

The Evolution of Rules, Markets and Culture-based Control in an Organizational Setting: A Case Study

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ABSTRAK

Kertas ini membincangkan isu peraturan, pasaran dan budaya sebagai asas kawalan. Secara khusus ianya cuba menjawab persoalan tentang 'bagaimana sistem kawalan pengurusan sesebuah organisasi itu berkembang dan bertukar dengan beredarnya masa?' Kajian ini dijalankan dalam sebuah syarikat televisyen di UK dan data-data empirikal diperolehi dari satu proses pengutipan yang berjalan selama lapan belas bulan. Dari analisis yang dibuat, kami dapat mencadangkan yang sistem kawalan pengurusan berkembang kearah penggantungan kepada kawalan yang berasaskan peraturan dan pasaran dan bukan kepada kawalan yang berasaskan budaya.

ABSTRACT

This paper focuses on the issue of rules, markets and culture as bases of control. In particular, it seeks to address the question of 'how does the management control system (MCS) of an organization change over time?' A television company in the UK provided the setting for the study, and empirical data were gathered during 18 months of field research. From the evidence gathered we were able to suggest that the MCS evolved towards increasing reliance on rules and markets and not controls based on organizational culture.

INTRODUCTION

A management control system is a mechanism used by top managers to channel behaviour and actions of members in ways favourable to, or in congruence with, predetermined goals or objectives of the organization. In management and organizational literature, scholars such as Ouchi (1980) and Lebas and Weigenstein (1986) have suggested that top managers can rely on rule-, market- or culture-based control to seek compliance of their subordinates.

Rule-based Control

The essence of rule-based control is the control of functional operations of the organization through procedures and bureaucratic arrangements. The focus is on identifying entitlements based on status or position. Hence, rule-based control is associated with evaluations

to ensure that correct procedures are followed (Thompson and Wildavsky 1986).

In practice, rule-based control is concerned with maintaining the existing social order as determined by top management. It relies on the use of data or of reports to evaluate existing operational tasks so that operating managers' actions are in line with top managers' set policies. It is in this respect that standardized and elaborate formal operating procedures such as budgets can be used as a means to ensure that members behave and become more 'company-oriented' individuals.

Market-based Control

Market analysis sees organizations as striving towards maximum efficiency with action values being determined by market forces. Controls are linked with efforts to determine how

resources are related to the 'bottom line', i.e. profit or reduced costs. However, because information is costly and not unrestricted, human cognition is limited, and decision-makers' preferences differ, an organization satisfies rather than maximizes (Simon 1957).

As such, in a market-based management control system, control actions are directed towards overseeing equitable exchanges and the effective use of limited resources. Decentralization and the creation of separate responsibility centres which are linked by transfer prices become popular modes of control. In sum, market forces are seen as legitimate factors in determining the profitability of exchanges (Ouchi 1980; Lebas and Weigenstein 1986).

Culture-based Control

Several scholars have suggested that culture can also be an important control element. Ouchi (1980) argued that organizations can, in some instances, rely to a great extent on the patterns of their socialization processes as the principal control mechanism. Boisot (1986) suggested that because culture codifies knowledge, the phenomenal world can be compressed into a set of relationships or messages which form the 'province of meaning' that 'guides the selection processes to produce a familiar and manageable world'.

In culture-based control, controls are linked to core beliefs and values that members hold in common and to which they subscribe collectively. These beliefs and values have developed over time and form the 'realities' in which they have to operate, and, by doing so, become the 'invincible rules' that govern their behaviour. In short, these core beliefs and values become 'a system of meanings' which not only conditions but also shapes organizational behaviour (Whipp *et al.* 1989). As Geertz (1973: 44) said, 'Culture is best seen not as complexes of concrete behaviour patterns — customs, usages, traditions, habit clusters — as have, by and large, been the case up to now, but as a set of control mechanisms — plans, recipes, rules, instructions (which computer engineers call "programs") — for the governing of behaviour.'

Lebas and Weigenstein's Model of Management Control System (MCS) Change

Based on Ouchi's (1980) distinction between rules, markets and clans as the bases on which

an organization's MCS rests, Lebas and Weigenstein (1986) put forward several arguments. One of these was that an organization will continuously adapt its management control system to its operating environment. This adaptation process is dynamic, with the organization defining its own balance between the three elements — rules, market and culture, depending on changes 'in the overall culture(s), in technology and in the competitive forces' (p. 259). The point where the three meet can be mapped against a 'triangular' continuum as shown in *Fig. 1*.

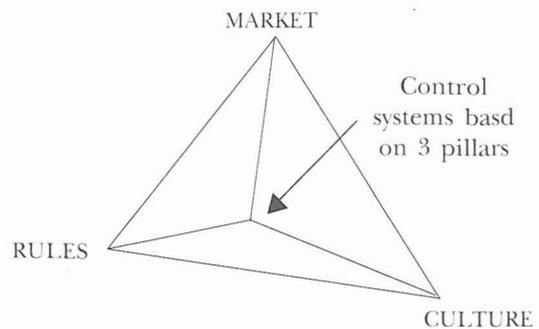


Fig. 1: Three "pillars" of management control systems
(Source: Lebas and Weigenstein, 1986: 263)

Further, Lebas and Weigenstein argued that an organization will rely on market control if it depends on external economic forces, such as the rules of supply and demand, to control behaviour of its members. The most important components of control will include transfer pricing and bargaining, reinforced by standard operating procedures such as budgets. Rule-based control, on the other hand, couples reliance on standardized ex-ante procedures with other ex-post information systems to monitor outcomes and performance. MCS based on culture will also rely on internalized values imbedded in the socialization process of the organization.

Their thesis that culture can be a mechanism for control is based on the premise that traditions and occupational group solidarity can regulate relations, promote common goals and shared expectations about roles and behaviour, and thereby provide harmony of interests, reduce perceptual differences and minimize the possibility of opportunistic behaviour.

They also argued that market-based control is the best alternative for an organization operating decentralized and autonomous units. On the other hand, an organization which establishes clear relationships (of and between its members and subunits) will benefit from rules on channelling behaviour. Finally, in situations where causal relationships are difficult to identify, uncertainties are high and communications amongst organizational members are difficult to co-ordinate, an MCS based on culture is the most appropriate.

They noted that there is no one base of control that is better for all situations. However, because greater environmental uncertainties and advancement in technology will promote new attitudes and more complex interactions in working arrangements, an organization will need an environment which will allow entrepreneurial spirit and leadership style which can motivate behaviour. Hence, Lebas and Weigenstein proposed 'the general evolution of the MCS is seen to be moving towards a lessening of the importance of rule-based controls and towards an increased reliance on controls imbedded in the organizational culture' (p. 259).

RESEARCH METHOD

This study was made in order to understand the dynamics of change and the implications of accounting in the process. More specifically, it sought to observe whether or not the change model proposed by Lebas and Weigenstein described above is applicable in practice. The focus was on budgets and the processes of budgeting in a commercial television company in the United Kingdom.

The research was carried out as both an exploratory and explanatory case study. The method suggested by Glaser and Strauss (1967) was adopted. Data were collected through interviews with sixty-five respondents (from all levels of management), observations of budget meetings and informal discussions related to budgets (over an 18-month period) and the analysis of archival records (developments, strategies, accounting systems and budgeting), covering more than 30 years.

The study was informed by insights offered by the symbolic interactionist approach (Blumer 1969). The principle of content analysis was adopted and the model proposed by Pettigrew (1985, 1990) was used in the presentation of

findings. Explanations of changes and the change process of the organization being studied were framed by linking both the vertical (or multi-level) and horizontal (or process) analysis and located in the past, present and future events related to both strategic and operational management decisions. Finally, interpretations and conjectures about changes and the dynamics and the process of change were provided by drawing upon rationales offered by economic, organizational and sociological perspectives.

CONTEXT OF THE STUDY

The Independent Television Industry in the UK

Commercial television (known in Britain as independent television or ITV) was established in 1954 as an alternative to the British Broadcasting Corporation (BBC). It was felt that a rival to the BBC would be good for both the country and the public as it would encourage competition, improve technological progress and raise broadcasting standards. In short, the public would be better served by the spirit of free enterprise.

The Independent Television Authority (ITA) was set up as the regulatory body responsible for commercial broadcasting. It appointed independent contractors to supply it with programmes for transmission. Broadcasting was regionalized and transmission in each region was franchised to a different contractor. Initially, there were 4 contractors; this later increased to 16. The Authority is now also operating a second channel, Channel 4, which transmits nation-wide.

These contractors have fixed-term contracts. They earn their income from the sale of advertising air time in their franchise region. In turn, they are required to pay rentals to ITA (besides corporate taxes and the levy — secondary tax — on advertising revenue). They are also required to produce programmes for transmission in their respective franchise regions. All except one also contribute, to a varying degree, to a pool of programmes to be broadcast nationally. Their share of this pool is based on their percentage of the total advertising revenue.

Franchise renewals are mostly made after an in-depth study conducted by a government-appointed committee of enquiry. The latest, in 1985, was the Peacock Commission which recommended that the next franchises (in 1991) be awarded through competitive tendering and that sponsorship of programmes be allowed.

The proposal came at the time the government was planning to allow satellite and cable broadcasting, reflecting a shift in government policy towards deregulation.

The Company

The company was set up in 1954, as a wholly-owned subsidiary of a large entertainment establishment, to bid for the franchise of one of the four original regions. It won, and began operations in 1956. Its franchise was renewed in 1964 and again in 1967, though it lost half of its franchise region due to a new boundary arrangement. Its contract was further renewed in 1974, 1976, 1979 and 1982. The latest franchise was valid until the end of 1992.

Initially, its core business was programme transmission but this later changed to programme production. The company was organized functionally. Responsibilities were delegated to department heads in charge of programme production, sales of advertising air time, public relations, financial management and administrative and production support services. Programmes and advertisements were seen as 'products' the company needed to fill transmission air time. Programmes had to be produced (or bought) for transmission to fulfil franchise requirements, whilst advertisements were needed to provide income to the company.

The company was reorganized in 1987. The (air time) sales and public relations functions were merged to form a new division, Broadcasting. The programme production and programme sales departments were merged to become the Production and Distribution Division. The production support and technical services departments were grouped to form the Facilities Division, and the accounting, personnel and building services departments became the Central Services Division.

The management decided that the Broadcasting Division was to operate the franchise (transmitting programmes) within the framework laid down by the government. This meant that its major responsibilities were to supply and to transmit an agreed schedule of programmes and to sell advertising air time. It was also decided that the division was to buy all programmes to be transmitted for the Production and Distribution Division, and to pay a fee for the use of all technical facilities in the transmission of programmes to the Facilities

Division. The Production and Distribution Division was also made responsible for the marketing of all the company's programmes to national and international markets, and to exploit programme-making skills to earn profit. The Facilities Division was to own all physical resources (transmission, engineering, technical and studio facilities) and the personnel involved to generate revenue for the company.

Several new appointments were made in the restructuring process. Each division had its own head. Financial controllers for the company and for each of the divisions were also appointed. To assist in the administration and financial management of the divisions, commercial managers were appointed (4 in the Production and Distribution Division and 1 in the Facilities Division).

MANAGEMENT CONTROL OF THE COMPANY

The Early Years

There are three major reasons to suggest that, in the early years of its establishment, the company relied on culture and rules as the bases of control. Firstly, the company was established nearly 40 years after the BBC. So the culture established by the BBC was extended over to the company. Four main features existing then are examples.

First, in the early years, programme makers monopolized the management of the company and occupied top positions in the administrative hierarchy. The chief executive and the majority of the top management were once programme makers. This led to the second feature — programme makers became the dominant occupational group and programme making became the focus of organizational activity, a fact acknowledged by the company when it stated (as its corporate mission) that it was the aim of the company 'to make television worth watching'. The Chairman, in his 1971 financial report, said: 'In view of the wide discussion about ITV's record and the quality of its programmes, perhaps, I might re-affirm our own programme philosophy. Blending the claims of entertainment and social responsibility in our programmes is as much our object today as it was when we first began transmission nearly sixteen years ago'.

The third feature was the absence of any effort or mechanism to match revenue and costs

of programme production. Because programmes were made to 'fit into a time-table set for transmission', they were not produced with an expressed aim of generating income for the company. Rather, their production was deemed necessary to enable the company to earn revenue through the sales of advertising air time. As such, no serious efforts were initiated and no proper financial control mechanisms were invented to specifically control costs of programmes. This perhaps explains the fourth feature — that many programmes were completed even if their costs were very much above the original estimate. Although the normal explanation that not continuing with them would be a waste of money was valid, it cannot be denied that the influence of BBC's programme making ethos (that programmes are made for their entertainment, educational and information value) was partly to blame.

The second feature of the early control base was the monopolistic conditions within ITV. Even though the contract required franchise holders to operate independently of each other, financial difficulties in the early years of operations forced the original contractors to cooperate to survive and to compete effectively with the BBC. The company made large profits from the boom of advertising revenue in the late 1950s and the early 1960s, removing the need for stringent rules to control the production costs of programmes.

Finally, because the Act prohibited linkages between programme making and advertising and vice versa, these two functions were separated. As such, the need to know programme costs (from periodic reporting) came from management prudence and not from the need to match costs with revenue. Thus there were no efforts to find out whether or not a programme was profitable. The management relied upon the accepted belief that programme makers would not spend unnecessarily. Rules were maintained (e.g., the presentation of rough estimates before a programme was produced) only to the extent needed to regulate and maintain some order in the use of resources. In short, they relied on culture, and to an extent on rules, for control.

Transition Period (1964-1984)

The period between 1964 and 1984 can be described as a period of transition. The

domination culture and rules continued but were tilted towards the latter. During this period, programme making remained the core activity and the company's organizational and investment efforts continued to be made to support programme-making operations. However, financial mechanisms became more prominent. Financial reporting and budgeting began to be more widely used because of the introduction of the levy (an additional tax based on advertising revenue earned) in 1964. Since the company was responsible for paying this additional tax to the Exchequer, it began to inspect its accounts and records. A computer was installed in 1968 and the financial accounting systems were mechanized. As a result, reporting became easier and periodic financial reporting became more regular. Budgeting and cost control were slowly developed and rules increasingly became a base for its management control system.

This increasing reliance on rules and the emergence of some form of market-based control began to develop and became more prominent in the early 1980s. The establishment of Channel 4 to operate the second ITV channel, the introduction of satellite and cable television and the increasing number of franchise holders meant that competition for advertising revenue became stiffer and the company's share of the networked programmes was reduced. On the other hand, with more broadcasters, more markets for both new and old programmes were created. Thus there was pressure on the company to explore these new opportunities in order to increase or maintain its profitability.

In 1984, the Financial Director introduced a new budgeting system in planning for a new production. The aim was to enable the company to know the full cost of making a programme. Prior to this, budget estimates were based only on the variable costs, which were usually based on the amount of cash expenditure to be incurred. The costs of using internal facilities and labour were not accounted for and hence became company, rather than programme, overheads. With this new system, known as the total costing system (TCS), programme makers were required to prepare their programme budgets based on the full costs. This meant that they were also required to estimate indirect costs such as crewing, the use of equipment and other overheads associated with the production of a programme.

Perhaps the increased use of budgets in the TCS, and hence greater reliance on rules came about because of the changing nature of the environment in which the company operated. The long-held belief that programme makers could be relied upon to make sound financial judgements was no longer appropriate under the new conditions. To break away from this less financially biased decision-making culture, the management had to rely on rules, through greater use of financial mechanisms such as budgeting.

Period of Change (1984-1990)

The introduction of the TCS marked another shift in the company's management control system, a move towards a greater reliance on rules and, later, on markets. Three major events support this observation. First, the establishment of Channel 4 coincided with the first firm indication of the government's plan to allow for cable and satellite broadcasting. In addition, to implement its new franchise and to accommodate increased programme commitments which accompanied the establishment of Channel 4, the company had to build more regional centres, straining its economic resources further. These forced the company to be more financial- and market-oriented and to look for ways to expand its revenue base. It set up a working party in 1982 to study the viability of cable television (but later decided against bidding for it). In 1984, a new working committee was formed to evaluate the viability of satellite broadcasting. It decided to become involved by joining a consortium which was finally awarded the franchise in 1986. Finally, divisions were allowed to look outside for business so as to exploit productive capacities of assets for additional income and profit.

These events led the company to develop a more financial orientation in its decision-making process. Even though their mission was still 'to make television worth watching', the need to know more about costs was no longer for reasons of prudence, but because it was necessary to make profit from programmes.

Second, efforts to promote enhanced awareness of costs or more 'budget-conscious managers' (Hopwood 1974) (through TCS) were complemented by the appointments of financially trained commercial managers and the creation of independent profit centres through

diivisionalization in 1987. As a result, the whole accounting system, including budgets and budgeting processes, became more organized, formalized and, slowly, institutionalized. For example, budgets became the only means of getting funds to make programmes. As a result, the process of preparing programme budgets became more standardized and heavily supervised. Programme makers had to adhere to strict budgeting and programme making procedures. Most, if not all, have begun to accept this as something 'normal', suggesting that rules have been successfully used by the management to control behaviour so that members' goals are in congruence with those of the company. Market-based control can also be observed from increased reliance on budgets and budgeting processes as a means to bargain for resources.

Reliance on markets as the basis for control can also be seen in the third event, the restructuring carried out in 1987. The company decentralized its operations, making each division an autonomous responsibility (profit) centre. Increased reliance on market-based control can be observed from the introduction and the use of transfer prices to account for inter-divisional transactions. Management's decision that the Production and Distribution Division must pay the Facilities Division for the use of equipment supplied by the latter for making programmes demonstrated efforts by the company to create internal markets and thereby rely on the market rules of supply and demand as another base of its management control system.

However, it has to be reiterated that, although these events suggest that markets seem to be the base of control, there is no evidence to suggest that rules and cultures were absent and that the company did not benefit from having people following rules and administrative procedures (such as in preparing budgets) and relying on commonly shared values long established in the television industry — such as the ethos that programmes must have entertainment, educational and information values. Hence, it could only be suggested that, in the 1980s, markets overtook culture and, to a certain extent, rules, as the most dominant element in the company's MCS.

DISCUSSION

Evidence from this case study shows that the MCS of the company evolved from greater

reliance on culture then on rules and finally on markets. This, at a glance, seems to be in contrast to the suggestion made by Lebas and Weigenstein that the direction would be towards the lessening of importance of rule-based controls and towards greater reliance on control imbedded in the organizational culture.

A possible explanation for this is that the evolution in the MCS as Lebas and Weigenstein had proposed may occur only in situations where organizations are adapting or reacting in response to a changing environment, which, indeed, requires flexibility which rule-based control strategy would not allow. However, in this case study, post-1980 events suggest that the company seems to have embarked on planned change. Thus changes initiated or implemented (such as the introduction of the TCS and divisionalization) were based on the possibility that the company might not win the renewal of its franchise. So actions taken by the management were designs to overcome perceived threats rather than opportunistic responses to immediate problems. Under such conditions, the management must rely on all the three elements of control — market, rules and culture. But rules and markets seem to have the biggest impact.

Perhaps rule- and market-based control were more appropriate because 'the old way of doing things' (neither financial- nor budget-conscious culture) could not be relied upon to make the company better able to compete and face the uncertain future. As Greiner (1967, 1972) suggested, events leading to the establishment of Channel 4 and the introduction of cable and satellite broadcasting could have brought pressures on the management which led them to see the need for change. The setting up of special committees in 1982 and 1984 (to study the viability of cable and satellite broadcasting respectively) and the introduction of a new budgeting system (TCS) were interventions made to demonstrate the seriousness of the management in meeting those perceived threats (pressures) and thereby giving the message that changes were necessary. Because these pressures were related to the profitability position of the company, the old belief that programme making should best be left to programme makers could not be relied upon. Hence, rules and markets were seen as the best means of instituting control.

On the other hand, it could be suggested that, based on Withane's (1988) conclusion, in the early years the company could have played a more passive role and was operating to defend its regulatory activities. But once established, the company began to develop its own market niche. As such, the involvement of the company with the other original contractors in the early days of its operation and the introduction of networked programmes could be seen as efforts by the company to employ defensive and, later, co-operative strategies. In the 1960s and 1970s, the company grew and was able to perceive its environment better. As such, its expansion in other entertainment business reflected its adoption of a growth strategy. Finally, the company became more analytical as the need arose for it to maintain stability within the industry. From control viewpoints, this evolution has also demonstrated the emergence of new bases of control. Initially, because of the need to establish itself and to command a competitive edge, the company embarked on finding a niche as a programme maker. To allow this to happen, it had to rely on the norms and commonly held beliefs of the time. Once this was achieved, the company turned to rule-based control so that its programme making activities could then be seen from the perspective of a commercial concern. Finally, after being around for over thirty years, the company had made a name for itself and was poised for a much greater challenge. Diversification into other areas of the entertainment industry became more urgent because it could lose its franchise. Under such circumstances, market-based control seemed a logical choice.

However, there is also a second explanation for this development. The evolution described above can also be viewed as a shift, not from greater reliance on culture to rule-based control and finally to market-based control, but as an emergence of new forms of cultural patterns as new knowledge is created and diffused within the organization, as suggested by Boisot (1986: 137-138): '... a choice to internalise or externalise a transaction, is not a choice in favour of markets, hierarchies, or other co-ordinating mechanisms. In effects, an organisation makes two interdependent decisions: the first concerns the institutional form of transaction, the second is style. Organisational culture then emerges from our analysis as a configuration of transactions,

both internal and external, that result from the interplay of these two sets of decisions.'

Seen in this perspective, the limited tenure of the franchise, the uncertainty of retaining it, gradual reductions in guaranteed transmission slots (in networked programmes) and the introduction and establishment of Channel 4 and cable and satellite broadcasting could have been the common knowledge that was codified and diffused, and gave rise to concerns over the company's future competitive advantage. The introduction of the new accounting and budgeting system (TCS) formalized the codification and diffusion, leading members to see the need to find new organizational arrangements. The fact that the new strategy (of relying more on accounting and budgeting systems) to control expenditures was task related, meanings got created and new shared values — to be more financially conscious — emerged.

This second explanation seems to support Lebas and Weigenstein's argument — that in greater uncertainty, an organization will rely more on a control system-based culture. However, it must be noted that there is a major epistemological difference between the argument of Lebas and Weigenstein and that of Boisot. In the former, culture is seen as independent in its own right and manifests different characteristics from markets or rules. Thus controls based on culture produce different results from controls based on markets or rules. Boisot's argument is based on the premise that markets and rules are possible transactional outcomes which are rooted in culture. As such, markets and rules are cultural traits of an organization which has emerged from the process of interdependent choice — institutional form and style.

CONCLUSION

This paper seeks to answer the question of how the bases on which the management control system of an organization have changed over time. We provided evidence to show that the company's MCS shifted from reliance on culture to rules, and finally to markets, as the base for control, which seems to contrast with Lebas and Weigenstein's argument that the reverse should occur. We suggested that this might be due to the fact that changes initiated by the company were planned in anticipation of non-renewal of its broadcasting franchise, and not as reactive

measures to overcome existing problems. The management relied on rule- and market-based control because it decentralized into autonomous divisions, each with missions and objectives to meet. Controls imbedded in the organizational culture, although present, were overshadowed by the former.

On the other hand, we also argued that Lebas and Weigenstein could have been right in their argument that an organization will rely more on a control system that is embedded in its culture in response to a more uncertain and competitive environment. But, for this to stand, we have to view adherence to rules and market-driven controls as two features or facets of the company's existing culture.

These rather contrasting explanations came about because they were based on a different epistemological stance, giving rise to different interpretations of the word 'culture'. Other than a common notion that 'culture is a system of shared meanings', Smircich (1983) and Allaire and Firsitoru (1984) have shown that culture has different meanings to different schools of thought.

The implications of these findings are significant. Irrespective of which viewpoints we subscribe to, they show that accounting can be an important change agent and catalyst. However, to be effective, the existing power structure needs to be reoriented (in the case of the company, by divisionalization). From the control perspective, the findings suggest that an organization must rely more on rules and markets and less on culture-based controls if it wants to successfully implement a planned change as the realization that something must be done does not guarantee that members understand the problem and want to change. They may need to be 'pressured' or 'shaken' so that they understand the need for change.

REFERENCES

- ALLAIRE, Y. and M.E. FIRSITORU. 1984. Theories of organisational culture. *Organization Studies* 5: 193-226.
- BOISOT, M.H. 1986. Markets and hierarchies in a cultural perspective. *Organization Studies* 7: 135-158.
- GEERTZ, C. 1973. *The Interpretation of Cultures*. New York: Basic Books.

- GLASER, B.G. and A.L. STRAUSS. 1967. *The Discovery of Grounded Theory*. New York: Aldine de Gruyter.
- GREINER, L.E. 1968. Patterns of organizational change. *Harvard Business Review* **May-June**: 119-130.
- GREINER, L.E. 1972. Evolution and revolution as organizations grow. *Harvard Business Review* **May-June**: 37-46.
- HOPWOOD, L.E. 1972. Leadership climate and the use of accounting data in performance evaluation. *The Accounting Review* **49**: 485-495.
- LEBAS, M. and J. WEIGENSTEIN. 1986. Management control: the roles of rules, markets and culture. *Journal of Management Studies* **23**: 259-272.
- OUCHI, W. G. 1980. Markets, bureaucracies and clans. *Administrative Science Quarterly* **25**: 129-141.
- PETTIGREW, A.M. 1985. *The Awakening Giant: Continuity and Change in Imperial Chemical Industries*. Oxford: Basil Blackwell.
- PETTIGREW, A.M. 1990. Longitudinal field research on change: theory and practice. *Organization Studies* **11**: 267-292.
- SIMON, H.A. 1957. *Models of Man*. New York: Wiley.
- SMIRCICH, L. 1983. Concepts of culture and organizational analysis. *Administrative Science Quarterly* **28**: 339-358.
- THOMPSON, M. and A. WILDAVSKY. 1986. A cultural theory of information bias in organizations. *Journal of Management Studies* **23**: 273-286.
- WHIPP, R., R. ROSENFELD and A. PETTIGREW. 1989. Culture and competitiveness: evidence from two mature UK industries. *Journal of Management Studies* **26**: 561-583.
- WHITANE, S. 1988. A cycle of organizational strategy: the adaptation process in US regulatory agencies. *Organization Studies* **9**: 573-597.

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