

Perceived Organisational Support and Profitability

Graafland, J.J.; Rutten, B.

Publication date:
2004

[Link to publication](#)

Citation for published version (APA):
Graafland, J. J., & Rutten, B. (2004). *Perceived Organisational Support and Profitability*. (CentER Discussion Paper; Vol. 2004-45). Macroeconomics.

General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal

Take down policy

If you believe that this document breaches copyright, please contact us providing details, and we will remove access to the work immediately and investigate your claim.

Center



Discussion Paper

No. 2004–45

PERCEIVED ORGANISATIONAL SUPPORT AND PROFITABILITY

By J.J. Graafland and B.A. Rutten

May 2004

ISSN 0924-7815

Perceived organisational support and profitability

by J. J. Graafland and B.A. Rutten

Abstract

This paper investigates the impact of perceived organizational support (POS) on performance. We predict that POS will be reciprocated by positive discretionary employee behavior, which in turn has a positive impact on performance. Empirical research on a sample of Dutch construction companies indeed corroborates a positive relationship between POS and performance. Moreover, the POS-performance link is found to be stronger for good performing firms than for bad performing firms, which supports that reciprocity drives the relationship between POS and performance.

Tilburg University

Room P2211

Warandelaan 2

P.O. Box 90153

5000 LE Tilburg

The Netherlands

phone:31 13 4662702

fax:31 13 4662892

E-mail:J.J.Graafland@uvt.nl

1 Introduction

Today more than 50 percent of the gross domestic product in Western economies is knowledge based (The Economist, 1996). As the dynamics of competition accelerate, people are perhaps the only truly sustainable source of competitive advantage. This has raised the interest in human resource management.

Human Resource Management influences both the skill and behavior of workers, which in turn impacts firm performance. Human resource management thus relates to the so-called “can-do” goal (developing work force skills), but also contributes to the “will-do” goal (eliciting motivation and commitment to align employee behavior to the interests of the firm). The importance of this “will-do” goal is explained by Huselid (1995:p.637): “The effectiveness of even highly skilled employees will be limited if they are not motivated to perform, however, human resource management practices can affect employee motivation by encouraging them to work both harder and smarter”.

To be able to better understand how the motivation of employees yields proper returns this research empirically investigates the relationship between employee perceptions about the quality of the working environment and firm performance. Similar research in the field of psychology has investigated the relationship between dissatisfying situations at work, and the impact on employee behavior (e.g. Turnley et al., 2003; Eisenberger et al., 2001; Hagendoorn, 1998). In the field of organization and human resource management, the link between human resource management practices and performance has been empirically examined (e.g. Huselid et al., 1997; Arthur, 1994). However, research on employee perceptions concerning quality of work, and its relationship with performance, is largely absent in the (empirical) literature. This research aims to fill this gap.

The set-up of this paper is as follows. In section 2 we introduce the concepts of commitment human resource management, reciprocity, perceived organizational support and extra role behavior and argue that extra role behavior is a possible driver of firm performance. In section 3 we provide an overview of existing empirical literature in this field. In section 4 we formulate the research questions of our own empirical research. After describing the data in section 5, section 6 presents the test results for the hypothesis that perceived organization support impacts profitability for the Dutch construction sector. Section 6 presents the main conclusions.

2 Commitment HRM, reciprocity, perceived organizational support and extra role behavior

According to Michael Porter’s famous framework, the five fundamental competitive forces that determine the ability of firms in an industry to earn so termed “above-normal returns” are “entry of new competitors, threat of substitutes, bargaining power of buyers, bargaining power of suppliers, and the rivalry among existing competitors” (Porter, 1985). This conventional wisdom has not been corroborated by empirical evidence. On the contrary, Pfeffer (1994) for instance

provocatively stated that, “you would have been very successful in selecting the five top-performing firms from 1972 to 1992 if you took this conventional wisdom, and turned it on its head”. Empirical research supports this notion. Rumelt (1991) concludes that external (market and industry) characteristics do not significantly influence firm performance. What remains as a crucial differentiating factor is the organization itself, its employees, and how they work. Empirical research indeed finds that increased employee performance has a positive and significant impact on firm performance (e.g. Schmidt et al.,1979).

Along with changes from national to global markets and transformation into a knowledge economy, an increasingly complex, fast-paced competitive environment has emerged that puts demands on the flexibility of companies. The requirements on employees in terms of their contribution to achieve the organization’s objectives have increased tremendously. To be flexible organizations should create so-called “empowered” employees that exercise self-control over complex tasks and responsibilities (Bleichrodt, 2000). This has important consequences for the way in which human resources are optimally managed. Traditionally, human resource management was mainly control based by stringent monitoring of employees’ behavior in the work place (behavior control), standardizing and measuring the results of the employees (output control) or by input policies that try to align employee interests with those of the firm by applying selection, training and socialization policies (Thompson, 1967; Ouchi, 1977; Eisenhardt, 1985). As organizations nowadays need to be flexible in order to respond to rapidly changing market conditions, they increasingly rely on multi-functional and multi-unit teams. They can be formed, re-formed, and dismantled with relative ease; they can by-pass the traditional hierarchy; and their composition can evolve over time in order to blend different skills and address changing priorities. The speed with which individuals learn to perform new tasks is therefore increasingly important. This has diminished the effectiveness of control management. In a continuously changing environment the ability of management to set behavioral rules and regulations ex-ante is merely impossible. Also output control fails in such a dynamic context. The use of performance targets may induce employees to take safe courses of action and pursue shorter-term objectives. As a consequence, they tend not to produce innovation necessary to sustain competitiveness. Moreover, in cases where a firm pursues many different objectives, or performance standards are ill-defined or change repeatedly over time, reliance on output control is likely to reinforce blind pursuit of measured targets to the exclusion of other relevant, though perhaps subtle, outcomes. Employees that pursue a singular goal will thus be less likely to be flexible, adoptive and agile in response to changing market conditions. Even input control, although more likely to be successful than behavioral or output control, has certain disadvantages in a dynamic context. In particular, the creation of a so-called “clan-culture” will lead to a very homogeneous group of employees. This creates negative side effects from reduced diversity of points of view and less flexibility.

Commitment HRM

Due to the changes in market conditions, a new type of human resource management has emerged, so-called commitment HRM. Commitment HRM relies on conditions that encourage employees to identify with the goals of the organization and work hard to accomplish those goals (Arthur, 1994; Wright et al, 1994; Huselid, 1995; Whitener, 2001). Commitment HRM largely builds on input control, since it also aims to create intrinsic commitment from employees. However, the means to achieve this differ slightly. Input control aims to create a homogenous and loyal culture. Commitment HRM does not aim at creating such a clan culture, but shapes desired employee behaviors and attitudes by forging psychological links between organizational and employee goals. In other words, the focus is on developing employees that can be trusted to their discretion to carry out job tasks in ways that are consistent with organizational goals.

In particular, commitment HRM assumes that the employment relation can be viewed as a so-called “psychological contract” between the employer and employee. Contrary to a formal contract, the psychological contract involves mutual obligations that cannot be specified ahead of time and require the parties to trust each other (Rousseau, 1995). Psychological contracts are comprised of the obligations that employees believe their organization owes them and the obligations the employees believe they owe their organization in return. They help to define the terms of the so-called “social exchange relationship” that exist between employees and their organizations. These relationships are made up of the voluntary actions that each party engages in with the belief that the other party will reciprocate those behaviors. So-called psychological contract breach occurs when either party perceives a discrepancy between what they are promised and what they actually receive. The link between psychological contract breach and employees’ attitudes has been researched extensively (Robinson and Morrison, 1995; Morisson and Robinson, 1997; Turnley et al., 2003).

Reciprocity

Reciprocity theory can provide some indications as to what the effect of contract breach could be on employee behavior at work. Reciprocity addresses the processes governing social interaction among individuals, or as Blau (1964;89) termed it: “the pattern of exchange through which the mutual dependence of people, brought about by the division of labour, is realized”. According to Blau (1964; 174): “... when one party benefits another, an obligation is generated. The recipient is now indebted to the donor, and he remains so until he repays”. Akerlof (1982), for example, observed that workers seem to work harder than necessary, while companies did not raise minimum working standards even when employees consistently outperformed these standards. Apparently, the employee-employer relationship was to some extent based on reciprocity and prevalent firm-specific norms. For example, if workers have an interest in the welfare of their co-workers, they gain utility if the firm relaxes pressure on the workers who are hard pressed. In return for reducing such pressure, better workers are often willing to work harder and develop a sentiment for the firm. Due to this sentiment, the workers acquire utility from an exchange of gifts with the firm: on the worker’s side, the gift given is work in excess of the minimum work

standard required by the firm; and on the firm's side the gift given is wages in excess of what the workers could receive if they left their jobs or leniency of work rules. This quid pro quo in gift exchange has a *reciprocal* nature that differs from pure market exchange. Organizations that express a genuine concern and interest for their employees can therefore raise the quality of the relationship with their employees.

Perceived organizational support

The employees' perception of the companies genuine concern for them has been conceptualised as "Perceived Organizational Support" (POS). Employees form believes about the extent to which an organization values their contributions and cares about their well being (Eisenberger et al, 1986). According to Levinson (1965), employees attribute benevolent or malevolent intent to the organisation. Thus, employees view many actions by agents of the organization as representing the organization itself. Providing supportive human resource management with respect to a number of aspects of work can influence these perceptions. To the extent that certain favourable work conditions are thought to result from efforts of organization officials, and such efforts are non-manipulative in intent, the employee will seek to reciprocate those efforts. Continued reciprocation of resources beyond those required by formal agreements will therefore strengthen the psychological contract. In contrast, the withdrawal of positive discretionary behavior will have a negative impact on employees' perceptions and contribute to the feeling that the organization is not supportive. The employer's failure to fulfil the terms of the psychological contract will reduce the employee's inclination to work beyond their explicit responsibilities (Robinson and Morrison, 1995).

The extent to which employees feel supported will relate to the extent to which their work satisfies their need for money, esteem, recognition and in general a desire to create meaning to their existence through goal setting and achievement. Allen et al. (2003) provides a first classification for supportive human resource management: participation in decision-making, fairness of rewards, and growth opportunity. These are three aspects of work which employees are likely to value. However, this is not an exhaustive list. A well-known classification in a similar type of research that identifies different aspects of on-the-job perceptions and behavior of employees is the so-called job description index (JDI) that was developed by Smith et al. (1969). They measured five subsets that assess the work environment: work which relates to specific job content, tasks and responsibilities that are assigned to the employee; supervision which relates to the quality of management, and the ability of employees to participate in decision-making; pay which refers to rewards in terms of salary and benefits; promotion, which refers to future growth opportunities; and, finally, co-workers, which refers to the working atmosphere on the job among fellow employees.

Extra-role behavior, social capital and performance

Employees reciprocate a high level of perceived organizational support by discretionary behavior, so-called extra-role behavior or organizational citizenship behavior (OCB). Extra role behaviors have been termed “any of those gestures that lubricate the social machinery of the organization, but do not directly inhere the usual notion of task performance” (Organ, 1988). It can be categorized in five constructs (Organ, 1988): conscientiousness, altruism, civic virtue, sportsmanship and courtesy. Conscientiousness means that employees carry out in-role behaviors (e.g. individual task performance) beyond the minimum required level. Altruism implies that they give help to others. Civic virtue suggests that employees responsibly participate in the political life of the organization. Sportsmanship indicates that people do not complain, but have positive attitudes. Courtesy means that they treat others with respect. Such behavior can yield important financial benefits for organizations. Employees will be inclined to go “beyond” the contract, meaning that their productivity will increase. They will also exercise responsible autonomy or self-monitoring and self-control, which removes the need for supervisory and inspection staff and produces efficiency gains. Finally, they will feel personally committed and identify with the organization, reducing the costs involved with turnover (forgone training and other firm investments, and loss of accumulated firm specific knowledge). Allen et al. (2003) indeed found a negative relationship between perceived organizational support and voluntary turnover.

Besides individual performance effects, extra role behavior or OCB has also important collective performance aspects in organizations by creating trust.. Trust is crucial for the social capital of the company. Social capital is the set of cooperative relations between social actors that facilitate solutions to collective action problems (Requena, 2003). A company that lacks trust from, or between, workers, needs more formal mechanisms and explicit contracts to direct the behavior of employees. These formal instruments are expensive because of high transaction or agency costs, and might actually induce non-cooperative behavior and inflexibility. Social capital means that individual workers are prepared to subject their own interest to the common goal of the company, based on trust that other workers will do the same and that everybody will share in the additional common revenues of the company made possible by the commitment of all workers (Hosmer, 1996). This cooperative attitude to the common goal of the company makes it easier to solve internal prisoner’s dilemmas. This will contribute to the flexibility of employees. Empirical evidence corroborates the importance of social capital. Cutcher-Gershenfeld (1991) found that firms emphasizing cooperation and dispute resolution had lower cost, less scrap, higher productivity and a greater return to direct labor hours than firms with traditional labor relations. Another potential benefit of social capital is that it facilitates the creation and dissemination of knowledge or intellectual capital within the company. Workers that trust each other are more prepared to share knowledge. Nahapiet & Ghoshal (1998) have asserted that the roots of intellectual capital or knowledge within organizations are deeply embedded in social relations, and in the structure of these relations. Workers that trust each other are more prepared to share knowledge. Studies of knowledge-intensive firms have indeed shown that they invest

heavily in resources to encourage the development of strong personal and team relationships and high levels of personal trust (Alvesson, 1991; Starbuck, 1992).

3 An overview of the empirical literature

The discussion in section 2 gives rise to the conceptual framework depicted in Figure 1. First, supportive human resource management positively affects perceived organisation support. Higher perceive organisational support will elicit extra-role behavior with positive consequences for profitability because of an increase in productivity of individual employees; lower costs of controlling working behavior and turnover of employees; and higher social capital implying less (expensive) explicit contracts, more flexibility of employees and more cooperation between employees with positive effects on the dissemination of knowledge within the company.

Figure 1 HRM, POS and profitability



In this section we first comment on the relationship between human resource management and perceived organizational support. Next, we discuss the empirical evidence on the relationship between POS and profitability. We conclude with an overview of empirical research that estimates a direct (reduced form) relationship between instruments of human resource management and profitability.

Human resource management and perceived organizational support

The arrow that connects HRM and POS has only recently become the subject of investigation. Perceived organizational support is a relatively new concept, and was mainly researched in psychological and social science, such that a possible link with human resource management was not of primary research interest. Instead, there is research that indicates that it is related to a number of other theoretical constructs such as job satisfaction and commitment (Bateman & Organ, 1983; Eisenberger et al.,1990).

However, recently, organizational actions are also considered to actively influence POS by conducting supportive human resource management.¹ Ostroff & Bowen (2000) explain that HRM shape work force attitudes by molding employees' perceptions of what the organization is like and influencing their expectations of the nature and depth of their relationship with the

¹ In addition, perceived organizational support is linked to other antecedents over which the organization does not have control such as personality (Aquino and Griffeth, 1999).

organization. Their model provided empirical corroboration for a significant link between HR practices and employee perceptions. Similarly, Allen et al. (2003) found that POS interacts with human resource management, to affect employee commitment. Other scholars have also asserted that supportive HR practices are an important antecedent of perceived organizational support (Shore and Shore, 1995; Allen et al., 2003). Allen et al. (2003) classified three such supportive HR practices: participation in decision-making, fairness of rewards, and growth opportunity. Employee participation signals that the employee's contributions are valued. Being rewarded fairly, also termed procedural justice, signals that an organization cares about the well-being of the employee and is willing to invest in them (Eisenberger et al., 1990). Lastly, growth opportunities signal that the organization recognizes and values the employee's contributions and imply future support from the organization.

Perceived organizational support and profitability

Although we have not found any empirical studies that directly confirm a positive relationship between POS and profitability, a number of studies do find a relationship between POS and specific work outcomes. For example, POS has been found to be positively related to work citizenship behaviors, like helping co-workers and making constructive suggestions regarding improving the operations of the organization (Shore and Wayne, 1993). Moreover, a positive relation was found with attendance (Eisenberger et al., 1986), and job performance (Eisenberger et al., 1990). Allen et al. (2003) also found a negative relationship between POS and turnover. Finally, several studies have detected a positive relationship between perceived organizational support and organizational commitment (Eisenberger et al., 1990). Organizational commitment refers to identification with organizational goals, willingness to exert effort on behalf of the organization, and interest in remaining with the organization (Whitener, 2001) and is therefore likely to be positively related to profitability. Employees' commitment to the organization will be related to perceived organizational support if employees reciprocate their perceptions of the organization's actions in their own attitudes and behavior. Various studies have indeed indicated that the two concepts are significantly correlated. Yet, construct validity tests reveal that they are distinct though closely linked variables (Shore and Tetrick, 1991). Eisenberger et al. (1990) and others indeed found that POS is an antecedent for commitment. In other words, an employee's perception of an organization's commitment to him or her contributes to the employee's subsequent commitment to the organization (Shore and Tetrick, 1991). This means that commitment is thus a possible outcome of perceived organizational support.

Commitment human resource management and profitability

Whereas direct estimates of the relationship between perceived organizational support and profitability is lacking, there is quite some number of research that investigates the reduced form relationship between various instruments of human resource management and profitability. Some

of these instruments focus on enhancing the skill base of employees through human resource activities such as selective staffing, comprehensive training, and broad developmental efforts like job rotation type practices. Other instruments focus on behavioral type issues and intend to promote empowerment, participative problem solving, teamwork with job re-design, group-based incentives, and a transition from hourly to salaried compensation for production workers (Arthur, 1994, Huselid, 1995, Becker, 1976).

For several of these HRM instruments scholars have detected a significant relationship with profitability. For instance, Terpstra & Rozell (1993) found a significant and positive link between the extensiveness of recruiting, selection test validation, and the use of formal selection procedures and firm profits. Rusell, Terborg, and Powers (1985) demonstrated a link between the adoption of employee training programs and financial performance. Katz, Kochan, and Gobeille (1983) and Schuster (1983) found that quality of work life (QWL), quality circles, and labour-management teams increased production. Links between incentive compensation schemes and productivity have been found as well (Gerhart & Milkovich, 1992, Weitzman & Kruse, 1990). Finally, the use of performance appraisals (Borman, 1991) and linking such appraisals and compensation has also been consistently connected to increased firm profitability (Gerhart & Milkovich, 1992).

However, this type of research can also be criticized. First, there is notable dispute among scholars as to what constitutes a “best” practice. For example, Arthur’s (1994) so-termed high commitment system specifies a low emphasis on variable pay, whereas the high performance systems defined by Huselid (1995) and McDuffie (1995) have strong emphasis on variable pay. Similarly, HR strategies that rely on internal promotions and provide access to employee grievance procedures have been documented as high performance by Huselid (1995), while Arthur (1994) and Ichniowski et al. (1994) have associated these practices with less productive unionized environments.

Second, although this type of research indicates a positive relationship between human resource management and profitability, they do not provide insight into the mechanisms that cause this relationship. In particular, they do not provide any estimates of the strength of the relationship between human resource practices and commitment. Most studies on commitment HRM rely on self-reports of the quality of HRM. That is, HRM managers assess the quality and prevalence of certain (high commitment) human resource practices. These outcomes are then linked to different measures of organizational performance, such as (perceptions of) employee productivity, customer satisfaction, and firm financial performance. This fails to investigate the actual impact on employee attitude and behavior, and thus does not reveal whether the positive performance effects stem from increased employee commitment.

4 Research hypotheses

In this paper, we provide direct estimates of the relationship between perceived organizational support and profitability. Specifically, we measure complaints concerning aspects of work, and

see whether, and which of them, have a negative impact on performance. We assume that complaint rates of employees regarding the work environment provide a good proxy for (the lack of) perceived organizational support. To speak in terms of the psychological contract metaphor, a high number of complaints is a proxy for psychological contract breach. On the basis of social exchange theory and reciprocity we predict that this breach will cause a negative imbalance in the employment relationship, which will be reciprocated by employees. The first hypothesis that we want to test is therefore:

Hypothesis 1: Profitability is negatively related to a lack of perceived organizational support (measured by complaints about the working environment)

Confirmation of hypothesis 1 does not yet prove that complaint rates have a causal impact on profitability, because the causal relationship may also be inverse. That is, a high performance may also lead to lower complaints concerning work. Indeed, the possible existence of an inverse relationship seems to be a general concern regarding research on commitment HRM and performance (Becker & Huselid, 1998). This concern is not illegitimate, since intuitively it is quite conceivable that high performance may have a motivating impact on employees. Moreover, high profitability might generate funds that enable organizations to subsequently engage in human capital investment. We therefore also investigate the possibility of an inverse impact of profitability on complaints. Since we have data on a sample of 46 companies for the period 1998-2000 (see below), we will investigate whether the data could provide us some information on the causality of the relationship by experimenting with different lag structures. In particular, we assume that the causal impact of perceived organizational support on profitability and the inverse causal relationship from profitability on perceived organizations support will take some time. If these causal impacts exist, we therefore expect to find evidence of a lagged influence. This allows us to test the following two hypotheses:

Hypothesis 2: Lack of perceived organizational support (measured by complaints about the working environment) has a negative causal impact on profitability

Hypothesis 3: Profitability has a negative causal impact on complaint rates

Hypotheses 2 and 3 investigate the causality of the relationship between employee complaints and firm performance. However, they do not test our presumption that reciprocity theory drives this relationship. Other explanations for this link might be valid also. Bateman and Organ (1983) content that positive employee behavior most likely occurs when a person experiences a mood state characterized by positive affect (positive mood). To the extent that a low complaint rate reflects a positive mood, the impact of complaint rates on firm performance may also be interpreted as confirming that more satisfied persons display more motivation and pro-social citizenship behavior. This thus provides an alternative explanation that neglects the reciprocal

forces that we deem to drive the relationship.

Therefore, it is interesting to investigate whether the level of financial performance in companies influences the strength of the relationship between POS and performance. Social exchange theorists have argued that the receipt of resources from another person is valued more highly if thought to be discretionary rather than dictated by circumstances largely beyond the donor's control. Such voluntary aid would be welcomed as an indication that the donor genuinely values and respects the recipient (Blau, 1964). For our study this means that; the favorableness of job conditions should contribute more to perceived support if believed to be the result of voluntary action by the organization. Employees will probably perceive that companies that are performing well, have indeed the discretion to provide employees with proper human resource management. Instead, poor performing companies might be unable to provide employees with a high quality work environment. Reciprocity theory predicts that this lack of freedom will not necessarily lead to lower POS. In this case, employees are less likely to negatively reciprocate. Indeed, Eisenberger et al. (1997) found that perceived organizational support is more strongly related to the favorableness of high-discretion job conditions than low-discretion job conditions. We thus have reason to believe that behavior of dissatisfied employees of good performing companies will have a stronger negative impact on performance, than dissatisfied employees in poor performing companies will have. If such a relationship is confirmed, this would provide further evidence for the theoretical notions developed in section 2, since it confirms that POS, and not merely the favorableness of job conditions, is a driver for firm performance. We thus expect:

Hypothesis 4: Profitability will be more strongly negatively related to complaint rates for good performing companies than for bad performing companies.

5 Sample

In order to test the four hypotheses, we used data of the Dutch construction sector. These data come from a periodically performed labor health related investigation called PAGO (“Periodiek Arbeidsgezondheidkundig Onderzoek”). This survey questions employees about aspects of their psychological health and about their work environment. The quality of each aspect could be classified as positive or negative. We interpret a negative classification as a complaint. Complaint rates were constructed by dividing the number of complaints by the total number of respondents. In this way, we construct complaint rates concerning several aspects of the working environment obtained from employees in 46 companies in the construction industry during a period of three years (1998-2000). For each company, the complaint rates were constructed on a sample of 30 or more complaints per item.²

² For a description of the PAGO questions, see Appendix 1.

Classification of complaint rates

In order to classify and select the complaints, we use the classification of the job description index (JDI) developed by Smith et al. (1969): work (job content), supervision (management and decision-making), pay (rewards), promotions (opportunities) and co-workers.³ The advantage of using the JDI index is its wide acceptance in literature on employee satisfaction. In addition, we add a sixth cluster to complement the original job descriptive index, namely health and safety. Health and safety refers to the safety and physical aspects of the job that are particularly important for the construction industry. Therefore, we feel that this category should not lack in an investigation of quality of the work environment in the construction industry. It captures the aspect of construction work that is sometimes hazardous and unsafe. Together, we feel that the six variables comply with two criteria that make it relevant for our purposes. First, for the most part they refer to non-overlapping aspects of work. Second, they capture most of the relevant aspects of work that employees are likely to care about (March & Simon, 1958). Therefore, we can be confident that complaints concerning the six categories of work are a good proxy to measure perceived organizational support.

Although previous research has corroborated the validity of the typology used by Smith et al (1969), we checked whether the distinction is also empirically justified with respect to our data for the Dutch construction sector. In particular, we tested whether the questions within each cluster indeed correlated such that they form one cluster by computing the so-called Cronbach alpha. Table 1 shows the results.⁴

| Clusters | Cronbach's Alpha |
|-----------------|------------------|
| Job content | 0.76 |
| Opportunities | 0.75 |
| Management | 0.72 |
| Health & Safety | 0.79 |
| Co-Workers | 0.67 |

Table 1 Tests on typology of clusters of complaint rates

The lower limit for acceptability with respect to internal reliability of this measure is considered to lie between 0.6-0.7 (Hair et al., 1998). The table shows that all of the clusters are well above this lower limit, except for co-workers, which has a Cronbach value of 0.67. This is still quite acceptable compared to similar studies on the JDI index that on average found the clusters to have levels of internal consistency to be around 0.6 (e.g. Hagendoorn, 1998). Therefore, we can safely conclude that our cluster complies to one criterion of construct validity, namely that there

³ Based on the classification of Smith, we selected 25 complaint rates from a total sample of 40 complaint rates. The remaining 15 complaint rates did not unambiguously fit into the classification of Smith.

⁴ Table 1 does not include rewards, because this variable contains only one survey question. For the clustering of questions into six categories, see appendix 1.

is sufficient internal consistency.

Table 2 displays each of the six categories of complaints for the 46 companies. Interestingly, rewards have relatively high complaint rates, meaning that employees in the construction industry are complaining more about their salary than about other aspects of their job. Employees also have relatively many complaints about the precautions taken by construction companies to ensure a safe and healthy environment for them. This is interesting in light of recent debates about corporate social responsibility of companies. Employees are complaining less about promotion opportunities and job security. This is surprising considering the trend in the construction sector toward more use of temporary employees due to numerous reorganizations (EIB, 2001).

| Descriptive Statistics | Minimum | Maximum | Mean | Std. Deviation |
|------------------------------|---------|---------|-------|----------------|
| Management & Decision Making | 7.9 | 27.77 | 14.51 | 4.45 |
| Opportunities | 3.79 | 16.92 | 8.38 | 3.07 |
| Rewards | 17.28 | 46.56 | 27.97 | 6.11 |
| Co-Workers | 3.90 | 31.14 | 11.57 | 4.88 |
| Health & Safety | 18.47 | 28.03 | 21.64 | 4.63 |
| Job content | 4.48 | 25.23 | 9.99 | 3.64 |

Table 2 Complaints % for each cluster

Financial data

The financial data are taken from PriceWaterhouseCoopers (2002). Table 3 displays some indicators of the financial performance and size proxy variables that we obtained from this source. From this data we construct the return on investment (ROI). We defined the ROI by the ratio between net income and total capital. This variable gives a good indication of return on investment, since it measures total earnings minus costs at the end of year, and it controls for the amount of capital that was used to obtain these earnings. Most importantly, total capital was the only size variable that was not correlated with income, which would have made our results less interpretable.

| | Minimum | Maximum | Mean | Std. Deviation |
|---------------------|---------|---------|--------|----------------|
| Gross income | -687 | 109822 | 11537 | 23330 |
| Turnover | 1585 | 5035927 | 379407 | 912328 |
| Net income | -440 | 83334 | 7280 | 16118 |
| Total capital | 7698 | 2073886 | 161327 | 390114 |
| Equity | 690 | 406155 | 36906 | 85473 |
| Number of employees | 138 | 21067 | 1739 | 3955 |

Table 3 Descriptives of financial and size variable (in millions of euro *100)

Some other test results

In order for the data to be used for regression analysis, we need to check whether it satisfies a number of criteria. First, we tested whether the independent variables (complaint rates) are linearly related to our dependent variable (financial performance). Plotter diagrams indeed confirmed such a linear relationship.

Furthermore, using the Shapiro-Wilks test, we tested for normality and heteroskedasticity of the distributions of the complaint rates and financial data. We found that 4 out of 7 variables could be non-normally distributed, whereas for none of the variables the null hypothesis, that heteroskedasticity is present, could not be rejected. In order to solve this problem, we transformed all variables into natural logarithms values. Test results showed that none of our variables are now likely (with 90% confidence) to be non-normally distributed, whereas all appear to satisfy homoskedasticity.

Finally, we conducted an analysis to detect outliers. Outliers are observations that are significantly outside the range of observations (usually 3 standard deviations away from the mean), and can pose a problem with respect to data analysis. We indeed identified some outliers by plot diagrams. However, unless we have evidence that such outliers are not valid members of the observed population, we cannot simply delete them. Since we do not have an explanation for these outliers identified in the graph we have left them in our dataset, which complies with statistical rule on this subject (Verbeek, 2000). We only decided to delete an organization from our dataset which went bankrupt during the period under analysis, since we have no data on it for the year 2000. The observations for this organization were well outside the data range, and it was thus legitimate to delete them from our dataset.

6 Estimation results

This section describes the test results on hypothesis 1-4. We first present bivariate and multivariate test results for the relationship between profitability and different types of complaint rates that test hypothesis 1. Next, we test for lagged influences to investigate the causal relationships hypothesized in hypothesis 2 and 3. Section 6 concludes with test results of two different samples of the best and worst performing construction companies.

Bivariate analysis

Table 4 presents the Pearson's correlation tests for the bivariate relation between profitability and the different clusters of complaint rates. In order to test for structural long-term relationship between profitability and POS, we averaged the complaint rate and profitability over the three-years period 1998-2000.⁵

⁵ Test results for each year separately produced, however, similar results.

Table 4 Pearson’s bivariate correlation test statistics for the relationship between profitability and different clusters of complaint rates^{a b}

| | Average complaint rate | Management & DM | Work | Health & Safety | Co-Workers | Opportunities | Rewards |
|-------------|------------------------|-----------------|--------|-----------------|------------|---------------|---------|
| Coefficient | -0.50 | -0.39 | -0.38 | -0.02 | -0.34 | -0.04 | 0.34 |
| Alpha | 0.001** | 0.01** | 0.01** | 0.46 | 0.02* | 0.40 | 0.02* |

^a All variables are averaged over 1998-2000.

^b **=1% significance, * = 5% significance, p-values in parenthesis

The second column shows the test results for the average aggregate complaint (averaged over the 25 complaint rates reported in Appendix 1). The correlation test strongly supports the existence of a negative structural relationship between profitability and perceived organizational support. The other columns provide insight into which clusters of complaints establish this negative relationship. The results indicate that only three clusters are significantly negatively related to profitability, namely management and decision-making, job content, and co-workers. For these variables, we can be 95% confident (alpha<0.05) that this correlation is significant. The two other clusters, health and safety and opportunities, are not significantly related to profitability.⁶ Interestingly, the variable rewards shows a strong positive relationship with profitability. This would indicate that complaints about rewards have a positive impact on performance. This is rather surprising since it is exactly opposite to what we would expect to find, since our theory predicts that high complaints about rewards will result in lack of (or negative) discretionary behavior, which has a negative impact on performance. However, further analysis in appendix 2 reveals that the strength of this relationship seems to come primarily from inverse causality. It is conceivable that employees’ complaints about rewards become more numerous whenever the company is performing well, due to the expectation that employees get extra rewards because the company has done well. That is, employees expect that the organization rewards them extra because of higher performance. A lack of doing so will lead to more complaints, and thus a lack of perceived support. This may particularly be the case if top managers benefit more from a rise in profitability than other employees because of bonus packages. The increasing inequality in remuneration will increase the dissatisfaction of employees. If this is a correct interpretation, we would, however, expect that a rise in complaints about rewards would subsequently induce to less extra-role behavior and declining effort of average employees. The estimation results of appendix 2 do not confirm this hypothesis. Apparently, there are counter-forces that neutralize the negative impact of complaints about rewards on profitability. For example, although the rise in inequality causes more complaints in the lower ranks of employees, it can also provide an incentive to middle management to increase the effort to make promotion in order to reach the higher management ranks where they can benefit from the more generous bonus system. This may neutralize the fall in effort of lower ranks of employees.

⁶ These findings are confirmed by bivariate Pearson’s correlation tests for the relationship between profitability and each of the individual complaint rates used for constructing the six clusters of complaint rates. See appendix 1.

Multivariate analysis

Based on the bivariate correlations of Table 4, we estimate a multivariate relationship between profitability and the three clusters of POS for which we found a significant relationship with profitability. In order to make sure that we are really testing for relationships between the independent and dependent variables, we control for other variables that might account for a significant amount of variance in our model. Type of competition, organizational structure, capital intensity, and employment law and regulations could all impact the relationship we want to investigate. For instance, collective labor agreements will have an impact on the quality of the working environment. Similarly, higher capital intensity could change the impact of employment behavior and employee productivity on firm performance. In our case, we investigate a very homogeneous group of firms, since they are all construction companies, and (mostly) operate within Dutch borders. This means that it is likely that possible disturbing factors with respect to our model are for the most part similar for all the firms in our dataset. Employment agreements are usually industry wide, and capital intensity will not differ much among companies because they all conduct the same type of business. Therefore, we do not control for these factors. However, our dataset is less homogeneous with respect to size. We include very small to very big firms in our dataset. Firm size is likely to influence the relationship under investigation. For instance, bigger companies could potentially enjoy scale benefits, which impacts performance. Moreover, it is conceivable that they have more (slack) resources to their disposal, such that they will be more likely to offer employees a higher quality working environment. To control for these possible disturbing effects we incorporate a proxy for firm size, namely the total number of employees.

Table 5 Profitability and different types of complaint rates: multivariate analysis^{a b}

| Independent variable | | | VIF | | |
|---|--------------------|---------------|------|----------------|---------------------|
| Average complaint rate | -0.62** (0.001) | | | | |
| Management and DM | | -0.41* (0.06) | 1.97 | -0.41** (0.01) | |
| Work | | -0.09 (0.75) | 4.13 | | |
| Co-workers | | -0.07 (0.93) | 3.39 | | |
| Combined (Management and DM, work + co-workers) | | | | | - 0.72** (0.001) |
| Number of employees | 0.05 (0.71) | 0.05 (0.76) | 1.08 | 0.08 (0.63) | 0.02 (0.85) |
| F-statistic | 8.85** | 2.69 | | 3.43 | 18.34** |

^a ***=1% significance, * = 5% significance, p-values in parenthesis

^b Both the dependent variable (profitability) and the independent variables are averaged over 1998-2000

The estimation results are reported in Table 5. Again we only report the estimation results for the

average complaint rate and profitability over the three-years period 1998-2000.⁷ The first regression confirms the bivariate analysis and shows a significant and strong negative relationship between the average complaint rate and profitability over the three-years period 1998-2000. Therefore, we accept hypothesis 1 that there exists a significant negative relationship between profitability and complaints about the working environment.

The second regression tests for the separate relationship between profitability and three specific clusters of complaints. The results show only a significant relationship for management and decision-making. Although the two other variables, co-workers and job content, have a negative sign as expected, the parameter is not significant. This is surprising in the sense that a bivariate correlation did result in significant results. The most plausible explanation is that there exists multicollinearity between the independent variables in our model. In order to test for this explanation, we also report the variance inflation factor (VIF). This is an indicator of the existence of multicollinearity. A VIF value higher than 5.3 represents 90% collinearity, which is considered problematic for regression analysis (Verbeek, 2000). In our case the VIF does not exceed this random borderline, which would general imply that multicollinearity is not above an unacceptable level. However, this does not mean that multicollinearity does not distort the t-values to some extent. Therefore, this model alone does not give sufficient information to conclude about the significance and sign of our independent variables.

This is confirmed by comparing the third and fourth regression result. In the third column, only Management and Decision Making is included as independent variable. The fourth column presents a multivariate analysis of the relationship between profitability and a combined complaint rate constructed by pooling together the complaint rate for management and decision-making, work and co-workers. According to the F-statistic, the combined complaint rate explains a much larger part of the variation in profitability than the complaint rate for management and decision making only.

Finally, comparison of the first and fourth regression results again confirms that not all aspects of the working environment are relevant for perceived organization support. The F-value of the regression that only includes the combined complaint rate of management and decision making, work and co-workers is much higher than the F-value of the regression that includes the total average complaint rate consisting of all aspects reported in Appendix 1. Therefore, we can make hypothesis 1 more precise by concluding that we find a negative relationship between profitability and complaints about the working environment related to management and decision-making, work and co-workers.

Causality tests

The test results of table 5 establish a structural negative relationship between profitability and complaint rates, but do not give insight into the causality between these variables. Whereas our

⁷ Again, most results are confirmed if we test for each year separately.

theory predicts that perceived organizational support has a causal influence on profitability, the causality may also be inverse, because high profitability may be a motivating force in itself.

In order to test for causality, Table 6 and Table 7 introduce different time lags for profitability and the average complaint rate.

Table 6 Causality test on impact of complaint rates on profitability^{a b}

| | | | |
|---|--------------------|------------------|--------------------|
| Independent variable | | | |
| Average complaint rate | - 0.39** (0.01) | | |
| Management and DM | | -0.69 ** (0.008) | |
| Work | | - 0.10 (0.70) | |
| Co-workers | | - 0.21 (0.43) | |
| Combined (Management and DM, work + co-workers) | | | -0.53** (0.001) |
| Total employees | 0.03 (0.84) | 0.05 (0.78) | -0.10 (0.47) |
| F-statistic | 3.43* | 2.81* | 7.50** |

^a **=1% significance, * = 5% significance, p-values in parenthesis

^b For the dependent variable (profitability) data of 2000 are used, for the independent variables we used averaged values for 1998-1999

Table 7 Causality test on impact of profitability on complaint rate^a

| Dependent variable | Average complaint rate | Management and DM | Work | Co-workers | Combined (Management and DM, work and co-workers) |
|-----------------------|------------------------|-------------------|--------------|--------------|---|
| Independent variables | | | | | |
| Profitability | -0.08 (0.73) | -0.12 (0.47) | -0.17 (0.32) | -0.12 (0.50) | -0.16 (0.334) |
| Total employees | 0.15 (0.37) | 0.15 (0.37) | 0.10 (0.54) | 0.02 (0.90) | 0.01 (0.94) |
| F-statistic | 0.46 | 0.65 | 0.67 | 0.24 | 0.48 |

^a ***=1% significance, * = 5% significance, p-values in parenthesis

^b For the dependent variable (complaint rates) data of 2000 are used, for the independent variables (profitability and total capital) we used averaged values for 1998-1999

The estimation results in the second column of Table 6 show that the average complaint rate for 1998 and 1999 indeed has a significant negative impact on profitability in 2000. This confirms hypothesis 2 that there is a causal impact of perceived organization support on profitability and that it takes some time before high employee complaints result in lower profitability. The other columns confirm these findings. Again we find that only management and decision-making has a significant impact on profitability. However, the impact is even stronger for the combined complaint rate comprising management and decision-making, work and co-workers. We

therefore accept hypothesis 2 that complaint rates have a causal impact on profitability.

If we regress profitability in 1998 and 1999 on the average complaint rate in 2000, no significant impact is found (Table 7). This suggests that the inverse relationship, namely that profitability has an influence on the number of complaints, is not corroborated by the results. This result is corroborated by the test results for the separate clusters. For each cluster, no significant inverse causal influence from profitability on complaint rates is detected. Therefore, we reject hypothesis 3 that predicts a negative causal relationship from profitability on complaint rates.

Slack resources

Our fourth hypothesis predicts that the impact of complaints on profitability will be stronger for well performing companies than for bad performing companies, because well performing companies have more access to slack resources. Slack resources are resources that a firm has to its disposal, but for which there is not a direct and clear purpose. In other words, these are resources that firms can use to their discretion. Employees might feel that some of the extra resources that are a result of the firms good performance should be reinvested in employees. Failure to do so, will strongly communicate a lack of support. Based on our theory, this would result in strong negative reciprocation by employees. Thus, we would expect that the relationship between complaints and performance would be stronger for companies that are performing relatively well.

To investigate this we cut our sample of firms in half, each half containing either the best or worse performing companies over the three years of which we have observations. We then retested the model on the sample with poor performers and on the sample with strong performers. The results are reported in Table 8 and 9⁸.

Table 8 Impact of complaint rates on profitability: weak performers^{a b}

| Independent variable | | |
|---|--------------|---------------|
| Average complaint rate | -0.11 (0.66) | |
| Combined (Management and DM, work + co-workers) | | - 0.15 (0.54) |
| Total employees | -0.07 (0.77) | -0.10 (0.68) |

^a ***=1% significance, * = 5% significance, p-values in parenthesis

^b For the dependent variable (profitability) data of 2000 are used, for the independent variables we used averaged values for 1998-1999

Table 9 Impact of complaint rates on profitability: strong performers^{a b}

| Independent variable | | |
|------------------------|------------------|--|
| Average complaint rate | -0.79*** (0.001) | |

⁸ Dividing our sample in two leaves us with 2 samples of 23 firms, which is less than the prescribed lower limit of 30 observations. Although this makes our results somewhat less robust, the reported alpha values of significance incorporate the smaller sample and thus do report the proper significance level. The F-value loses its accuracy in a small sample such that we do not report it here.

| | | |
|---|-------------|--------------------|
| Combined (Management and DM, work + co-workers) | | -0.92** (0.001) |
| Total employees | 0.11 (0.48) | 0.007 (0.94) |

^a **=1% significance, * = 5% significance, p-values in parenthesis

^b For the dependent variable (profitability) data of 2000 are used, for the independent variables we used averaged values for 1998-1999

The results strongly corroborate our theory, namely that for well performing companies the relationship between complaints and performance is much stronger. Hence, we accept hypothesis 4 that complaint rates are particularly important for companies that perform well. This provides further evidence of the relevance of perceived organizational support as a driver for reciprocal behavior by employees. As poor performing companies are unable to provide employees with a high quality work environment, reciprocity theory predicts that this lack of freedom will make employees less likely to (negatively) reciprocate.

7 Conclusions

The literature on employee behavior, HRM and performance consists of two approaches, a social stream, and an economic stream. The social approach has investigated different relationships between perceptions, attitudes and behavior at work. This research found a link between lack of perceived support and negative behavior on the job. The economic paradigm looks mainly at the direct relationship between HRM practice and performance. This revealed that certain (commitment) HRM practices have a positive impact on performance. Research that links the two fields by analyzing the relationship between POS and performance is meagre. This paper aims to fill this gap. We take concepts of sociology and psychology such as the notion of psychological contracts as a metaphor for the employment relation, and the notions of perceived organizational support to acknowledge the importance of a high quality employment relationship. The economic approach reveals the importance of incentive alignment through contracts, but it becomes clear that good HRM does not rely solely on such control mechanisms. Instead, support and the resulting commitment will yield economic benefits through discretionary behavior and social capital.

Based on this theoretical framework, we predicted that employee complaints about the work environment are a good indication of what we term “psychological contract breach”. In other words, they measure the level of perceived organizational support. In turn, employees will reciprocate a lack of perceived organizational support (for which a high level of complaints serves as proxy) mainly by withdrawing positive discretionary behavior, which will have a negative impact on firm performance. In particular, we constructed four hypotheses.

Hypothesis 1 predicts that a lack of perceived organizational support, measured by complaints concerning six aspects of work, is negatively related to firm performance. Our findings indicate that there is indeed a strong direct relationship between POS and performance. First, a bivariate correlation matrix reveals that complaints about job content, management &

decision making, and co-workers are negatively correlated to performance. However, surprisingly, rewards are positively correlated with performance. Multivariate analysis that includes a control variable for firm size confirms these findings. Especially complaints about management and decision making appears to be significantly negatively related to profitability. This might reveal that the willingness of employees to work to the benefit of the organization is related to the personality and management style of superiors. Managers that acknowledge the achievements of their employees, objectively judge their mistakes, are willing to listen to (concerns of) their employees, and informed their employees well, contribute to increased motivation and performance. Our results further add to this that this increased performance is significant not just at the individual employee level, but that it holds strongly at an organizational (financial) performance level also.

Although hypothesis 1 is confirmed, the test results do not yet prove that complaint rates have a causal impact on profitability, because the causal relationship may also be inverse. Indeed, it is quite conceivable that high performance may have a motivating impact on employees. Hypothesis 2 goes one step further and predicts that a lack of perceived organizational support has a causal impact on profitability. We test this hypothesis by assuming that causal impacts from perceived organization support on profitability as well as the inverse impact from profitability on perceived organization support are subject to time lags. Multivariate analysis that includes time lags shows a significant influence of complaint rates in 1998 and 1999 on profitability in 2000. An inverse impact of profitability in 1998 and 1999 on complaint rates in 2000 is not found. Therefore, we confirm hypothesis 2 that perceived organizational support has a causal impact on profitability and reject hypothesis 3 that profitability has a causal impact on complaint rates.

The fourth hypothesis predicts that the relationship between performance and POS would be stronger for companies that are performing relatively well, because the theory of extra-role behavior implies such an asymmetry in reciprocal behavior: If firms have low profitability, employees will understand that the company has no financial room for extra-role behavior and therefore do not reciprocate low perceived organizational support by low effort. The outcome of two models that investigate this relationship on a group of good and a group of poor performers indeed corroborates this assertion. This provides another indication that extra-role behavior based on reciprocity is important.

Implications

Our empirical findings have a number of important implications for organizations. First, organizations that support their employees by providing favorable job conditions will be able to increase their performance through positive employee behavior on the job. This positive behavior is likely to take the form of discretionary behaviors which has been termed organizational citizenship behavior. It is therefore important for companies to realize that employees will likely form a perception about the organization on the basis of these actions. Particularly important is that organizations realize that the extent to which employees perceive psychological contract

breach – that the organization does not provide what is promised – results in lower performance. This implies that organizations should be careful when promising employees certain benefits during the recruitment process. Since, failure to live up to these promises will create contract breach, which will in turn lead to lower financial performance.

Of the different aspects of perceived organizational support, *management and decision-making* links strongest with performance. Based on these results we can thus assert that organizations can benefit greatly from providing high quality management that gives employees sufficient opportunities to participate in decision-making. Since, this will not only make the job more diverse and thus interesting, it also gives employees the sense that the organization supports their development and ability to take on certain tasks independently. Apparently, in terms of human resource management, the extent to which management is supportive, and responsibilities are delegated, will be of primary importance for the performance of companies.

POS is thus likely to be largely influenced by direct management. Since, management is very visible and is likely to have the strongest (positive or negative) influence on the work context of employees. This implies that organizations should be very selective with respect to allocating people to certain management positions. It is very important that managers have the people skills, such that employees feel that they are supported. Organizations that select people for management positions should not focus solely on technical skills, but should pay even more attention to the social skills of managers. For instance, are they able to stimulate team spirit and a cooperative atmosphere, and solve conflicts? Moreover, management should be able to delegate as much responsibilities as possible so as to involve employees in the decision making process. An interesting point in this respect is the extent to which management should be based on consensus. In this respect, there is strong incongruence between Anglo-Saxon and western European countries, and especially Holland. In Holland most managers are inclined to manage on the basis of consensus, while English managers are much more likely to manage based on vision and leadership. Our findings suggest that a consensus based management style could be most effective in the Netherlands, since it gives subordinates the freedom to participate in the decision making process.

Third, in practice this concern for the employee could obviously lead to problematic situations, since the organization will experience conflicting interests. Especially in times of poor performance, organizations might be forced to cut on their human capital investments to the detriment of the employee. In this respect, our research also provides some good news for organizations that are having these kinds of problems. Since, we show that complaints about work will have less negative consequences for companies that are performing poorly. The explanation for this might be that employees in such situations are able to put the lack of support in perspective. That is, poor performing companies do not really have a choice but to cut on certain HRM expenditures, but this does not mean that they are not supportive toward the employee. In light of this, organizations should always aim to communicate the reasons that they do not provide sufficient support with respect to HRM.

Limitations and suggestions for further research

The outcomes of our research indicate a clear relationship between POS and performance. This provides an interesting starting point for future research. First, our findings suggest that management and decision making play an important role. However, the precise causality between different types of HRM and performance through perceived organizational support has not been investigated. Second, our empirical research was based on a sample of Dutch firms from one industry only, the construction sector. However, there might be a number of factors that influence the relationship under investigation that play a role in other industries, e.g. the nature of work, the type of competition, employee law and regulation, the sectoral or country culture, etc. Future cross-sectional research could reveal whether the relationship holds across different countries and industries. Third, our comparison between good and poor performing firms should be replicated with a more extensive dataset in future research.

7 Literature

Allen, D.G. & Shore, L.M. & Griffeth, R.W., 2003, The role of perceived organizational support and supportive human resource practices in the turnover process, *Journal of Management*, 29(1), 99-118

Alvesson, M., 1991, Organizational symbolism and ideology, *Journal of Management Studies*, 28, 207-222

Akerlof, G.A., 1982, Labor contracts as a partial gift exchange, *Quarterly Journal of Economics*, 543-69

Arthur, J.B., 1994, Effects of human resource systems on manufacturing performance and turnover, *Academy of Management Journal*, 37(3), 670-687.

Bateman, T.S. & Organ, D.W., 1983, Job satisfaction and the good soldier: The relationship between affect and employee "citizenship", *Academy of Management Journal*, 26(4), 587-595.

Blau, P.M., 1964, *Exchange and power in social life*, New York, Wiley.

Becker, B.E., 1976, *The economic approach to human behavior*, Chicago, University of Chicago press.

Becker, B.E. & Huselid, M., 1998, High Performance Work Systems and Firm Performance: A Synthesis of Research and Managerial Implications, *Research in Personnel and Human Resources Management*, 16, 53-101.

Bleichrodt, N. & Van der Flier, H. & Koopman, P., 2000, *Werken en laten werken*, Bohn Stafleu Van Loghum.

Borman, W.C., 1991, Job behavior, performance and effectiveness, in M.D. Dunnette & L.M. Hough (eds), *Handbook of industrial and organizational psychology*, 2, 271-326.

Cutcher-Gershenfeld, J., 1991, The impact on economic performance of a transformation in industrial relations, *Industrial and Labor Relations Review*, 44, 241-260.

- EIB (Economisch Instituut voor de Bouwnijverheid), 2001, *Personeelsvoorziening en personeelswerving door hoofdaanemers in 2001*, Amsterdam
- Eisenberger, R., Huntington, R., Hutchison, S., & Sowa, D., 1986, Perceived organizational support, *Journal of Applied Psychology*, 71, 500-507.
- Eisenberger, R. & Armeli, S. & Lynch, P.D. & Rhoades, L., 2001, Reciprocation of perceived organizational support, *Journal of Applied Psychology*, 86(1), 42-51.
- Eisenberger, R. & Armeli, S. & Lynch, P.D., 1997, Perceived organizational support, discretionary treatment, and job satisfaction, *Journal of Applied Psychology*, 82(5), 812-820.
- Eisenberger, R. & Fasolo, P. & Davis-LaMastro, V., 1990, Perceived organizational support and employee diligence, commitment, and innovation. P.D.1997, *Journal of Applied Psychology*, 75: 51-59.
- Eisenberger, R. & Camoron, J., 1996, Detrimental effects of reward: Reality or Myth?, *American Psychologist*, 51, 1153-1166
- Eisenhardt, K.M., 1985, Control: Organizational and economic approaches, *Management Science*, 31(2), 134-149.
- Gerhart, B. & Milkovich, G.T., 1992, Employee compensation: Research and practice, *Handbook of industrial and organizational psychology*, 3, 481-569.
- Hagendoorn, H., 1998, *Employees' reactions to dissatisfying situations: Multi-method research with justice-based predictors*, University of Groningen, dissertation
- Hair, J.F. & Anderson, R.E. & Tatham, R.L. & Black, W.C., 1998, *Multivariate data analyses*, Prentice Hall, New Jersey.
- Hosmer, L.T., 1996, Research notes and communications: response to 'do good ethics always make for good business?' *Strategic Management Journal*, 17, 501
- Huselid, M.A., 1995, The impact of human resource management practices on turnover, productivity, and corporate financial performance, *Academy of Management Journal*, 38, 673-703
- Huselid, M.A., S.E. Jackson en R.S. Schuler, 1997, Technical and strategic human resource management effectiveness as determinants of performance, *Academy of Management Journal*, 40, 171-188
- Katz, H.C. & Kochan, T.A. & Gobeille, K.R., 1983, Industrial relations performance, economic performance, and QWL programs: An interplant analysis, *Industrial and Labor Relations Review*, 37, 3-17.
- March, J.G. & Simon, H.A., 1958, *Organizations*, New York, Wiley.
- McDuffie, J.P., 1995, Human resource bundles and manufacturing performance: Organizational logic and flexible production systems in the world auto industry, *Industrial and Labor Relations Review*, 48, 197-221.
- Morrison, E.W. & Robbinson, S.L., 1997, When employees feel betrayed: A model of how psychological contract violations develops, *Academy of Management Review*, 22, 226-256

- Nahapiet, J. & Ghoshal, S., 1998, Social capital, intellectual capital, and the organizational advantage. *Academy of Management Review*, 23(2), 242-266.
- Ouchi, W.G., 1977, The relationship between organizational structure and organizational control, *Administrative Science Quarterly*, 20, 95-113.
- Organ, D.W., 1988, *Organizational citizenship behavior: The good soldier syndrome*, Lexington books: MA
- Ostroff, C. & Bowen, D., 2000, *Moving HR to a Higher Level: HR Practices and Organizational Effectiveness. Multilevel theory, research, and methods in organizations: Foundations, extensions and new directions*, San Francisco, Jossey-Bass Inc.
- Pfeffer, J., 1994, Competitive advantage through people, *California Management Review*, 36, 9-29
- Porter, M.E., 1985, *Competitive advantage*, New York Free Press.
- PriceWaterhouseCoopers, 2002, *Trends in de bouw*, Elsevier bedrijfsinformatie B.V., Dordrecht
- Requena, F., 2003, Social capital and quality of life in the workplace, *Social Indicators Research*, 61(3), 331-360
- Robinson, S.L. & Morrison, E.W., 1995, Psychological contracts and OCB: The effect of unfulfilled obligations on civic virtue behavior, *Journal of Organizational Behavior*, 16, 289-298.
- Rousseau, D.M., 1995, *Psychological contracts in organizations: Understanding written and unwritten agreements*, Thousands Oaks, Wiley
- Rumelt, R.P., 1991, How much does industry matter? *Strategic Management Journal*, 12(3), 167-181
- Russel, J.S. & Terborg, J.R. & Powers, M.L., 1985, Organizational performances and organizational level training and support, *Personnel Psychology*, 38, 849-863.
- Schmidt, F. L & Hunter, J.E., & McKenzie, R.C. & Muldrow, J.T., 1979, Impact of Valid Selection Procedures on Work-Force Productivity, *Journal of Applied Psychology*, 64 (6), 609-626.
- Schuster, M., 1983, The impact of union-management cooperation and productivity and employment, *Industrial and Labor Relations Review*, 36, 415-430.
- Shore, L.M. & Shore, T.H., 1995, Perceived organizational support and organizational justice, *Organizational Politics, Justice and Support*, 149-164.
- Shore, L.M. & Wayne, S.J., 1993, Commitment and employee behavior: Comparison of affective commitment and continuance commitment with perceived organizational support, *Journal of Applied Psychology*, 76, 637-643.
- Shore, L.M. & Tetrick, L.E., 1991, A construct validity study of the survey of perceived organizational support, *Journal of Applied Psychology*, 76, 673-643.
- Smith, P. C. & Kendall, L. M. & Hulin, C. L., 1969, *The measurement of satisfaction in work and retirement*, Chicago, Rand McNally.

Starbuck W.H., 1992, Learning by knowledge-intensive firms, *Journal of Management Studies*, 29(6), 713-40.

Terpstra, D.E. & Rozell, E.J., 1993, The relationship of staffing practices to organizational level measures of performance, *Personnel Psychology*, 46, 27-48.

The Economist, 1996, 34, 65-69

Thompson, J.D., 1967, *Organizations in action*, New York, McGraw-Hill.

Turnley, W.H. & Bolino, M.C. & Lester, S.W. & Bloodgood, J.M., 2003, The impact of psychological contract fulfillment on the performance of in-role and organizational citizenship behaviors, *Journal of Management*, 29(2), 187-206

Verbeek, M., 2000, *A guide to modern econometrics*, Wiley & Sons, UK.

Weitzman, M.L. & Kruse, D.L., 1990, *Profit sharing and productivity*, Washington, DC: Brookings Institution

Whitener, E.M., 2001, Do “high commitment” human resource practices affect employee commitment? A cross level analysis using hierarchical linear modeling, *Journal of Management*, 27, 515-535.

Wright, P.M. & McMahan, G.C. & McWilliams, A., 1994, Human resources as a source of sustained competitive advantage: A resource-based perspective, *International Journal of Human Resource Management*, 5, 301-26

Appendix 1 Classification of complaints and Pearson's test statistics of bivariate correlation with profitability^{a b c}

| Question | Complaint if answer is: | Pearson's test statistic | P value |
|---|-------------------------|--------------------------|---------|
| 1 job content | | | |
| Do you find your work interesting? | No | -0.25 | 0.12 |
| Do you enjoy your work? | No | -0.68** | 0.001 |
| Is your work well organized? | no | -0.77** | 0.001 |
| 2 management and decision making | | | |
| Are you supported by good daily management | No | 0.04 | 0.83 |
| Does your supervisor have a proper insight into your work? | No | 0.27 | 0.10 |
| Does the direct manager take account of your opinion? | No | -0.67** | 0.001 |
| Do you have sufficient opportunity to preconcert about your work? | No | -0.70** | 0.001 |
| 3 co-workers | | | |
| Is there a good co-working atmosphere? | No | -0.32* | 0.05 |
| Are you sufficiently appreciated? | No | -0.58** | 0.001 |
| 4 future opportunities | | | |
| Does your job offer you sufficient (job) security? | No | 0.10 | 0.53 |
| Do you foresee unfavorable changes in the near future? | Yes | 0.23 | 0.16 |
| Are your prospects with this employer good? | No | -0.18 | 0.26 |
| Do working hours have an unfavorable impact on private life? | Yes | -0.04 | 0.79 |
| 5 rewards | | | |
| Is your reward in accordance with your work? | No | 0.29* | 0.07 |
| 6 health and safety⁹ | | | |
| | | | |
| | | | |

^a **=1% significance, * = 5% significance, p-values in parenthesis

^b The questions are translated from Dutch into English.

^c The complaint rates and profitability are averaged over 1998-2000.

⁹ This category comprises 11 questions with respect to all kinds of health and safety aspects, like 'Do you experience high inconvenience from prolonged sitting?' and 'Is your work physically burdening?'.

Appendix 2 Profitability and complaint rate of rewards: causality tests

| Dependent variable | Profitability 2000 | Rewards 2000 |
|----------------------|--------------------|---------------|
| Independent variable | | |
| Rewards 98/99 | 0.18* (0.369) | |
| Profitability 98/ 99 | | 0.654 (0.135) |
| Number of employees | 0.24 (0.56) | 0.24 (0.56) |
| F-statistic | 0.39 | 4.78** |

^a **=1% significance, * = 5% significance, p-values in parenthesis