

**Innovativeness and creativity in bureaucratic organizations:
Evidence from the pharmaceutical and the automotive industry**

Alexander Styhre & Sofia Börjesson

Dept. of Project Management & Fenix Research Program
Chalmers University of Technology
Vera Sandbergs Allé 8
SE-412 96, Göteborg, Sweden
Phone: +46 31 772 44 28
Fax: +46 31 20 91 40
e-mail: Alexander.Styhre@fenix.chalmers.se

Submitted to OLKC 2006 Conference at the University of Warwick, Coventry on 20th - 22nd
March 2006.

Innovativeness and creativity in bureaucratic organizations: Evidence from the pharmaceutical and the automotive industry

Abstract

The management literature is presenting a most critical view of the bureaucratic organization form as what is essentially incapable of responding to external changes and providing meaningful work assignment for its co-workers. This negative image of bureaucracy is largely taken for granted and are only occasionally supported by empirical evidence. This paper presents a study of how co-workers in two major companies, one Swedish company, Volvo Car Corporation, and one Swedish-British company, AstraZeneca, conceive of their possibilities to conduct innovative and creative work. As opposed to the critical view of bureaucracy, the interlocutors did not regard the functional and hierarchical organization as an impediment. Instead, the influence of new managerial practices, in many cases of American origin, were pinpointed as potential hinders for innovation. The study concludes that the research on bureaucracy needs to pursue more affirmative views of this organization form and move beyond the ready-made critique of bureaucracy.

Keywords: Bureaucracy, Innovation, Creativity, Pharmaceutical industry, Automotive industry.

Introduction

One of the standing debates in organization theory and management studies is whether the bureaucratic organization form represents some kind of ultimate and generic form that other forms of organization are simply deviating from, or whether bureaucracy is what is becoming outmoded and antiquated, and therefore being displaced by new forms of “post-bureaucratic organizations” (Hodgson, 2004; Maravelias, 2003; Hill, Martin, Harris, 2000). Ever since Max Weber first formulated the basic characteristics of the bureaucracy, it has been subject to harsh criticism and derogatory remarks from all conceivable camps, from liberals such as Charles Wright Mills (1951), Austrian economists such as Ludwig von Mises (1944), Marxist writers such as Dan Clawson (1980), management researcher such as Michel Crozier (1964), and from feminists such as Kathy Fergusson (1984). In the contemporary literature, a variety of organization forms jointly referred to as post-bureaucratic organizations have been suggested: the projectified firm (Hodgson, 2004), the virtual organization (Maznevsky and Chudoba, 2000), the network organization firm (Powell, Koput and Smith-Doerr, 1996), and so forth. As a consequence of all these new organizational arrangements, the interest for the bureaucratic organization form per se has been rather modest recently. In addition, the bureaucratic organization form is often portrayed as what is no longer of great importance for today’s industry as new organization forms previously unseen are flourishing. At the same time, a number of recent publications have addressed the benefits with the bureaucratic organization form in terms of enabling transparency, job security, opportunities for specialization, and so forth (Goodsell, 2004; du Gay, 2000; Sennett, 1998; Adler and Borys, 1996). Bureaucracies are here regarded as carriers of certain values and norms of the welfare state and promise to offer job opportunities for all citizens. On the contrary, new forms of organization are regarded by some authors (e.g., Sennett, 1998) as embodiments of a hyper-

intensive market orientation, praising consumer satisfaction and shareholder value oriented corporate governance strategies (Gabriel, 2005). Taken together, this recent treatment of bureaucracy in organization theory and in the social sciences tend to cluster along two end points: Either bureaucracy is regarded as what is failing to adopt to environmental changes and is therefore an ineffective organization form, or it is seen very much as what is safeguarding social values and provides decent work life opportunities. These two end positions are suffering from being overtly influenced by ideological views of the market and the role of the firm in society. Rather than conceiving of bureaucracy in such ideological terms, detached from empirical evidence—a form of “scholastic thinking” in Bourdieu’s (2000) vocabulary—one may examine how bureaucracies work in practice. Following a series of studies from the 1950s and 1960s such as Gouldner (1954), Blau (1963) and Crozier (1964), one needs to empirically examine how bureaucracies work in practice and what opportunities and shortcomings such organization form entails. What bureaucracies are and how they function are contingent on context-specific conditions and dependent on industry dynamics and social changes. This paper presents a study of how the employees in two large multinational companies, Volvo Car Corporation and AstraZeneca, very much organized in accordance with bureaucratic principles are conceiving of their firm’s innovative and creative capabilities. The study shows that most of the interviewees argued that their employing companies provided good opportunities for innovative work and that the size and organization form per se did not pose any major impediment. Instead, managerial control practices and the reliance on financial markets implied that limited resources could restrain the firm’s long-term competitiveness. The paper concludes that one cannot make sweeping claims about the qualities of a bureaucratic organization form without providing empirical support for such arguments.

The paper is structured accordingly: First, the literature on bureaucracy is reviewed. Then a number of texts explicitly addressing innovation and creativity in bureaucracy are examined. Third, the methodology of the study is discussed, and thereafter the empirical study is presented. Finally, some implications are discussed and conclusions are drawn.

Bureaucracy: Contested views

Bureaucracy and its critics

The notion of bureaucracy is one of the most central concepts in organization theory and social science and plays an important role for what has been called the modern project as such (see e.g., Perrow, 2002; Shenhav, 1999; Clawson, 1980). While bureaucracy is by no means an organization form strictly reserved for modern society—historians, sociologists, and anthropologists (e.g., Goody, 1986; Gluckman, 1966) point at numerous cases of pre-modern or tribal bureaucratized societies—it is one of the most distinctive marks of our contemporary society. Kallinikos (2004) writes:

Bureaucracy and modernity are . . . inextricably bound up with one another. Bureaucracy is the organization form of modernity. It is closely associated with the overall cultural orientations of modern man, the social mobility that coincided with the gradual dissolution of premodern stratification, and the burgeoning bourgeois ideals of individual freedom and justice, which it helped itself to embed. (Kallinikos, 2004, p. 22)

The notion of bureaucracy has been examined from a variety of perspectives, and Albrow (1970) identifies no less than seven different definitions of bureaucracy. In many cases,

bureaucracy is used synonymously with public sector administration, while in other cases, bureaucracy is a particular organization form based on a hierarchical and functional organization, clearly defined areas of expertise, standard operating procedures, fixed and roles and work descriptions, and so forth. In this latter category of texts, notions such as “industrial bureaucracy” have been employed to capture the combination of bureaucratic practices and industrial operations (Stinchcombe, 1959; Gouldner, 1954). In addition, as Shenhav (1999, p. 8) notes, there is no decisive line of demarcation between industrial and administrative bureaucracy in Weber’s thinking: “Weber did not distinguish between the management of political apparatuses and of industrial firms”. In the following, the concept of bureaucracy will be employed in this more general sense of the term, and, more specifically, the definition provided by Bendix (1956, p. xx) will be adhered to: “‘Bureaucracy’ refers to the universal tendency of men who are employed in hierarchical organizations to obey directives and to identify their own interest and ideas with the organization and with all those persons in it who shares this identification”. A large corporation may adhere to a bureaucratic organization form just as much as a public sector administration.

Even though the bureaucratic organization form is naturalized today, our relationship with bureaucracy is a troubled one, both in terms of common sense thinking and as a theoretical construct. In everyday language and “for the man on the street”, bureaucracy is a pejorative term, in many cases denoting a series of negative or frustrating encounters with authorities. For organization theorists and social scientists, the image of the bureaucracy is almost as one-dimensional and negative. Starbuck (2003, p. 162) writes: “Nearly everyone who has written about bureaucracies has complained about it; almost the only authors who found value in bureaucracy were German economists and sociologists writing between 1870 and 1915”. This overly negative view may be illustrated by Ludwig von Mises book *Bureaucracy* (1944/1969). Von Mises (1944, p. 1) opens his text with the following

statement: "The terms *bureaucrat*, *bureaucratic*, and *bureaucracy* are clearly invectives. Nobody calls himself a bureaucrat or his own methods of management bureaucratic". Later on, after portraying bureaucracy as what is posing a substantial threat to market activities advocated by von Mises, he (1944, p. 81ff) speaks of the "bureaucratization of the mind" as one of the key consequences of bureaucracy: "It [bureaucracy] kills ambition, destroys initiative and the incentive to do more than the minimum required. It makes the bureaucrat look at instructions, not at material and real success" (von Mises, 1944, p. 56). However, the foundational text on bureaucracy, Max Weber's *Economy and Society*, presents a much more affirmative view of bureaucracy. Weber (1948, p. 215) writes: "Bureaucracy offers above all the optimum possibility for carrying through the principle of specializing administrative functions according to purely objective considerations. Individual performances are allocated to functionaries who have specialized training and who by constant practice learn more and more. The 'objective' discharge of business primarily means a discharge of business according to calculable rules and 'without regard for persons'". Even though Weber is often portrayed as a "gloomy" person (see e.g., Law, 1994), envisaging society metaphorically as an "iron cage" and pointing at the negative social consequences of a one-sided emphasis on instrumental goal rationality at the expense of traditional rationality and value-rationality, his texts clearly articulate a belief in bureaucracy as a positive form of social development away from the nepotism and dilettantism prevailing in the state administration during pre-modern times. Even though Weber was aware of and provided detailed accounts of the negative consequences of bureaucracy, the notion of bureaucracy has during long periods served as a strawman, as what offhand has been dismissed as the underlying cause of a series of social problems and shortcomings. In Goodsell's (2004) fierce defence of bureaucracy, he summarizes the critique in passage worth quoting at length:

Bureaucracy's reputation in the halls of academe, then, is quite bad—at least in the minds of many. It is castigated by economists, sociologists, psychologists, political scientists, and even many scholars of public administration and public policy. Bureaucrats are portrayed as poor performers as well as budget maximizers, ant and megalops as well as empire builders; and merciless oppressors of their own kind as well as their clients, It is as a bureaucratic personality that they think, as an authoritarian army in mufti that they march, and as a Jesuitical priesthood that they mystify. Bureaucracy, institutionally, is said to sap the economy, endanger democracy, suppress the individual, and be capable of embodying evil. It is denounced on the right by market champions and public-choice theorists and on the left by Marxists, critical theorists, and postmodernists. One side of the political spectrum finds bureaucracy a convenient target because it represents taxes, regulations and big government, the other sees it as representing elitism, injustice to the underprivileged, and social control. (Goodsell, 2004, p. 17)

In organization theory, a number of journal papers and books have addressed bureaucracy both as a theoretical construct and as an empirical object of study. These are the two principal themes in the critique of bureaucracy in the literature: (1) the emphasis on the role of the employee in bureaucracies and the failure to provide adequate and meaningful work assignment, and (2) bureaucracy's inability to respond to environmental changes (Perrow, 1986). A number of studies of bureaucratic organizations are emphasizing the motivational challenges in terms of alienation and boredom facing employees in bureaucracies (e.g., Crozier, 1964), and a variety of texts have discussed the ability of bureaucracies to respond to social changes. However, Goodsell (2004) manages to falsify a series of persistent beliefs about bureaucracies and "the bureaucratic personality" so dear to the public imaginary and thus shows that both these two streams of critique are failing to provide solid evidence for their claims. Therefore, Goodsell (2004) suggests that whether bureaucracies, that is, organizations following a number of Weber's characteristics, are demonstrating certain

behaviours or dysfunction is an empirical, not a conceptual, question. This is a major critique on the bureaucracy literature that emphasizes the relative lack of detailed empirical studies exploring the functioning of bureaucratic organizations. Therefore, the present study aims at investigating whether bureaucratic organizations demonstrate innovativeness or if they are incapable of responding to external changes. Prior to the reporting of the empirical study, the literature on bureaucracy and innovation and creativity is reviewed.

Bureaucracy and innovativeness and creativity

In the following, we regard innovativeness as the ability of an organization to orchestrate the development of new goods and services while creativity is one of the key resources in such an undertaking. Innovativeness then presupposes creativity, but creativity per se is not enough to demonstrate persistent capacities for innovation. A number of books explicitly address the intersection between bureaucracy and innovation and creativity. In most cases, the relationship in this literature between bureaucracy and innovation and creativity is problematic, causing much concern for the writers. In Dyer and Dyer's (1965) *Bureaucracy vs. Creativity*, the bureaucratic organization form is portrayed as a dysfunctional form of organization riddled by its own inability to overcome its instituted inflexibility and fixed roles and routines. Dyer and Dyer (1965) provide a series of accounts from both the literature and practicing managers making claims that bureaucracy is an organization form more or less in opposition with the very idea of innovation and creativity. The bureaucrat is narrow-minded and focused on details, the "creative individual" (Dyer & Dyer, 1965, p. 41ff) is defying the virtues of rank, order, and predictability praised by the bureaucrat. Still, Dyer and Dyer (1965) suggest that creativity is possible in bureaucratic organizations if one manages to

overcome some of the rigidities of the bureaucracy. In Chapter Eight, Dyer and Dyer present “four rules for minimizing the dilemma between bureaucracy and creativity”: (1) “Recognize the type of organization—bureaucratic or creative—and adjust your leadership-followership patterns accordingly”, (2) “Don’t suppress information”, (3) “Provide for many interchanges among people”, (4) “Let the second team watch—and also play”.

Thompson (1969) is talking about bureaucracy in similar terms as Dyer and Dyer (1965), but favours the concept of innovation rather than creativity. Innovation is here defined accordingly: “By innovation I mean the generation, acceptance, and implementation of new ideas, processes, and products or services. Innovation, therefore, implies the capacity to change and adapt” (Thompson, 1969, p. 5). Again, it is the ability to change bureaucracies and their capacity for innovativeness that is pinpointed as the central problem. Although Thompson offers a more balanced view of bureaucracy than Dyer and Dyer’s (1965) rather sketchy and sweeping accounts, there is still a complicated relationship between innovation and bureaucracy. What is of specific concern is what Thompson calls “monocratic bureaucracies” where it is, in the extreme position, only the CEO that are given the right to innovate. Thompson (1969, p. 17) put it rather straightforwardly: “Other things being equal, the less bureaucratized (monocratic) the organization, the more conflict and uncertainty and the more innovation”. Bureaucratization has immediate and substantial negative consequences for the organization’s innovative capacities. Similarly to a number of previous studies, Thompson (1969) points at the tendency to conform in bureaucracies. In more specific terms, Thompson (1969, p. 18-19) examines the reward and incentive systems in large bureaucratized organizations: “The extrinsic reward system, administered by the hierarchy of authority, stimulates conformity rather than innovation . . . creativity is promoted, for the most part, by an internal commitment, by intrinsic rewards”. Bureaucracies are then more or less incapable of providing the right environment where the intrinsic motivation of individuals is

exploited. Thompson (1969) does however suggest that the bureaucratic ethos and its emphasis on details, routines and fixed roles, may be substituted with a professional attitude towards work:

Professionalism . . . is an alternative to bureaucracy (or the market) as a social control. As a system of control it is pluralistic and collegiate rather than monocratic and hierarchical. The rewards it offers are professional recognition for increasing competence (professional growth) and the intrinsic satisfaction associated with professional work. (Thompson, 1969, p. 93)

Professionalism is then what may mediate the effects of a heavy-handed bureaucratisation.

Kuhn's edited (1993) volume includes a wide range of contributions pointing at the problems associated with turning bureaucracies creative anew. Throughout the book, there are numerous derogatory remarks on the bureaucratic organization form. For instance, Schumann (1993, p. 114) claims that the routinization of practices so central to bureaucracy is wielding a negative effect on creativity: "[T]he processes of routinization takes the creativity out of an organization". However, empirical research—Schumann's (1993) contribution is conceptual—suggests that routines are more flexible and adaptive than is generally believed (Feldman, 2000; Nelson & Winter, 1982). The anthology of Kuhn (1993) presents a number of different techniques, tools, and, practices, for instance, market orientation methods, "ordinal time series analysis", leadership skills, and "artificial intelligence and expert systems", that are claimed to help bureaucratic organizations become creative and innovative. There is, however, little attempts at critically reflecting on the received wisdom of the field, that of bureaucracies being wholly incapable of being creative. Bushe and Shani (1991) suggest what they call *parallel learning structures* as concept that is complementary to the bureaucratic organization structure. Even though the subtitle speaks of how to make bureaucracies innovative, there is little at all about bureaucracies per se in the book. Instead,

the notion of bureaucracy is playing the role of the *supplement*, that is, what is embodying all the organizational dysfunctions that the “parallel learning structure” is claimed to deal with (see Bushe & Shani, 1991, p. 120). In their foreword, Bushe and Shani (1991, p. xiii) declare their view of bureaucracy: “[A]s we go into the 1990s, bureaucracies are still going strong. OD [Organization Development] oriented managers and consultants tend to be at odds with bureaucracies: We don’t like them, and we don’t really know how to handle them”. Again, the innovation and creativity are conceptually excluded from the bureaucracy. All these studies (Kuhn, 1993; Bushe and Shani, 1991) share the quality of being primarily conceptual critiques of the innovativeness of bureaucracy. The only explicit empirical study of innovation and bureaucracy, Britan’s (1981) ethnography of The Experimental Technology Incentives Program (ETIP) at the Department of Commerce in the USA, points at a number of political implications for the lack of success rather than the organization form per se as the main impediment for bureaucratic organizations. Britan concludes: “Government agencies cannot make ‘rational decisions’ about the kinds of ends that should be pursued. These are determined through political processes, in the largest sense. Even when agencies must interpret or redefine policy goals, this does not result from scientific research so much as from bureaucratic pressure, professional culture, or constituency interests”. (Britan, 1981, p. 141. See also Goodsell, 2004, p. 64).

In summary, the literature on bureaucracy and innovation and creativity does not demonstrate a belief in the innovative capacities of bureaucracies. Many texts are conceptual or merely make use of bureaucracy as what is the antidote to the creative and innovative organization without empirically justifying such an assumption, and there is little robust empirical evidence for bureaucracies as an *organization form* per se being incapable of innovating. Therefore, the literature in the intersection between bureaucracy and innovativeness and creativity is rather meagre and thus there is a need for more detailed

empirical research. For too long, the bureaucratic organization form been assumed to be the problem rather than the solution or even an insignificant factors. Therefore, one may investigate how co-workers in bureaucratic organizations, in this case large multinational companies, conceive of their own firm's ability to remain competitive in terms of innovation and creative solutions. In the remainder of this paper, this research question will be addressed.

Methodology

Choice of companies

This study is part of a broader research project investigating the innovative capabilities of large organizations in mature industries. Two companies were participating in the research project:

- ❑ Volvo Car Corporation is an automotive company founded in 1924 with its Head Office in Gothenburg, Sweden. Volvo is since 1999 owned by Ford Motor Company and employs about 28,000 employees. Volvo has entrenched a position in the Premium Brand market segment of the automotive industry and is generally renowned for its excellence in safety. Volvo produces about 450,000 cars annually and about one forth of the production is sold in the U.S.
- ❑ AstraZeneca is a Swedish-British pharmaceutical company, the outcome from the merger of the Swedish company Astra and the British company Zeneca in 1999, engaged in the research, development, manufacture and marketing of prescription pharmaceuticals and the supply of healthcare services. AstraZeneca is one of the

world's leading pharmaceutical companies with healthcare sales of over \$18.8 billion in 2003. The company operates within seven therapeutics areas: neuroscience (CNS & pain control), cardiovascular, gastrointestinal, oncology and infection, respiratory and inflammation. AstraZeneca is ranked number five in the industry for R&D expenditure: USD 3.5 billion in 2003, and for employees in R&D (more than 11,000). The Head Office is located in London and the company has seven sites in Sweden, UK and the US.

The two companies in the automotive and the pharmaceutical industry respectively, are facing a market situation with fierce competition: the automotive industry is characterized by overproduction affecting Volvo in terms of shrinking margins in the market segment where Volvo is positioned, and the entrance of new competitors from Asia; the pharmaceutical industry is facing a situation where it is more complicated to deliver new block-buster drugs because of increased regulatory demands and where the public health care organizations are no longer able to increase its spending on medicine. Mergers and acquisitions, aiming at integrating various resources and enabling economies of scale, also characterize these two industries. Therefore, a relatively small automotive company owned by an American corporation and a recently merged pharmaceutical company is arenas where bureaucratic forms of organization are applied. Both Volvo Cars and AstraZeneca are dependent upon its ability to organize its specialist skills and competencies.

Data collection

The research methodology of the study was modelled on what Bartunek and Louis (1996) call an insider/outsider research model. In the insider/outsider model academic researchers and

practitioners are collaborating in order to conduct research that is aiming at making theoretical contributions while simultaneously being of practical relevance. In this specific study, two academic researchers at a technical university were the outsiders and one manager at Volvo Cars and two managers at AstraZeneca served as the insiders. Insiders contributed with fruitful ideas and comments on the research design and arranged for interviews with managers within the company. In the case of AstraZeneca, the two insiders also participated in some of the interviews. Interlocutors were selected on basis of their ability to influence innovative processes in the new product development processes and for their dependence on knowledge-intensive work and innovative co-workers. Interviews (see e.g., Fontana and Frey, 1994, for an overview) served as the principal research methodology. 12 managers were interviewed at Volvo cars and 16 managers at AstraZeneca during a five weeks period. The interviews were semi-structured and the interviewees were encouraged to provide detailed narratives about the nature of their work and what challenges they anticipated for themselves, the company and the industry. One may thus speak of a “narrative interview methodology” (Czarniawska, 2004). The median interview duration time was one hour and fifteen minutes. All interviews were recorded and transcribed by the academic researchers. Prior to the interviews, the interviewees were given a two-page document where their major research topics and objectives of the study were presented.

Data analysis

Strauss and Corbin (1998, p. 3) define “coding” as “the analytical processes through which data are fractured, conceptualized, and integrated to form theory”. Coding is in this definition what is aiming to provide the new components of a new theory in the grounded theory model

advocated by Strauss and Corbin (1998). In the present study, there were no attempts to formulate a “new theory of bureaucracy” but rather to contribute with new empirical materials to the existing theoretical discourse on bureaucracy. Therefore, the coding procedure was aiming at structuring the empirical material on basis of the literature on bureaucracy. The two academic researchers coded the 28 interviews individually. Because of individual differences and interests, the two coders did not make use of the same categories but similar labels were used, for instance “management control”, “innovation”, “impediments for innovations”, and so forth.

Innovation and creativity and re-bureaucratization

Are large firms creative?

In the both companies, the capacity to innovate and conceive of creative solutions to various problems was regarded a key success factor. In both industries, the co-workers skills and competence were treated as the most important asset of the firm. The interviewees also thought of their own company as being creative and innovative; at AstraZeneca in terms of a track record in developing new blockbuster drugs such as the ulcer medicine Losec, a long-standing cash cow for the firm, and at Volvo in terms of new safety features of the car and more recently, the innovative design and the latest success, the SUV car model Volvo XC90 and the smaller more recent SUV XC50. One of the senior managers at AstraZeneca pointed at the belief in technology and new scientific practices are what were previously thought as being what would displace professional skills: “Our output of Candidate Drugs have increased significantly the last two tree years. When all these genome technologies, HTS [High-

Throughout Screening, a molecule detection technology] and all that were introduced, you thought that it would revolutionize it all, that you would be able to throw out loads of new drugs, but that proved to be a mistake. But now we have done a variety of activities, better libraries, and one should be able to predict how it should look [a new candidate drug]" (Senior manager, AstraZeneca). Here, technologies such as screening technologies such as High Throughput Screening (HTS) are not making new drug development an "automatic process". On the contrary, scientific leaps make the access to professional expertise even more central for long-term success. One of the Project Managers at Volvo argued in a similar manner that the role of the creative individuals were of great importance:

If you examine a couple of our real hits, then you notice they have been turned down a number of times in the process. But then people continued to work on them because they thought they were of great importance. One of these things . . . won the Ford Technical Award, the highest prize you can get . . . This group did not give in . . . Each and everyone have been very good at developing their gadget cheaper, more efficiently, but also more streamlined. There is a risk that we loose our competitive edge and loose our source of attraction. (Project Manager, Volvo Cars)

On the question "Is it important for Volvo to be creative?", the same Project Manager replied: "Yes, that is a key success factor . . . It's all about being able to offer something good, something special, something better to the customer than others are capable of offering. We can never compete on price and then we need to develop a good climate for innovation . . . At the same time, we need this 'product innovation factory' to safeguard quality and to have this critical mass to be able to quickly develop new models". The Project Manager here points at the dual nature of new product innovation, that of being able to nourish creativity at the same time as certain activities are standardized, that is, the "product innovation factory". Another Volvo manager pointed at this need to simultaneously standardize and stay innovative: "You

may think that standardization is in opposition to new thinking, but I don't think so. A certain degree of law and order may in fact enable new thinking when the rest of it just goes on. It would make many people happy if we had fewer problems and would be able to anticipate problems and solve them" (Manager, Volvo). The manager also argued that there was a need to streamline the new product development model more clearly:

Today, there is this culture at Volvo, at least in the R&D departments, where you are supposed to be involved from the earliest concept phase to the very end. There are expectations that you are to be involved and have a say in every decision-making instance. When you publish a morning newspaper, then there is a journalist who writes the text, but then the text may be strongly edited, and then somebody writes a summary, and a third part may add a heading that may not be fully aligned with the journalist's intentions. And nobody thinks that is a curious thing. We need to get used to *a bit* of participation to speed up the process and to make it more flexible and to demonstrate a greater degree of confidence in what others do. (Manager, Volvo)

In this case, the two Volvo managers ask for more standardized procedures that guide the new product development process and safeguard an efficient process. As opposed to this view, recognizing the standardization of the new product development process, one of the designers pointed at the problems associated with a standardization of the components:

There is this scenario that makes creativity go down: the ambition to find synergies between the Ford companies that they have bought to use 'carry over' and the same components. If you have a cycle plan where you organize the car manufacturing around this principle, then you need to engage much earlier in the process and to be able to tell what implications this have for the design. I believe that will become a problem; it will reduce our creativity because we have already been locked up in 'hard points' [Product specifications] . . . we are too focused on the

synergies and that we should make components together in all these companies. There is always someone that has to pay. (Designer, Volvo)

Creativity is then not detached from preceding decisions but is rather path-dependent and susceptible to technological lock-in effects.

Impediments for creativity

Balancing creativity and economies of scale is not an easy managerial objective, most of the interviewees argued. For instance, most interviewees pointed at the absence of slack, of additional time, as a major threat to the firm's creative capabilities. One of the Volvo managers said: "If there is no slack whatsoever anywhere, then it is not that easy to allow for creativity, because that have to cost something". This absence of extra time that could be channelled into more experimental activities was explained by a number of factors. One stream of arguments addressed the emphasis on financial goals in the two industries. One of the designers lamented the "cost hunting procedure" in the industry after all the initial decisions had been agreed upon:

You can see it coming: Every time we have done a change in the design, then somebody wants to change a detail, because then we save five crowns . . . Then I have to make the decision: 'is it worth it' . . . This is so prioritised within Ford and Volvo; to cut costs to save a crown. In that field [cost control] there is no limit for investments and then we get all the additional work . . . In many cases, we refuse to do it [change the product] because we regard it a value for the customer. Here, there are immense conflicts of interests. They only do their job, but it implies a significant additional workload for us. (Designer, Volvo)

Among other things, the one sided focus on costs and financial performance implied a number of cultural implications for the company. One of the section managers argued: “In general, there is a harder climate today. Everybody feel they need to clarify who’s to blame and that yourself is not responsible . . . We have less resources to do the job and at the same time personal performance and personal goal achievement are emphasized. We used to work as a collective” (Manager, Volvo). Besides the privileging of financial goal, the short-termism of the two industries was pinpointed as what wields negative effects on innovation and creativity. One of the senior scientists at AstraZeneca recalls:

Back then, about 15% of the total pharmacy resources were invested in what one may call ‘explorative knowledge creation’. Then, after the merger, they found out that we had the largest pharmaceutical organization in the world . . . Then the boss—who is still the boss—said that from now on we should invest only about 5% in explorative work . . . And then some of the managers are surprised that the amount of patent applications has been lowered . . . I would like to claim that they are the half of what they used to be the last couple of years. (Senior Scientists, AstraZeneca)

However, other interviewees at AstraZeneca did not portray the performance in such negative terms but another senior manager shared this view: “We have always tried to dedicate 10% of the time to your own ideas. Today we are not able to fulfil that objective. We do then not have enough time for ‘curiosity research’. The increased emphasis on delivery makes this objective problematic”. As a consequence, the senior scientist argued, the research activities are limited to certain pre-defined domains, and therefore the very notion of research is becoming problematic:

We are doing a lot of ‘template research’ here. We have these spread sheets . . . and there we tick the boxes, ‘now we have done this’, ‘now we have done that’, ‘now we have done that’. But that isn’t proper research. Research is by definition when you really do not know what is supposed to happen. Otherwise it is, for me, a development of a process or a product where you can predict outcomes. Research implies that you are taking some risks; you don’t know the outcome but you have your scientific intuition and try to build a scientific test of proof. (Senior Scientist, AstraZeneca)

At Volvo Cars, several interviewees addressed a similar situation wherein short-term perspectives and sequential attention to goals are prevailing. One of the managers argued: “I am absolutely convinced that in order to generate new ideas, then you need these islands within the company where you do not control everything in detail”. She continued: “Everything is supposed to be so incredibly efficient. Then you remove those people that do not really fit into a structured activity. A creative soul does not cope with all the papers and ‘eight-to-five’, because when an ideas arrives, time itself disappears”.

Yet another explanation for the loss of slack, time that could be dedicated to experimental thinking, was the imposing of additional managerial activities. At AstraZeneca, a senior researcher pointed at new measurement activities guiding the laboratory work: “How many formulations you do per time unit’, and bla bla, bla. Everything is to be measured now”. Moreover, his everyday work life was affected by numerous managerial initiatives demanding responses from if not himself, at least his closest line manager: “What you see now is that there are loads of these ‘task forces’ that ‘deal with issues’ that the line managers . . . really have to try to stay away from. You are easily captured by such activities.”

The possibilities for being creative in large organizations

Even though many of the interviewees could tell stories about factors restraining their innovative work, they also thought of their respective companies as being large enough to offer opportunities for specialization and being able to provide required resources and assets. Very few interviewees declared any dissatisfaction about the actual size of the firms. On the contrary, they expressed their understanding for the need to consolidate resources and share investments across larger units. In the automotive industry, characterized by an industry structure of large conglomerates comprising a number of different brands, the Volvo co-workers saw the benefit of sharing research activities with Ford even though they were concerned about the different work practices and company cultures. In AstraZeneca, in an industry being subject to a significant amount of mergers and acquisitions during the 1990s and in the new millennium, the interviewees thought of the merger between Astra and Zeneca as being successful even though the harmonization of standard operating procedures between the two firms were not always easily implemented. In addition, economies of scale enabled investment in state-of-the-art technologies such as High-Throughput Screening. A Senior manager at AstraZeneca said: “That type of investment would have been impossible for us to make on our own”. In general, the interviewees thought of the changes as being more of less inevitable and what is primarily deriving from outside of the company rather than being the effect of bureaucratic principles. For instance, the senior manager at AstraZeneca refused to accept “it used to be better” narrative that actually most of the interviewees at the company subscribed to:

It was not used to be better. Of course, there was less of control. The demands for delivery were completely different. If you delivered a candidate drug, that was fine, but if you did not, it did not really matter. At that time, when the turnover increased with about 30% annually . . . when

Losec was at its height, 1999, its turnover was 5 billion US dollars, and when everything grows with 20-30% per year, then life is easy . . . That 'its used to be better' idea, I don't buy that. Of course it used to be better if there were no demands and there were plenty of time for everything. (Senor Manager, AstraZeneca)

Another AstraZeneca co-worker pointed at the increased influence of regulatory control in the industry: "The whole pharmaceutical industry is tied down, if you use a negative tone. I have to say that, when I started here, then people were talking like 'it's been so much [regulatory control]', but since then, it's virtually exploded; there's no end to it". In the automotive industry, pressure to manage the activities more efficient largely derived from the market situation characterized by overproduction and fierce competition. Rather than operating as some isolated unit ignorant of external changes as in the stereotypical view of bureaucracies, Volvo and AstraZeneca were responding to the external changes through a variety of activities aiming at both creating new competitive resources and imposing additional control of costs and existing activities. The large companies did then have to respond the environment and in some cases such changes were thought of as being evidence of a bureaucratisation of the activities. The increased bureaucratisation was thought of as being manifested in a variety of domains whereof the two major concerns were the distance to decision-making and in the growth in administrative work.

After Ford's acquisition of Volvo, the decision making process became more complex some of the Volvo managers argued: "For me and my colleagues, the section managers, the entire decision making process higher up in the company outside of the section and in Ford is very fuzzy. I would not be able to account for decisions regarding a new product: How does it appear? What forums need to be passed?" (Section Manager, Volvo). This manager also pointed at the various rules formulated by Ford as general policies for the Ford companies as being what is imposing additional work of the Volvo co-workers:

It's more bureaucracy, more administrative routines, more such insane ideas. Those are the ones eating me: there are rules that are outright absurd . . . They formulate the rules in a manner . . . that makes it impossible to follow them. Here, we are used to have a bit of rules, and those rules are formulated so that we may actually follow them. But the Ford rules [are like]: 'We forbid it all'. (Section Manager, Volvo)

In terms of increased administrative work load, the situation was not very clear: Several managers argued that they were not themselves suffering from any additional administrative assignments, but that they hear "that is the case for others". One of the Volvo Managers said:

I've heard people say that for managers, there are much more papers and stuff. I think there is a truth in the claim that the bureaucracy has expanded. In some cases the bureaucracy may have just changed, you use a new spreadsheet and you do it a bit differently . . . Maybe, it is not always bad that you standardize quite hard, like they did at Ford. (Manager, Volvo)

Another manager at Volvo claimed that bureaucratic procedures is nothing new but that the new organizations did not offer any loopholes that enabled a by-passing of bureaucratic routines: "There were a bit of bureaucracy before, but you could handle it. Today we get a lot of information about things you're supposed to do through the mail system, and in many cases the language is really unintelligible . . . A variety of specialist words on how to proceed" (Manager, Volvo). However, again, few of the managers thought of the new routines and administrative assignments as being what is detrimental to the firm's innovative capacities, neither thought they of such bureaucratic procedures as being what is self-generated within a large bureaucratic structure removed from market interests and strategic agendas. On the contrary, the interviewees tended to regard the opaqueness of decision-making, the new

administrative routines and the heavy emphasis on meetings as what to some extent was justified given the increased complexity in the two industries. In the automotive industry, Volvo and other companies developed more complex products much faster than previously, seeking to make use of the same components and operating on basis of the shared product platforms in different companies, and therefore experienced a more dense and tightly knitted flow of information between functional departments, organizational tiers and different companies. As one of the manager said: “Developing a new car implies such a long chain of activities. It is not very easy to bring a good idea, because this good idea actually affects a multiplicity of things during a long period of time and implies an expensive process. It is not that simple”. Another manager at Volvo thought of this predicament as being embedded in the industry: “It’s hard bringing new ideas . . . it probably depends on the high investments and the cost of making a new car . . . it is the nature of the industry”.

In the pharmaceutical industry, the increased regulatory control and the consolidation of the industry implied a closer monitoring of the R&D costs and a stronger emphasis on short-term financial performance. Given these industry-related changes, the interviewee did not express any profound concern for the innovative and creative capacities of their companies. What they did was to express their concern for the increased managerial control and their professional independence, which they tended to see as two opposing forces. Expressed differently, the interviewees did not criticize the bureaucratic organization form per se, for instance, the reliance on functional organization, specialist groups, hierarchical structure, and other bureaucratic landmarks, but rather thought of the managerial objectives and practices *within* this structure as being, in some cases and under determinate conditions, problematic. Large firms are then capable of being innovative and creative not *despite* their size but rather *because* of their size and functional organization. However, when new managerial doctrines, for instance of Anglo-American origin, a well functioning bureaucracy

may run the risk of becoming too lean and too short-term oriented to remain a viable creative environment wherein new and innovative ideas are nourished.

In summary, the two cases of Volvo and AstraZeneca provides interesting empirical material regarding the capacities and challenges for innovativeness in the two major organizations operating in different industries. New product development in pharmaceutical industry and in the automotive industry is a knowledge-intensive activity including a variety of different competencies and mechanisms coordinating such competencies. Furthermore, increased complexities in the two industries and new regulations impose additional demands for coordination and control. As a consequence, the two companies have to organize their innovative work in accordance with new principles. The question is whether the bureaucratic organization form per se can be regarded a major impediment to the firm's innovativeness.

Discussion

The literature on bureaucracy largely belongs to a genre of tragedy (Czarniawska, 2004; Boje, 2001; Sköldberg, 1998;). Numerous stories are told in this literature about the ignorance of narrow-minded bureaucrats and the failure of bureaucracies to adapt to and develop a fruitful relationship with its environment and its stakeholders. As Goodsell (2004) shows, this long-standing theme in the bureaucracy literature is either failing to be supported by empirical evidence or heavily influenced by specific ideologies and assumptions, for instance the neo-liberal disregard of the public sector as such. Throughout the years, bureaucratic organizations, that is, organizations that are functionally organized, hierarchical, employing specialist and providing specialists roles, and so forth, have been more or less dismissed regardless of the relative absence of detailed empirical studies. For instance, studies such as

Crozier's (1964) of two French bureaucracies, highly critical of both the ability of bureaucracies to provide meaningful work life experiences and to provide society with various services, have been paradigmatic for the research on bureaucracies. Numerous writers have also dismissed bureaucracy in conceptual terms (e.g., Ferguson, 1984). On the other hand, those who have defended bureaucracy have in many cases been speaking in favour of bureaucracies not on basis of empirical research but from an ideological standpoint. For instance, Sennett's (1998) defence of bureaucracy is based on his belief in bureaucracies as what may be in opposition to a de-regulated and network based market, not because the bureaucratic organization form per se is an effective organization form. Taken together, the literature on bureaucracy is infested with a variety of assumptions, beliefs, received wisdoms, and forms of wishful thinking, that in many cases is ignorant or only modestly concerned with how work life in large organizations actually evolves over time. This paper reports an interview study with 28 managers in a pharmaceutical company and an automotive company and suggests that practicing managers in large and bureaucratic organizations (in the non-pejorative sense of the term) are not critical of the bureaucratic and hierarchical form per se but that they are more concerned about the influence of a set of managerial objectives and values such as short-termism, the emphasis on financial performance, and management control activities in their day-to-day work. Both Volvo Car Corporation and AstraZeneca are highly successful companies in their respective industry, and they share an organization structure that shares significant characteristics with Max Weber's bureaucracy model. Yet, they have managed to show a persistent ability to provide new and innovative ideas and products. Nevertheless, the historical performance may be little worth if lesser resources are reinvested in the R&D activities. Even though innovative capacities are path-dependent and build on previous skills and experiences, new innovations demands financial and intellectual resources. But such demands are not an exclusive quality of the bureaucratic organization

form but are relevant for any organization form. For the literature on bureaucracy, this suggests that the overtly negative, even derogatory image of the bureaucratic organization form needs to be complemented by a more affirmative image of bureaucracy. The image of the “innovative bureaucracy” may appear as an oxymoron if one stay within the literature debunking bureaucracy, but empirical research suggests that there is no support for this one-sided and essentially negative view of bureaucracy. Bureaucracies can be, as Goodsell (2004) points out, effective and non-effective, functional and dysfunctional, but such findings need to be supported by empirical research.

In terms of the theoretical contribution, this paper sides with for instance Gouldner (1954), Blau (1963, 1956), Albrow (1970) and Goodsell (2004) representing a more tempered view of bureaucracy than that of for instance staunch critics such as von Mises (1944), Crozier (1964) and Ferguson (1984), portraying bureaucracies as what are in essence, with Robert Merton’s (1957) words, “dysfunctional”. This does not suggest that bureaucracies are once and for all determined but are rather what is fluid and changing in the course of action. Speaking with Peter Blau (1963), one may perhaps speak of this ongoing adaptation to the environment as the “dynamics of bureaucracy”. Among the various defenders of bureaucracy, the paper provides support for contributors who emphasize the dual nature of bureaucracy, that it can be, in Adler and Bory’s (1996) formulation, both *enabling* and *coercive*. Even though writers like Sennett (1998) and Du Gay (2000) are positive towards bureaucracy as organization form, merely conceptual debates and ideological discussions are not able to prove bureaucracies a useful form of organizing in contemporary society. Such claims need to be supported by empirical evidence.

Conclusion

This paper has aimed at critically reviewing the literature on bureaucracy and, more specifically, the literature on innovation in bureaucracy. In addition, the essentially negative and at times even derogatory view of bureaucracy presented in much of the management literature, in many cases formulated on basis of conceptual analyses, has been compared with how co-workers in two major multinational Scandinavian firms regard their possibilities for being innovative. The interviews with 28 managers in Volvo and AstraZeneca suggest that there is little concern regarding the size and functional and hierarchical organization of the two firms. Instead, it is the influence of a variety of managerial practices and routines that are imposing additional workload and making operations more complicated that may pose a threat to the innovative capacities of the two firms. In other words, there may be a number of challenges for large organizations deriving from a variety of sources such as increased competition, new demands from the authorities, new consumer behaviour, but there is little evidence in the literature that the bureaucratic form per se is posing a major threat to the two firms' innovative capacities. Moreover, the interlocutors are aware that the two industries, the automotive industry and the pharmaceutical industry are facing new challenges in terms of more complex new product development activities, harsher competition, increased control from authorities, etc., and that the two firms needs to respond to such changes. Therefore, the more detailed control and monitoring over the operations—managerial activities in many ways capturing the essence of “bureaucratisation”—may imply a work situation less favourable for innovative work. The study thus suggests that the explanation for loss of innovative capacities in supposedly bureaucratic organizations derive from institutional pressure outside of the organization rather than being some inevitable determinism inherent to the bureaucratic structure per se.

References

- Adler, P.S. and Borys, B. (1996). 'Two types of bureaucracies: Enabling and coercive', *Administrative Science Quarterly*, **41**: 61–89.
- Albrow, M. (1970). *Bureaucracy*, London: Pall Mall Press.
- Bartunek, J.M. and Louis, M.R. (1996). *Insider/Outsider Team Research*, Thousand Oaks: Sage.
- Blau, P.M. (1956). *Bureaucracy in Modern Society*, New York: Random House.
- Blau, P.M., (1963). *The Dynamics of Bureaucracy: A Study of Interpersonal Relations in Two Government Agencies*, 2nd ed., Chicago: The University of Chicago Press.
- Boje, D.M. (2001). *Narrative Methods for Organization Research & Communication Research*, London, Thousand Oaks & New Delhi: Sage.
- Bourdieu, P. (2000). *Pascalian Meditations*, Cambridge: Polity Press.
- Britan, G.M. (1981). *Bureaucracy and Innovation: An Ethnography of Policy Change*, Beverly Hills, Sage.
- Bushe, G.R. and Shani, A.B.(R.) (1991) *Parallel Learning Structures : Increasing Innovation in Bureaucracies*, Addison-Wesley, Reading.
- Clawson, D. (1980). *Bureaucracy and the Labor Process: The Transformation of the U.S. Industry, 1860-1920*, New York & London: Monthly Review Press.
- Crozier, M. (1964). *The Bureaucratic Phenomena*, Chicago: The University of Chicago Press.
- Czarniawska, B. (2004), *Narratives in Social Science Research*, London, Thousand Oaks & New Delhi: Sage.
- du Gay, P. (2000). *In Praise of Bureaucracy*, London: Sage.
- Dyer, F.C. and Dyer, J.M. (1965). *Bureaucracy vs. Creativity*, Coral Gables: University of Miami Press.
- Feldman, M.S. (2000), 'Organization routines as a source of continuous change', *Organization Science*, 11(6): 611-629.
- Ferguson, K.E. (1984) *The Feminist Case Against Bureaucracy*, Philadelphia: Temple University Press.
- Fontana, A. and Frey, J.H., (1994) 'Interviewing', in Denzin, N.K. and Lincoln, Y.S., (1994), *Handbook of Qualitative Research*, London, Thousand Oaks & New Delhi: Sage.
- Gabriel, Y. (2005), 'Glass cages and glass palaces. Images of organization in image-conscious times', *Organization*, **12**(1): 9-27.
- Goodsell, C.T., (2004). *The Case for Bureaucracy: A Public Administration Polemic*, 4th ed., Washington: CQ Books.
- Goody, J. (1986). *The Logic of Writing and the Organization of Society*, Cambridge: Cambridge University Press.
- Gluckman, M. (1965). *Politics, Law, and Law in Tribal Society*, Oxford: Blackwell.
- Gouldner, A.W. (1954). *Patterns of Industrial Bureaucracy*, Glencoe: The Free Press.
- Hill, S., Martin, R. & Harris, M. (2000), 'Decentralization, integration and the post-bureaucratic organization: The case of R&D', *Journal of Management Studies*, **37**(4): 563-585

- Hodgson, D.E. (2004), 'Project work. The legacy of bureaucratic control in the post-bureaucratic organization', *Organization*, **11**(1): 81-100.
- Kallinikos, J. (2004). 'The social foundations of the bureaucratic order', *Organization*, **11**(1):13-36.
- Kuhn, R.L., Ed., (1993), *Generating Creativity and Innovation in Large Bureaucracies*, Westport & London: Quorum Books
- Law, J. (1994). *Organizing Modernity*, Oxford & Cambridge: Blackwell.
- Maravelias, C. (2003), 'Post-bureaucracy: Control through professional freedom', *Journal of Organization Change Management*, **16**(5): 547-566.
- Maznevsky, M.L. & Chudoba, K.M., (2000), 'Bridging space over time: Global virtual team dynamics and effectiveness', *Organization Science*, **11**(5): 473-492.
- Merton, R.K. (1957) 'Bureaucratic structure and personality', in *Social Theory and Social Structure*, Glencoe: Free Press.
- Mills, C.W. (1951) *White Collars: The American Middle Class*, Oxford: Oxford University Press.
- Mises, L. von (1944/1969) *Bureaucracy*, 2nd. Ed., New Rochelle: Arlington House.
- Nelson, R.R. and Winter, S.G., (1982), *An Evolutionary Theory of the Economic Change*, Belknap, Cambridge.
- Perrow, C. (1986) *Complex Organizations: A Critical Perspective*, New York: McGraw-Hill.
- Perrow, C. (2002) *Organizing America: Wealth, power, and the origins of corporate capitalism*, Princeton & London: Princeton University Press.
- Powell, W.W. Koput, K.W. & Smith-Doerr, L. (1996). 'Interorganizational collaboration and the locus of innovation: Networks of learning in biotechnology', *Administrative Science Quarterly*, **41**: 116-145.
- Schumann, P.A. Jr., (1993), 'Creativity and innovation in large organization', in Kuhn, Robert Lawrence, Ed., (1993), *Generating Creativity and Innovation in Large Bureaucracies*, Westport & London: Quorum Books, pp. 111-130.
- Sennett, R. (1998) *The Corrosion of Character: The Personal Consequences of Work in the New Capitalism*, New York & London: W.W. Norton & Company.
- Shenhav, Y. (1999), *Manufacturing Rationality. The Engineering Foundation of the Managerial Revolution*, Oxford & New York: Oxford University Press.
- Sköldberg, K. (2002), *The Poetic Logic of Administration: Styles and Changes of Style in the Art of Organizing*, London & New York: Routledge.
- Starbuck, W.H. (2003), 'The origins of organization theory', in Tsoukas, H. & Knudsen, C. Eds., (2003), *The Oxford Handbook of Organization Theory: Meta-Theoretical Perspectives*, Oxford & New York: Oxford University Press.
- Stinchcombe, A. (1959), 'Bureaucratic and craft administration of production. A comparative study', *Administrative Science Quarterly*, **4**(2): 168-188.
- Strauss, A.L. and Corbin, J., (1998), *Basics of Qualitative Research*, 2nd ed., London, Thousand oaks & New Delhi: Sage.)
- Thompson, V.A., (1969) *Bureaucracy and Innovation*, University: The University Press of Alabama.
- Weber, M. (1978). *Economy and Society: An Outline of Interpretative Sociology*, Berkeley, Los Angeles & London: University of California Press.
- Weber, M. (1948), *Bureaucracy*, in *From Max Weber: Essays in sociology*, Ed. by H.H. Gerth & C. Wright Mills, London: Routledge and Kegan Paul, (pp. 196-244).