Managing Motivation, Organization and Governance

MARGIT OSTERLOH[1], BRUNO S. FREY[2] and JETTA FROST[1]
[1]*University of Zurich, Institute for Research in Business Administration, Plattenstrasse 14, CH-8032 Zürich, Zwitzerland (E-mail: osterloh@ifbf.unizh.ch; frost@ifbf.unizh.ch);* [2]*University of Zurich, Institute for Empirical Research in Economics, Blümlisalpstrasse 10, CH-8006 Zürich, Zwitzerland (E-mail: bsfrey@iew.unizh.ch)*

Introduction

To a high degree Simon’s work is identified with the introduction of “Bounded rationality” into economics and with the behavioral theory of the firm. Today, bounded rationality has become a conventional footnote in almost every economic treatment. However, it often does not do justice to Simon’s far-reaching ideas. Much has been neglected, in particular Simon’s emphasis on motivation, including workers’ identification with their firm.

In our paper, we focus on these aspects neglected in organizational economics. We seek to complement them with an approach, which makes motivation an *endogenous variable* to management. At the same time, we introduce a *dynamic relationship* between extrinsic and intrinsic motivation into the theory of the firm. The management of these two kinds of motivation becomes a crucial task, particularly when production is knowledge intensive.

1. Two Views of Bound Rationality

Bounded rationality can be understood in two ways (Radner, 2000). “*Costly rationality*” maintains the assumption of optimization. The unit of analysis is taken to be the choice between alternatives, be it without (Samuelson, 2001) or with transaction costs (Jensen and Meckling, 1976; Williamson, 1985). In organization theory, this choice concerns alternative governance structures within firms and between firms and markets. However, the approaches using the costly-rationality view mostly focus on the analysis of boundary issues while internal issues of how firms work are suppressed. As has been argued by Kay (2000, p. 688), “the problem is that there is no guarantee that marginal transactions on the fringes of the firm will give a realistic guide to the nature and the role of the firm. ... It would be misleading to judge the topography of an island by the characteristics of its coastal strip”.

In contrast, “*truly-bounded rationality*” takes the decision premise as the unit of analysis. This view enable a more fine-grained analysis of how complex decisions are made. It implies analyzing bounded rationality as the process by which people come to accept particular decision-premises as true. The acceptance itself is not the product of logical reasoning. Rather, what is accepted is, among other things, the consequence of governance design and organizational experience. Three stages of the overall process of decision-making are distinguished: the first is to find occasions calling for a decision and defining the problem, and the second is to invent, develop and analyze alternative courses of action. Only the third is to choose a particular course of action. This fine-grained analysis of the decision process focuses on an analysis of the firm from the inside and looks at how a firm works in contrast to markets. Moreover, it emphasizes empirical research in business practice and business history (Loasby, 2000, p. 715; Selten, 1990).

In contrast to most of his adherents in economics, Simon and his followers (e.g. Cyert and March, 1963; March, 1994; March, Schulz and Zhou, 2000) in the behavioral theory of the firm adopt the "truly-bounded rationality" view. They are interested in the analysis of administrative behavior, how organizations work, and are less interested in the analysis of marginal decisions at their boundaries. In his well-known article on organizations and markets, Simon (1991) clarifies why the decision-premise should be the starting point for the analysis of how firms work: firms provide a comprehensive repertory of authority relations, and motivational foundations and coordinative mechanisms that help people make good decisions, despite having incomplete knowledge. In contrast, markets depend almost entirely on contracts and economic rewards. Due to this comprehensive repertory, firms are able to transmit decision-premises quickly and to build up absorptive capacity. Absorptive capacity is the firm's ability to identify, assimilate and exploit knowledge from the environment (Cohen and Levinthal, 1990). In contrast, markets only have an adaptive capacity (Ghoshal and Moran, 1996). As a result, in complex situations, the division of labor is more productive in firms than in markets.

There is also an important difference between Simon (1947, 1983) and his followers in the behavioral theory of decision-making. His followers (e.g. Cyert and March, 1963; March, 1994; March Schulz and Zhou, 2000) concentrate on cognitive aspects as well as conflicts in organization. Strategies to deal with inconsistent interests are bargaining, threats and compromises. In contrast, Simon does not concentrate on conflicts between organization members but on good-spirited cooperation, based on loyalty and identification (Augier and March, this issue). These unselfish motivational components help to overcome "free-riding," "moral hazard" and "opportunism," as well as externalities produced by attachment to sub-goals or inefficiencies. Loyalty and identification are crucial for solving the problems of firm-specific, common-pool resources (Simon, 1991, p. 34) or social dilemmas, which – as argued by Miller (1992, p. 35) – are at the heart of the managerial problem.

Simon's analysis, however, implies firstly a utopian view of "benevolent co-operators" (Dosi and Marengo, 2000, p. 82). Secondly, it fails to provide an answer to the question whether motivational components like loyalty and identification are exogenous to the firm or whether they are an endogenous factor capable of being managed. Although Simon strongly advocates behavioral assumptions in the theory of the firm to be empirically validated, he does not focus on the overwhelming, empirical evidence that human motivation should not be treated as exogenous. Preferences are not given but are malleable, and depend on institutional factors and managerial decisions.

2. Motivation as an Endogenous Variable of Governance

In our approach, we treat motivational contents as endogenous and therefore open to management. We do not follow the utopian view of "benevolent co-operators". Nor is our approach based on the behavioral assumption of opportunism as a worst-case scenario. This scenario is the only motivational basis in the dominant organization economics (e.g. Milgrom and Roberts, 1992; Williamson, 1985) against which Simon strongly argued. In spite of these contradicting views on motivational assumptions, the above-mentioned organization economists and Simon assume motivation to be *exogenously* given. In both cases, opportunistic or benevolent motivation is introduced in an axiomatic manner.

Treating motivation as subject to management has important consequences when it comes to finding a solution for social dilemmas and uses the management of motivation as a source of distinctive firm competences. We relate to "crowding theory" (Frey, 1997a), which explains the dynamic relationship between extrinsic and intrinsic motivation. We make motivation an *endogenous* variable and integrate it as a crucial link between organization economics and Simon's perspective of the behavioral theory of the firm.

3. The Dynamic Relationship between Intrinsic and Extrinsic Motivation

There are two kinds of motivation: *extrinsic* motivation works through indirect satisfaction of needs, most importantly through monetary compensation. Extrinsically motivated coordination in firms is achieved by linking employees' monetary motives to the goals of the firm. Opportunism is a strong form of extrinsic motivation, where individuals are not constrained by any rules. It follows that the ideal incentive-system is pay for performance. *Intrinsic* motivation works through immediate need satisfaction. An activity is valued for its own sake and appears to be self-sustained (Deci, 1975; Deci and Ryan, 1985; Frey, 1997a). Following Lindenberg (2001), intrinsic motivation is enjoyment-based or obligation-based.

(a) *Enjoyment-based* intrinsic motivation is the incentive focused on by Deci (Deci, Koestner and Ryan, 1999). It refers to a satisfying flow of activity (e.g. Csikszentmihalyi, 1975) such as playing a game or fulfilling a challenging task without an external reward (e.g. Shapira, 1976).

(b) *Obligation-based* intrinsic motivation was introduced by Frey (1997b) as another important form of incentive. It can take the form of pursuing self-defined goals (for an example se Loewenstein, 1999) or the obligations of personal and social norms for their own sake (March, 1999, p. 377). Examples are tax morale and environmental ethics (Frey, 1997a), personal or group identity (Akerlof and Kranton, 2000), distributive and procedural fairness (Tyler and Blader, 2000), and – as rightly stressed by Simon (1990) – identification with one's firm or organizational-citizenship behavior (Frey and Osterloh, 2002).

The ideal incentive-system for all kinds of intrinsic motivation consists in the work content itself, as well as conditions allowing identification with the existing norms.

Intrinsic and extrinsic motivation are not additive as standard economics assumes (e.g. Milgrom and Roberts, 1992). Rather, there is a dynamic relationship between the two as convincing, empirical evidence shows (Deci et. al., 1999; Frey and Jegen, forthcoming). The relationships between intrinsic and extrinsic motivation are called *crowding effects* (Frey, 1997a). These effects make both kinds of motivation *endogenous* variables. Crowding effects can be subdivided into a crowding-out and a crowding-in effect. The *crowding-out effect* posits a negative relationship between intrinsic and extrinsic motivation. When external incentives are perceived to be controlling by the firm-member affected, intrinsic motivation tends to be undermined because perceived self-determination is reduced. The *crowding-in effect* posits a positive relationship between intrinsic and extrinsic motivation. An outside intervention via rewards or feedback may strengthen intrinsic motivation if it is perceived to support intrinsic motivation.

As a consequence, motivation has to be managed in order so that the required intrinsic motivation is not crowded out (Osterloh and Frey, 2000). The two kinds of motivation have their own advantages. *Intrinsic motivation* is indispensable when external incentives lead to undesired consequences: the generation and transfer of tacit knowledge requires intrinsic motivation because it is almost impossible to single out individual contributions and to pay accordingly. More generally, high-lowered incentives are dysfunctional in "multiple tasking" when not all tasks vital to the creation of value can be measured with reasonable accuracy (Holmström and Milgrom, 1991; Prendergast, 1999). Solely extrinsic firm-members would free-ride. On the other hand, *extrinsic motivation* is sometimes indispensable: intrinsic motivation can have an undesirable content, like envy or vengeance. Uncontrolled passions can be disciplined with extrinsic rewards. In situations where no intrinsic motivation exists in the first place, monetary rewards can increase performance.

The interdependence of extrinsic and intrinsic motivation has important consequences concerning the problems of contributing to firm-specific common goals and avoiding free-riding and loafing. As Simon (1991, pp. 31–32) argues, organizational culture and identification with the firm are the reasons that "in most organizations, employees contribute much more to goal achievement than the minimum that could be extracted from them by supervisory enforcement . . .". They contribute voluntarily to these intangible goals only due to intrinsic motivation. But how is such intrinsic motivation produced? Simon does not provide an answer to this question, and hence, intrinsic motivation is exogenous and not subject to management.

4. Enabling Intrinsic Motivation in the Firm

While intrinsically motivated action is always voluntary, only the conditions for their emergence and strengthening can be managed. According to the distinction between enjoyment-based and obligation-based intrinsic motivation, the following specific factors favor a higher level of the respective intrinsic motivation.

Interest in the activity. A perceived increase in self-determination supports enjoyment-based intrinsic motivation (Deci, Koestner and Ryan, 1999). In addition, employees enjoy their work more when they are aware of the results of their input, when they are responsible for the outcome, and when they consider their work to be meaningful (Hackman and Oldham, 1980).

Personal communication and relationship. As experimental research shows, personal communication strongly raises the intrinsic motivation to cooperate (Frey and Bohnet, 1995). In situations characterized by a social dilemma, structured cooperation reflects norms of social obligation. As a consequence, such norms of obligation within firms can be enabled by organizational forms (e.g. team-based structures), which foster personal relationships among employees and between principals and agents. In contrast, markets systematically build on exchange via prices. Personal relationships may play a role, but are in principle unwarranted (for a discussion in the context of strategic networks, see Osterloh and Weibel, 2001).

Participation. The greater the possibilities to co-determine, the more the employees engage themselves in mutually-set goals and adopt them as their own. Participation *not* only enables reaching compromises between divergent interests but also helps to harmonize preferences. As a result, self-determination enhances obligation to cooperative norms (Dawes et al., 1988).

Message conveyed. The more a principal acknowledges his or her employees' intrinsic motivation as part of a psychological contract, the more intrinsic motivation is fostered. Such a message supports both enjoyments in the task as well as obligation to internalized norms (Rousseau, 1995).

A *second* group of conditions determines how forcefully intrinsic motivation is crowded-out:

Contingency of reward upon performance. The closer the dependence of tangible rewards on the required performance, the more forcefully enjoyment-based intrinsic motivation is crowded-out. This holds true provided the perceived controlling-effect of rewards is stronger than the perceived informing-effect, and that the behavior was initially perceived to be intrinsically rewarding (Deci and Flaste, 1995). But this also holds for obligation-based rules. A case is provided from blood donations, as argued by Titmuss (1970). Paying donors for giving blood undermines the intrinsic motivation to follow an obligation. In countries where most of the blood is supplied gratis, paying for blood is likely to reduce total supply (Upton, 1973). Another case is the so-called *N*ot-*I*n-*M*y-*B*ack-*Y*ard syndrome, also know as NIMBY syndrome (Frey and Oberholzer-Gee, 1997; Frey, Oberholzer-Gee and Eichenberger, 1996). In a community located in central Switzerland, more than half the respondents (50.8 percent) agreed to have a nuclear-waste repository built in their commune. When monetary compensation was offered, the level of acceptance dropped to 24.6 percent. Applying this empirical evidence to the management of motivation inside firms gives an argument in favor of time-based compensation and against strict forms of pay-for-performance in situations requiring high intrinsic motivation.

The two following conditions crowd-out both enjoyment-based and obligation-based intrinsic motivation:

Commands and control. A command restricts the perceived self-determination of the persons affected more strongly than would a corresponding reward (Barkema, 1995). The missing acknowledgment of intrinsic motivation crowds-out intrinsic motivation more than does the use of prizes. Commands do not take into account the motives of the recipients, while the prize system leaves the choice open as to whether one cares to receive the reward or not.

Violation of distributive and procedural justice. Agents who feel unjustly paid reduce their intrinsic motivation. “It is more critical how their pay compares to the pay of others than what they make in absolute dollars and cents” (Lawler, 1990, p. 24). More recently, it has been shown that when people consider the procedure unfair, they are not prepared to accept the outcome (Tyler and Blader, 2000). Procedural justice also has a great impact on the acceptance of existing authorities, rules and decision premises. Tyler and Degoey (1996, p. 493) claim that views of the legitimacy of an authority are almost exclusively influenced by the procedural fairness administered by that authority.

The organizational consequences to evade such crowding-out of intrinsic motivation are forms of governance-structure and leadership informed by the theory of cognitive evaluation and perceived justice (Osterloh and Frey, 2000).

5. Conclusions

The analysis undertaken here has produced the following insights: firstly – in line with the analysis provided by Simon (1991, p. 199) – a firm is able to control the overall decision-process including the definition of problems, the generation of alternative courses of action, and the decision between alternatives. It is able to influence the process of perception by shaping the decision-rules and by focusing on decision-premises. In complex and ambiguous situations, the firm can therefore react more quickly than markets because it has developed *absorptive* capacity. Markets, in contrast, cannot influence the overall decision-process. They are restricted to the decision itself and to the reaction to the decision by others. They only have an *adaptive* capacity. Markets have an advantage over firms under well-defined conditions. However, they have a disadvantage, when decisions are characterized by high ambiguity (see Grandori, this issue). Secondly – complementing the analysis of Simon – we argue that organizations are able to manage intrinsic as well as extrinsic motivation, therefore making motivation an endogenous factor. In contrast, markets rely systematically on extrinsic motivation. As a consequence, competing firms may over-invest in safeguards. Because of the crowding-out effect, such safeguards induce the partners to behave opportunistically, leading to a spiral of distrust. Firm have an advantage as far as firm-specific, common-pool resources are concerned. Within firms, intrinsic motivation to overcome free-riding and loafing can systematically be promoted by management.

Acknowledgements

We thank Siegwart Lindenberg and Zur Shapira for helpful comments.

References

Akerlof, G.A. and R.E. Kranton: 2000, “Economics and Identity”, *Quarterly Journal of Economic* 115: 715–753.

Augier, M. and J.G. March: this issue, “Not all Carnegies are Alike: Herbert A. Simon and Oliver E. Williamson”, *Journal of Management and Governance*.

Barkema, H.G.: 1995, “Do Job Executives Work Harder When They are Monitored?”, *Kyklos* 48: 19–42.

Cohen, W.M. and D.A. Levinthal: 1990, “Absorptive capacity: a new Perspective on Learning and Innovation”, *Administrative Science Quarterly* 35: 128–152.

Csikszentmihalyi, M.: 1975, *Beyond Boredom and Anxiety* (San Francisco: Jossey-Bass).

Cyert, R.M. and J.G. March: 1963, *A Behavioral Theory of the Firm* (Englewood Cliff NJ: Prentice-Hall).

Dawes, R.M., A.J.C. van de Kragt and J.M. Orbell: 1988, “Not Me or Thee But We: The Importance of Group Identity in Eliciting Cooperation in Dilemma Situations – Experimental Manipulations”, *Acta Psychologica* 68: 83–97.

Deci, E.L.: 1975, *Intrinsic Motivation* (New York: Plenum Press).

Deci, E.L. and R. Flaste: 1995, *Why We Do What We Do: The Dynamics of Personal Autonomy* (New York: Putnam).

Deci, E.L. and R.M. Ryan: 1985, *Intrinsic Motivation and Self-Determination in Human Behavior* (New York: Plenum Press).

Deci, E.L., R. Koestner and R.M. Ryan: 1999, “A Meta-Analytic Review of Experiments Examining the Effects of Extrinsic Rewards on Intrinsic Motivation”, *Psychological Bulletin* 125: 627–668.

Dosi, G. and L. Marengo: 2000, “On the Tangled Discourse between Transaction Cost Economics and Competence-Based View of the Firm”, in N. Foss and V. Mahnke (ed.), *Competence, Governance, and Entrepreneurship* (Oxford: Oxford University Press), pp. 80–92.

Frey, B.S.: 1997a, *Not Just for the Money: An Economic Theory of Personal Motivation* (Cheltenham, UK and Brookfield, USA: Edward Elgar).

Frey, B.S.: 1997b, “A Constitution for Knaves Crowds Out Civic Virtues”, *Economic Journal* 107: 1043–1053.

Frey, B.S. and I. Bohnet: 1995, “Institutions Affect Fairness: Experimental Investigations”, *Journal of Institutional and Theoretical Economics* 151: 286–303.

Frey, B.S. and R. Jegen: forthcoming, “Motivation Crowding Theory: A Survey of Empirical Evidence”, *Journal of Economic Surveys*, forthcoming.

Frey, B.S. and F. Oberholzer-Gee: 1997, “The Cost of Price Incentives: An Empirical Analysis of Motivation Crowding-Out”, *American Economics Review* 87: 746–755.

Frey, B.S., F. Oberholzer-Gee and R. Eichenberger: 1996, “The Old Lady Visits Your Backyard: A Tale of Morals and Markets”, *Journal of Political Economy* 104: 193–209.

Frey, B.S. and M. Osterloh (eds.): 2002, *Successful Management by Motivation* (New York: Springer).

Ghoshal, S. and P. Moran: 1996, “Bad for Practice: A Critique of the Transaction Cost Theory”, *Academy of Management Review* 21: 13–47.

Grandori, A.: this issue, “ ‘Cognitive Failures’ and Combinative Governance”, *Journal of Management and Governance*.

Hackman, R.J. and G.R. Oldham: 1980, *Work Redesign* (Reading, MA: Addison-Wesley).

Holmström, B. and P. Milgrom: 1991, “Multitask Principal-Agent Analyses: Incentive Contracts, Asset Ownership, and Job Design”, *Journal of Law, Economics and Organization* 7: 24–52 (Special Issue).

Jensen, M.C. and W. Meckling: 1976, “The Theory of the Firm: Managerial Behaviour, Agency Costs and Ownership Structure”, *Journal of Financial Economics* 3: 305–360.

Kay, N: 2000, “Searching for the Firm: the Role of Decision in the Economics of Organizations”, *Industrial and Corporate Change* 9: 683–707.

Lawler, E.E. III.: 1990, *Strategic Pay* (San Francisco: Jossey Bass).

Likert, R.: 1961, *The New Patterns of Management* (New York: McGraw-Hill).

Lindenberg, S.: 2001, “Intrinsic Motivation in a New Light”, *Kyklos* 54: 317–343.

Loasby, B.J.: 2000, “Decision Premises, Decision Cycles and Decomposition”, *Industrial and Corporate Change* 9: 709–731.

Loewenstein, G.: 1999, “Because it is There: The Challenge of Mountaineering ... for Utility Theory”, *Kyklos* 52: 315–343.

March, J.G.: 1994, *A Primer on Decision Making: How Decisions Happen* (New York: Free Press).

March, J.G.: 1999, *The Pursuit of Organizational Intelligence* (Malden, MA and Oxford, UK: Blackwell).

March, J.G., M. Schulz and X Zhou: 2000, *The Dynamics of Rules. Change in Written Organizational Codes* (Stanford: Stanford University Press).

Milgrom, P.R. and J. Roberts: 1992, *Economics, Organization and Management* (New Jersey: Prentice-Hall).

Miller, G.J.: 1992, *Managerial Dilemmas. The Political Economy of Hierarchy* (Cambridge, MA: Cambridge University Press).

Osterloh, M. and B.S. Frey: 2000, “Motivation Knowledge Transfer, and Organizational Form”, *Organization Science* 11: 538–550.

Osterloh, M. and A. Weibel: 2001, “Do Good Threats Make Good Neighbors?”, Working Paper of the Institute for Research in Business Administration, University of Zürich, Zürich.

Prendergast, C.: 1999, “The Provision of Incentives in Firms”, *Journal of Economic Literature* (March) 37: 7–63.

Radner, R.: 2000, “Costly and Bounded Rationality in Individual and Team Decision Making”, *Industrial and Corporate Change* 9: 623–658.

Rousseau, D.M.: 1995, *Psychological Contracts in Organization: Understanding Written and Unwritten Agreements* (Thousand Oaks, London and New Dehli: Sage Publications).

Samuelson, P.A.: 2001, *Economics*, 17th edn. (Boston, MA: McGraw-Hill).

Schein, E.: 1965, *Organization Psychology* (Englewood Cliffs, NJ: Prentice-Hall).

Selten, R.: 1990, “Bounded Rationality”, *Journal of Institutional and Theoretical Economics* 146: 649–658.

Simon, H.A.: 1947, *Administrative Behavior*, 3rd edn. 1976 (New York: Macmillan).

Simon, H.A.: 1983, *Reason in Human Affairs* (Stanford: Stanford University Press).

Simon, H.A.: 1990, “A Mechanism for Social Selection and Successful Altruism”, *Science* 250.

Simon, H.A.: 1991, “Organizations and Markets”, *Journal Economics Perspectives* 5: 25–44.

Shapira, Z.: 1976, “Expectancy Determinants of Intrinsically Motivated Behavior”, *Journal of Personality and Social Psychology* 34: 1235–1244.

Titmuss, R.M.: 1970, *The Gift Relationship* (London: Allen and Unwin).

Upton, W.: 1973, “Altruism, Attribution and Intrinsic Motivation in the Recruitment of Blood Donors”, *Selected Readings on Donor Motivation and Recruitment*, Vol. III, ed. By American Red Cross.

Tyler, T.R. and S.L. Blader: 2000, *Cooperation in Groups: Procedural Justice, Social Identity and Behavioural Engagement* (Philadelphia, PA: Psychology Press).

Tyler, T.R. and P. Degoey: 1996, “Collective Restraint in Social Dilemmas: Procedural Justice and Social Identification Effects on Support for Authorities”, *Journal Pers. Soc. Psychology* 69: 482–97.

Williamson, O.E.: 1985, *The Economic Institutions of Capitalism: Firms, Markets, Relational Contracting* (New York: Free Press).

Social Rationality as a Unified Model of Man (Including Bounded Rationality)

SIEGWART LINDENBERG
ICS/Department of Sociology, University of Groningen, Grote Rozenstraat 31, NL-9712 TC Groningen (E-mail: s.m.lindenberg@ppsw.rug.n1)

Introduction

In 1957, Simon published a collection of his essays under the title of “Models of Man: Social and Rational”. In the preface, he explains the choice for this title: All of the essays “are concerned with laying foundations for a science of man that will comfortably accommodate his dual nature as a social and as a rational animal.” (p. vii) Observe that the title of the book refers to two models of man, one social and one rational. Throughout his life, Simon kept contributing to this science of man. The most well-known contributions directly relate to this duality. In a nutshell, his most outspoken propositions in this context were the following. Socially, man is *docile*; that is, most of his or her beliefs “are acquired, not by inde-