual consciousness the seat of all morals – their foundations, in the widest sense: it is on these foundations that all else rests. On the other hand, the rules which determine the duties that men owe to their fellows, solely as other men, form the highest point in ethics. This, then, is the climax and it is the sublimation of all the rest. [p. 3].

In this light Durkheim saw professionals as having a distinct responsibility to society in this regard. In speaking about how morals sanction professional behavior differently based upon one's role in society, Durkheim (1957) states:

> Of these morals, not only is one kind distinct from the other, but between some kinds there is real opposition. The scientist has the duty of developing his critical sense, of submitting his judgment to no authority other than reason; he must school himself to have an open mind. The priest or the soldier, in some respects, have a wholly different duty. Passive obedience, within prescribed limits, may for them be obligatory. It is the doctor's duty on occasion to lie, or not to tell the truth he knows. A man of the other professions has a contrary duty. [p. 5]

Therefore, looking at Weber's and Durkheim's writings together, professionals may represent one of the last occupational categories that continues to maintain a high degree of traditional authority/control over their work processes and products.

Given the inherent tensions between legal-rational and traditional authority, organizational scholars have been keen to examine the relative effectiveness of each in controlling production, efficiency, and effectiveness. These studies frame the problem as forms of control (formal versus informal/clan) rather than as forms of authority, but it is reasonable to equate formal control with legal-rational authority and informal/clan control with traditional authority. The results of these studies make it clear that informal/clan controls are important complements to formal controls and their effectiveness is usually moderated by cultural and contextual factors. For example Choudhury & Sabherwal (2003) found that informal controls contributed to effectiveness in outsourced software development projects in the presence of shared goals and frequent interactions between clients and vendors. A strong theme throughout these studies is that there is no single form of control that is best and that informal and formal controls complement one another and their effectiveness is often the result of contextual (social) factors (Kirsch et. al., 2002; Burton & Cardinal, 2002; McGarry & Sweeney, 2007; Wiener et. al., 2015). While these findings reinforce the general importance of traditional authority and informal/clan control in organizations, they nonetheless approach the phenomenon without considering professional/occupational implications. At any given time workers are playing roles that will be representing one or the other of these types of control/authority based upon their professional/occupational interests and as Durkheim's second quote above implies, these may be in flux or come in conflict with one another.

If ELCQs represent a new formal control or legal-rational form of authority, then what does this mean from the point of view of professional groups, their differing interests, and their proliferation/success? It is in this context that we can now turn our attention to an institutional level analysis of professional dynamics within modern bureaucracies.

ANALYSIS

The widespread proliferation of ELQC programs across professional bureaucracies compels us to ask if, given the positive empirical role of informal controls (traditional authority), how might these affect institutional level variables. That is, if we consider organizations as embedded in broader institutional/societal/professional fields, then why was the proliferation of ELQC programs so swift and successful and in what ways might it threaten or diminish the professionals' traditional authority over their work (in particular production processes and quality control). Before focusing on professionals, however, let us turn our attention to ways in which institutional scholars frame informal control and in particular why certain types of formal control/evaluation is institutionally dysfunctional.

The New Institutionalism and the Positive Functions of Informal Control

As we saw in the preceding literature review, organizational scholars have shifted from a focus on institutions as rational and goal-oriented structures to more decentralized decision-making arenas in which informal communication and control play a significant role in organizational outcomes. Institutional scholars claim that much of this phenomenon results from social trust or implicit expectation that each interested party is doing their part to the best of their abilities and resists formal evaluation by external authorities and criteria:

> Institutionalized organizations protect their formal structures from evaluation on the basis of technical performance: inspection, evaluation, and control of activities are minimized, and coordination, interdependence, and mutual adjustments among structural units are handled informally. [Powell & DiMaggio, 1991, p. 57]

In other words, there exists a "logic of confidence and good faith," (Powell & DiMaggio, 1991, p. 58) in which:

> Considerations of face characterize ceremonial management. Confidence in structural elements is maintained through three practices – avoidance, discretion, and overlooking. Avoidance and discretion are encouraged by decoupling autonomous subunits; overlooking anomalies is also quite common. Both internal participants and external constituents cooperate in these practices.
>
> Delegation, professionalization, goal ambiguity, elimination of output data, and maintenance of face are all mechanisms for absorbing uncertainty while preserving the formal structure of the organization. [p. 58]

As a result, formal inspection and evaluation of the group's output is minimized. According to Powell & DiMaggio (1991):

> Evaluation and inspection are public assertions of societal control which violate the assumption that everyone is acting with competence and in good faith. Violating this assumption lowers morale and

confidence. Thus, evaluation and inspection undermine the ceremonial aspects of organizations. [p. 59]

Therefore in addition to being consistent with predicting alienation discovered in the initial analysis, the new institutionalism offers us a better framework at the structural and cultural levels of analysis to consider how ELQCs were able to proliferate over the last two decades in a manner that overturns these established conventions.

Rationality and Inter-professional Competition

The sociologist Andrew Abbott's 1988 analysis of professionals *The System of Professions* illustrates how professional groups are often in competition with one another. For example, for a particular disease the mainstream medical profession will claim a particular jurisdictional authority over its diagnosis and treatment while fringe professional groups offering alternative therapies or herbal remedies attempt to claim that jurisdiction for themselves. Each draws from very different traditions and moral codes, but both attempt to establish and maintain a particular legitimate professional jurisdiction (Abbott, 1988). In the context of this competition, Abbott claims:

> …professions sometimes use their abstract knowledge to reduce the work of competitors to a version of their own. This is a basic mechanism of interprofessional competition. The objective qualities of a task are those qualities that resists such reconstruction" [p. 37].

Interestingly, however, Abbott's analysis tends to focus on professional groups competing for jurisdictions in a *horizontal* way – across and institutional field such as medicine, law, etc. Less attention is paid to the potential for a *vertical* competition between professionals within a specific organization. The adoption and implementation of ELQCs within organizations represents new formal controls carried out and maintained by a distinct group of professionals ("process owners") that claim jurisdiction over tasks that were previously handled by a different group of professionals using predominantly traditional/informal means.

In this vein, based upon the previous study, it is necessary to think about how the new process owners "reduce the work of competitors to a version of their own." ELQCs grew out of the quality control and Total Quality Management (TQM) paradigms (Giroux & Landry, 1998, Feigenbaum; 1989). They focus on statistical and *systems thinking* and that for any process there should be some predicted/expected variability and to monitor for excessive or undesirable levels of variation. Prior to ELQCs the process design and variability were monitored and managed by clan control and traditional authority. With ELQCs there is the assumption that certain kinds of processes are the same (or should be the same) across the enterprise and therefore their design should be consistent, and their performance measurable, and outputs monitored in a control chart fashion. For example at the site where data were gathered for the previous study, the focal process was engineering "peer reviews" in which work products (requirements specifications, design documents, test cases, etc.) were formally reviewed by technical stakeholders with the aim of ferreting out "defects" in the product. However a consistent theme in the interviews with the systems engineers was that they were keenly aware of why CMMI was implemented and its effects on product quality: According to one senior level systems engineer:

> My own personal opinion of CMM and CMMI from a business point of view in a competitive environment, it is critical to have that as a shingle hanging on the door. It gives the *appearance* of a certain amount of predictability, it gives the *appearance* of manageability and control. To some extent you have manageability and control *artifacts*, but your product is *not* a set of artifacts. Your product is a system that works in the end. You know, if your system does not work but you have beautiful artifacts, it did no good whatsoever.

According to the new institutionalism, organizations are pressured into copying best practices that leading organizations in their field have adopted. This process is called *mimetic isomorphism* because it simultaneously copies a practice and makes each organization structurally more similar to the others (Powell & DiMaggio, 1991). These pressures have much more to do with maintaining legitimacy to external stakeholders than they do objective internal efficiency and effectiveness. The engineer's quote acknowledges this phenomenon quite well – especially with his emphasis on "appearance." Much of what CMMI does is to establish and maintain institutional level legitimacy in the eyes of customers and other external stakeholders. However as the quote also emphasizes, its internal effectiveness in creating a "product" is illusory. What makes a good product, instead, is a function of clan/informal controls of system experts who understand the complex details of the system being built and its technical, social, and political contexts. This critique of ELQCs, especially CMMI, is echoed in other sources as well (Fine, 2001; Shang & Lin; 2009; Nugent & Collar, 2014).

As alluded to earlier, while one could focus on the negative effects of this shift on the individual worker's morale, motivation, and alienation, this paper is more interested in the institutional level competition between professionals. Whether the organization is technical, educational, healthcare, accounting, etc., over the last two decades various ELQCs have emerged that have been adopted primarily for legitimacy purposes by a certain layer of management/administrative professionals. The TQM philosophy offers a legal-rational or formal justification for their adoption. Once adopted, these professionals or "process owners" justify their roles by, in the engineer's own words, maintaining the "appearance of manageability and control" of artifacts. Yet as we have seen these appearances are primarily just appearances and at most play a secondary role in the delivery of high quality products and services. The professional engineer, doctor, lawyer, accountant, professor, etc. in these professional bureaucracies continue to exercise clan control or traditional authority in the institutional processes, however they need to comply with the demands of the ELQC to generate "metrics" or artifacts offering the appearance of consistency and improvement at the institutional level.

And the new process owners, as a professional group, are in direct competition in some ways with the professional workers. Structurally the ELQCs represent a shift in responsibility and accountability of institutional quality from the professional workers to the process owners that is directly responsible for the workers' alienation that many observers have reported (e.g., Adler, 2011; Nugent, 2016; Nugent & Collar, 2014). Therefore the introduction of ELQCs has succeeded in shifting professional jurisdictional boundaries in a vertical sense within organizations. The professional worker has relinquished some control over process design and quality control to the ELQC process owners who are able to attribute quality improvement to the ELQC and their efforts rather than to the workers themselves. It is a systemic shift from traditional authority and informal/clan control to legal-rational authority and formal control, but with real implications for specific professional roles within larger organizations.

SUMMARY AND RECOMMENDATIONS

Although ELQCs are perpetuated within institutional fields for legitimacy through mimetic isomorphism, to say that they do not lead to organizational improvements would be inaccurate. The legal-rational logic of standardizing organizational processes and gathering process metrics and monitoring them renders visible what was previously invisible to management and to the workers themselves. There is the potential for the results of the ELQC charts/metrics to feed back to the professional workers (clans) insights that will help them to improve products/services. Also, it is undeniable that when the ELQC does indicate that some process is "out of control" that there may very well be workers in need of training or technical processes in need of tweaking.

Yet as an inter-professional conflict within organizations, management should be sensitive to the shift in jurisdictional boundaries with respect to process design and that the ELQC process owners may have the authority to impose change but will often lack the detailed technical, social, and political knowledge required to do so effectively. Therefore in these instances it is critical to involve the professional workers themselves and to respect their traditional authority over the processes, routines, and intuitions that led to the success of the organization's products and services from the beginning.

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