

The impact of pay knowledge on organisational performance: Investigating Finnish profit-sharing schemes

Christina Sweins



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organisational performance:
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Christina Sweins

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The impact of pay knowledge on organisational performance: Investigating Finnish profit-sharing schemes

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Many studies have been carried out on the impact of pay systems on both employee attitudes and organisational performance. However, it is still unclear how the outcomes are developed. In this thesis my aim has been to study the impact of pay knowledge on employee attitudes and organisational performance in the context of Finnish personnel funds, which are deferred profit-sharing schemes. The findings in this thesis are based on four separate articles.

By pay knowledge I mean employee knowledge of both joint and firm specific principles of personnel funds. The data used in the articles were collected using a questionnaire in 31 organisations and interviews in 36 organisations that have personnel funds. Additionally, financial data was gathered for personnel fund companies and comparison companies.

The results reveal that the impact of pay knowledge is directly connected to performance and not mediated through pay satisfaction as earlier research argues. This finding suggests that pay knowledge may have a stronger independent impact on the effectiveness of the pay system than previously believed. I argue further that actual knowledge is a more reliable measure than perceived knowledge in estimating the relationship between pay knowledge and pay effectiveness, and thus researchers should prefer measures of actual knowledge. To enhance knowledge about the personnel fund, it is not enough to just provide feedback on financial figures. Communication about fund related matters is important in order to increase pay knowledge and the employees' 'line of sight'.

The results suggest, moreover, that making subjective performance assessments based on uninformed respondents may be a more serious source of bias than single respondent bias. This would mean that many surveys on the financial impacts of the pay system could be done more economically since there would be less need to gather a large number of respondents from individual firms.

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Tekijä

Christina Sweins

Väitöskirjan nimi

Palkkatietämyksen vaikutus yrityksen menestykseen: Tutkimus suomalaisissa henkilöstörahastoissa

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Palkitsemisjärjestelmien vaikutuksista henkilöstön asenteisiin sekä palkitsemisjärjestelmien vaikuttavuudesta ja tuottavuudesta löytyy useita tutkimuksia. Ei kuitenkaan ole aivan selvää kuinka nämä vaikutukset syntyvät. Väitöskirjan tavoitteena on ollut tutkia palkkatietämyksen vaikutuksia henkilöstön asenteisiin ja organisaatioiden vaikuttavuuteen sekä tuottavuuteen. Tutkimus toteutettiin organisaatioissa, joissa oli henkilöstörahasto käytössä. Henkilöstöllä on mahdollisuus perustaa henkilöstörahasto mikäli organisaatiossa on käytössä voitto- tai tulospalkkiojärjestelmä.

Palkkatietämyksellä tarkoitetaan tässä yhteydessä henkilöstön tietämystä henkilöstörahastojen yleisistä ominaisuuksista sekä tietämystä oman henkilöstörahaston erityispiirteistä. Tutkimusaineisto kerättiin 31 organisaatiosta, jotka toimivat eri sektoreilla Suomessa. Tutkimustulokset perustuvat neljään yksittäiseen artikkeliin. Pääosin artikkeleissa on käytetty kyselyitä, lisäksi on käytetty haastatteluita ja taloudellisia tunnuslukuja.

Tutkimuksessa havaittiin, että palkkatietämys on suoraan yhteydessä koettuihin vaikutuksiin eikä se välity palkkatyytyväisyyden kautta kuten aiempi tutkimus on todennut. Palkkatietämyksellä on siten suurempi itsenäinen vaikutus palkitsemisjärjestelmän vaikuttavuuteen kuin mitä on luultu. Tutkimuksessa verrattiin myös koettua tietämystä todelliseen tietämykseen. Tulosten perusteella voidaan sanoa, että on luotettavampaa käyttää mittarina todellista tietämystä kuin koettua tietämystä

Tutkimuksessa verrattiin lisäksi organisaation taloudellisia tunnuslukuja henkilöstön ja henkilöstörahastojen puheenjohtajien kokemuksiin henkilöstörahaston vaikutuksista. Puheenjohtajien kokemukset henkilöstörahastojen vaikuttavuudesta olivat myönteisesti yhteydessä taloudellisiin tunnuslukuihin, kun taas henkilöstön kokemukset vaikuttavuudesta olivat negatiivisesti yhteydessä taloudellisiin tunnuslukuihin. Tämä tarkoittaa sitä, että yksittäiseltä henkilöstörahastoja tuntevalta henkilöltä saadaan palkitsemisjärjestelmän vaikutuksista tarkempaa tietoa kuin isommalta joukolta henkilöstöä,

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2. Sweins, C., & Kalmi, P. (2008). Pay Knowledge, Pay Satisfaction and Employee Commitment: Evidence from Finnish Profit-sharing Schemes. *Human Resource Management Journal*, 18(4), 366-385.
3. Sweins, C., & Jussila, I. (2010). Employee knowledge and the effects of a deferred profit-sharing system: A longitudinal case study of personnel funds in Finland. *Thunderbird International Business Review*, 52(3), 232-247.
4. Kalmi, P., & Sweins, C. (2010). The performance effects of financial participation: subjective and objective measures compared. *Advances in the Economic Analysis of Participatory and Labor-Managed Firms*. 11, 73-92.

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Espoo, March 26th 2011

Christina Sweins

*If you know exactly what you're going to do,
what's the good in doing it?*

Pablo Picasso

1. Introduction

1.1. Background and motivation

A need for competitive advantage is increasing the need for changes in organisations (Guest, Michie, Conway & Sheehan, 2003). That is one reason why human resource management (HRM) research has been a rapidly expanding field of study. The HRM performance relationship have been approached from various perspectives, with emphasis on the impact of combinations of human resource practices on a range of performance outcomes at the individual and organisational level of analysis. (Paauwe, 2009) One practice for managing human resources is compensation systems, with which organisations try to motivate and commit employees to the organisation, and try to encourage them to participate and be loyal. Pay systems like competence-based pay, and bonuses, as well profit-sharing systems as team-based pay are only a few methods that have been created for these purposes. Compensation is an important issue for the organisation as it has an impact on everyone to some degree, and it can be a very valuable and powerful tool in managing human capital (Lawler, 1995). An effective performance management system should, according to Smither (1998), be a key building block of every organisation's human capital management system. In addition, Combs, Lui, Hall and Ketchen (2006) argue that the impact of high performance work practices on organisational performance, are not only statistically significant, but also managerially relevant. Declining productivity in many industries has spurred management to build new creative compensation systems in an effort to improve productivity and quality while keeping labour costs under control (Welbourne & Gomez-Mejia, 1988). As Pfeffer (1994) claims the traditional sources of success, that is product and process technology, markets or financial resources, and economies of scale can provide competitive leverage, but to a lesser degree than before.

Currently it is more vital to manage the organisational culture and capabilities deriving from how people are managed. Human resource management (HRM) practices can encourage employees to work harder and even smarter. For instance Huselid (1995) argues that it is possible to enhance employee motivation by using profit- and gain-sharing plans.

Profit-sharing (PS) has been seen as part of companies' HRM systems and practices (Coyle-Shapiro, Morrow, Richardson & Dunn, 2002; Kaarsemaker & Poutsma, 2006), and therefore an important tool for managing employees. The term 'profit-sharing' (referred to as PS in the following text) generally refers to employee incentive plans (decided by company management) that are tied to a company's profitability (i.e. PS is usually based on formulas that measure the company's overall financial performance). The purpose of PS plans is not only to benefit the firms that use them as part of their HRM, but also to create benefits for the employees (e.g. Perotin & Robinson, 2003).

As Poole and Jenkins (1990) point out, PS is a multifaceted phenomenon that simultaneously aims to improve the economic position of the company, improve the relationship between management and employees and thus enhance the workplace climate, and improve the motivation of the workforce. Because impacts are not automatic the aim in this dissertation is to provide new insights into what conditions PS systems are likely to work best. There is also a lack of midrange theories that would enhance the understanding of the mechanisms through which pay systems could be improved (Heneman, 2000). Heneman (2000), among others argue that more research is needed on this topic. What are the intervening variables and constructs that help to explain the link between HRM practices and performance of the firm? This is why the impact of pay knowledge on performance outcomes was selected for this thesis. Organisational performance in this study means both attitudinal outcomes, that is, pay satisfaction and employee commitment, and organisational outcomes, that is, impacts on organisational productivity and profitability.

This thesis studies a country specific PS plan used in Finland called personnel funds. I will explain in more detail how personnel funds function in Chapter 3.1.

1.2. Aims and research questions

The main objective of this thesis is to identify and understand how pay knowledge affects company outcomes in companies using personnel funds that can be broadly defined as PS plans. Even though there have been many studies, the body of literature is not unanimous about the effects of PS systems (Armstrong & Stevens, 2005; Cable & Wilson, 1989; Heneman & Judge, 2000; Jones & Kato, 1995; Kato & Morishima, 2002; Poole & Jenkins, 1990), and the empirical findings concerning the effects of PS systems have been mixed (e.g., Kruse & Blasi, 1997). What characterises recent PS discussion is the acknowledgement that the positive outcomes do not emerge automatically, and much has still to be learned about the reasons and conditions under which PS alters, for instance, employee attitudes (Bayo-Moriones & Larraza-Kintana, 2009).

I argue that knowledge of the pay system is essential to increase the effects companies can achieve by using a PS scheme. Consequently this thesis aims to form empirical evidence for my argument. The effects of pay knowledge on company outcomes have been understudied. There is to the best of my knowledge only one study made in the US (reported in Heneman, Mulvey, LeBlanc, 2002; Mulvey, LeBlanc, Heneman & McInerney, 2002) which has studied perceived pay knowledge. The aim is to also study knowledge and its impact on company outcomes, which has not been studied before.

The research context of the thesis is Finnish personnel fund (PF) schemes used in several Finnish companies. In order to achieve the above mentioned objective, the research is broken down into sublevel objectives. The first is to investigate the impact of pay knowledge on pay satisfaction and perceived outcomes (i.e. economic performance and perceived workplace climate and cooperation). The second is to examine the antecedents of pay knowledge, and how pay knowledge is related to PS satisfaction and organisational commitment. The third is to look at a case company in a longitudinal context, and ascertain if increased pay knowledge leads to enhanced attitudes and effects. The fourth is to look at the performance impact of PF schemes, and to explore if the subjective and objective performance measures are comparable, and to compare if there are differences between two respondent groups regarding subjective and objective performance measures.

This thesis consists of four individual research papers, and a preface. The preface, especially Chapter 4 addresses the main objectives of this thesis. Each article answers one of the following research questions:

RQ 1. What is the relationship between pay knowledge, pay satisfaction and pay effectiveness? (Article 1)

RQ 2. What are the antecedents and consequences of pay knowledge? (Article 2)

RQ 3. Does increased pay knowledge lead to enhanced attitudes and effects? (Article 3)

RQ 4. Are there differences between respondent groups regarding the relationship between subjective and objective performance impact measures? (Article 4)

As the thesis is based on four limited studies and published research papers, the analysis in this thesis is limited to the topics and issues reported in these research papers.

The four original articles are presented in Appendices I-IV.

2. Context and theoretical background

2.1. The purpose of profit-sharing plans

During the last couple of decades, management scholars and practitioners have been introduced to organisational arrangements characterised as ‘employee involvement’, ‘participative management’, ‘democratic management’, and ‘total quality management’ according to Lawler, Mohrman, and Ledford (1995). The success of these arrangements is premised on the assumption that making management systems more participative and when making the employees owners in their organisation that can have favourable effects on employee attitudes and views about the company, as well as enhance firm performance (cf., Pendleton, 2009; Pierce & Rodgers, 2004).

One way to create employee participation is to involve them in the financial success of the business: to engage them in a profit-sharing (PS) system. The literature on PS acknowledges different PS plans. Jackson, Mauldin, Wilcox, and Kruse (2004), among others, note that those plans can be cash-based or deferred. A cash-based PS plan (CPS) is one where profit is paid to the employees in cash, whereas the deferred PS plan (DPS) is one where profit is released only after a certain time: usually several years (see for example Fakhfakh & Perotin, 2000; Lawler, 1989).

As mentioned earlier PS is part of companies' HRM systems and practices (Coyle-Shapiro et al., 2002; Kaarsemaker & Poutsma, 2006). The term PS generally refers to employee incentive plans (decided by company management) that are tied to a company's profitability (i.e., PS is usually based on formulas that measure the company's overall financial performance). In other words, PS plans are a way of rewarding employee contributions when targets are reached (Jensen & Meckling, 1976; LeBlanc, 1994). However, the purpose of the plans is not only to benefit the firms that use them (i.e., to improve the firms' economic position), but also to create benefits for the employees (e.g., Perotin & Robinson, 2003). These benefits can be both economic and psychological. As Poole and Jenkins (1990) point out, PS is a multifaceted phenomenon that also aims at creating a better workplace climate (e.g., by improving the relationship between management and employees) and enforcing employee motivation (e.g., Klein, 1988; Klein & Hall, 1989).

It has been observed that much of the research evidence on PS systems is based on the American experience (D'Art & Turner, 2004). This is not surprising given that PS is popular in the United States. However, according to Kalmi, Pendleton, and Poutsma (2005), it has also increased in popularity in Europe since the early 1990s¹. In fact, financial participation schemes (including PS and employee share ownership) are quite common in Europe, although there still are several countries without such schemes and some are still planning to adopt them². Therefore, focusing more efforts on investigating a European PS scheme and its effects is justified. The next section will explain how the Finnish PS system works.

¹ This is at least in part due to the promotion of financial participation schemes in the European Union at the Lisbon summit in 2000.

² See e.g. Lowitzsch and Woodward (Eds) 2009, and Pendleton, Poutsma, van Ommeren, & Brewster, 2001.

2.2. The personnel fund system a Finnish profit-sharing system

The Finnish PFs were formed in the late 1980s and the PF law was enacted at the beginning of 1990. The whole idea of PFs was inspired by US employee stock ownership plans (ESOPs) and Swedish wage-earner funds. There are important differences between these schemes. Neither ESOPs nor wage-earner funds (WEFs) are PS schemes; in the former, the trust acquires the shares using borrowed capital, whereas the latter were sponsored by the Swedish government by the taxation of profits³. A PF typically distributes its shareholdings quite widely and invests also in other securities; employee share ownership plans invest only in their own firm. The main difference between PFs and wage-earner funds is that the former are completely voluntary and operate at the firm level, whereas the latter operated at the national level for the benefit of the entire workforce. The targets and motivations behind the funds have been to share the success of an enterprise, increase co-operation and employee commitment and motivation.

Personnel funds are deferred PS plans, allowing investment into the equity of the company and thus involve an element of employee share ownership.⁴ They are company level agreements even though there is a law giving the framework for the action, that is, they are regulated by the 1989 Personnel Funds Act⁵. The capital paid to the fund is mainly (at least up to 50 %) accumulated from company profitability indicators from the income statement. It is possible to also use other measures of efficiency, for instance, quality or physical productivity, but at the time of this survey companies did not, however, use this opportunity. The employer retains the right to choose the criteria of profit-related payments, but it must be fixed before the realisation of income statements, typically a year in advance. Payments are made once a year.

Personnel funds are established by a collective decision of the employees. It is required that 2/3 of all personnel groups support the establishment of the fund. This rule, in particular, is why I argue that PFs are more participative than other bonus schemes. The law on PFs requires that all employees are included in the plan; only senior management may be excluded. A company must have at least 30 employees in order to set up a PF of this kind, while, in the case of corporate groups, there can also be joint funds for all the member

³ See Blasi and Kruse (1991) for a description on ESOPs and Whyman (2004) for a recent account on WEFs.

⁴ The discussion draws from Sweins (2004) and Vartiainen and Sweins (2002).

⁵ The latest amendment was enacted 1.1.2011.

companies. A PF registered with the Ministry of Employment and the Economy has a legal personality in its own right. However, it may engage only in those activities referred to in the PFs Act. The funds invest their capital either in shares of the own company or other companies, in investment funds, bonds or in bank accounts. Through these investments, the financial gains of the employees extend beyond just profit-shares⁶.

The capital in the PF is divided into individual accounts and sometimes a collective part, which is used either for administrative costs or other costs of the fund. The shares are distributed to employees typically either in relation to compensation (base pay or total compensation) or in relation to hours worked. Equal shares are also used to some extent. The individual shares of the members are vested for the first five years of membership⁷. After that, a member can withdraw at most 15 % of the value of his or her accumulated fund share. When the employee retires, he or she is able to withdraw the value of the fund share, either immediately or in parts, within four years. According to the law, the fund, at the very least, must inform each employee about his or her share at least once a year by letter. In practice this was the only information that the employees had about the fund during the year in the majority of PF companies. From the employees' standpoint the fund is a deferred-payment scheme, which tends to foster their commitment to the company from which profit-related payments originate.

Altogether 87 funds were established between 1990 - 2009, of which 30 have been closed down mainly due to mergers and divestments. The majority of the funds were established in the beginning of the 1990s. After the recession in the middle of the 1990s only a few funds were established each year. In 2000, when the empirical material for this study was collected, there were 36 funds with 80,500 members. However, in more recent years the popularity of the funds has increased. For instance in 2005 there were 8 new funds registered, which is more than in any other year since 1991. In November 2009 there are 57 PFs with more than 136.000 members covering more than 5 % of the whole workforce. There are several tax advantages for PFs. For the employees, 20 % of the pay-outs from the fund are tax-free. The fund pays no taxes on its earnings. Employers do not have to pay pension nor social security contributions for the profit-shares paid to the fund.

⁶ When the fund invests the assets in the company the fund can be defined as an ESOP, and when the assets are invested outside the company it is a PS scheme. In practice many of the companies invest part of the assets in the company and the rest in other assets.

⁷ Since 1.1.2011 the shares are not vested any longer.

Share ownership plans can, according to Pendleton (2009) take a number of different forms or combinations. Governments might encourage these plans by allowing some or all of these awards to be exempted from income tax (Corby, Palmer & Lindop, 2009). The Finnish PFs are closely related to the French “*Participation*” – model of deferred PS, and the UK Approved PS Schemes, which is an employee share scheme financed from company profits.⁸ However in the French scheme the PS criteria is fixed by legislation and the scheme is mandatory for companies with over 50 employees, and in these respects it clearly differs from the Finnish scheme. Moreover, in the UK scheme, the employee trust invests in the shares of the sponsoring company only and after the investing period the employee holdings are distributed in shares, unlike the Finnish case where the shares are distributed in cash. So the Finnish PFs represent a fairly original model of financial participation. Along with broad-based stock options (Jones, Kalmi & Mäkinen, 2006), PFs represent the major form of financial participation in Finland.⁹

The aim, and one of the reasons why companies adopt PS schemes, is to enhance workplace co-operation and productivity (i.e. Kruse, 1996). That was also the aim in Finland. The reasons behind the establishment of the PFs lie in discussions about financial democracy and employee involvement (Vartainen & Sweins, 2002). It is believed that giving the employees participation in decision-making and financial participation the employees become more motivated, more satisfied and more committed. In the next section these issues are discussed in more detail.

2.3. Theories explaining pay system outcomes

It is important to understand the factors that motivate people and how reward processes and practices that enhance motivation, commitment, job engagement and positive discretionary behaviour can be developed (Armstrong & Stephens, 2005). If the employees are not motivated it will limit the effectiveness of even highly skilled employees.

⁸ See Pendleton and Poutsma (2004) and Poutsma (2001) for a more detailed discussion on these schemes.

⁹ By financial participation I refer to the forms of compensation where part of the employees' total compensation depends on measures of profitability and performance, such as PS, employee share ownership and stock options. See Poutsma (2001) for further discussion.

Motivation theories explain why people behave in a certain way at work in terms of efforts, discretionary behaviour and the directions they take (Armstrong & Stephens, 2005). What is the role of rewards and incentives in motivation? If people think the rewards are worth having and attainable, the reward can act as a motivator. Incentives are designed to encourage people to reach objectives. Incentives are intended to provide direct motivation, that is, if you do this you will get an incentive. There are a number of motivation theories which describe in more detail the process of motivation. For instance, there are five main theoretical frameworks that address the relationship between money and performance (Jenkins, Gupta, Mitra & Shaw, 1998). These are expectancy theory, reinforcement theory, goal setting theory, cognitive evaluation theory and equity theory. I have chosen to use expectancy theory in my thesis, because it is the core process theory according to Armstrong and Stephens (2005). I will not discuss the different motivation theories as such. My aim is to describe the importance of knowledge in the light of the expectancy theory in the next section.

2.3.1. The importance of knowledge in light of the expectancy theory

“Expectancy theory has been widely used over the past three decades in attempting to understand and predict the motivational and behavioural consequences of pay” (Gerhart & Rynes, 2003, 123) The argument that knowledge of pay systems has an impact on organisational outcomes can be understood in terms of the expectancy theory (Vroom, 1964). The expectancy theory suggests that tying financial incentives to performance increases extrinsic motivation to expend effort and consequently performance (Vroom, 1964). This theory argues that pay systems motivate employees to improve their performance only when they understand the relationship between their effort and realised performance. Employees should also understand the relationship between the performance levels they achieve and the compensation they receive. They should also place a high value on compensation. The perception between the performance levels and compensation requires knowledge of the specific contents of the PS system. Knowledge and information sharing about how and why pay systems operate and how they are connected to the business results and employee performance are necessary for motivational effects to occur (Mulvey et al., 2002). Without this knowledge, the operation of the system is bound to appear fairly unpredictable to employees and therefore not motivating.

2.3.2. Line of sight

Boswell (2006, p. 1489) defined 'line of sight' as "...an employee's understanding of an organisation's objectives and how to contribute to those objectives." 'Line of sight' is often used in the literature to describe how individuals see the link between two concepts as in the compensations literature, that is, Lawler et al., (1995) discusses the link between performance and rewards. The work of Boswell (2006), among others, suggests that it is important for employees to understand the company objectives and how to contribute to them. Boswell and Boudreau (2001) argue that communication, incentives, involvement, leadership styles, open-book management and cross-training help build this understanding.

The expectancy theory (Vroom, 1964) has dealt with the 'line-of-sight' problems. According to the theory, first, the employees must understand the relationships between their efforts and performance levels in order to develop expectations and, consequently, for the pay system to be effective. Second, from the instrumentality perspective, the employees also have to understand the relationship between the performance levels they achieve and the compensations they receive. Finally, concerning valence, the employees must consider compensation as a positive value. Mulvey et al., (2002) argue that expectancy, instrumentality, and valence are greatly improved and clarified when knowledge and information are shared openly and effectively. Their findings indicate that employees consider financial rewards more valuable in organisations where they understand the pay process. In these organisations employees are also more satisfied and committed. The basic idea of how to avoid the 'line-of-sight' problem is very simple: the employees must know how the pay system works (c.f. Lawler, 1981).

"Line of sight is conceptually distinct by focusing on strategic objectives (rather than value systems), yet line of sight to an organisation's strategic objective maybe likely to promote a feeling of "fit" with the organisation as employees have greater sense of awareness of the organisation's direction and goals and those actions of greatest importance" (Boswell, 2006, p.1492)

According to Boswell (2006), it is important to align the employees so that there will be a 'fit' between HRM practices and the organisational objectives. If the employees have an accurate understanding of these objectives and they know how to contribute, it is more likely that the employees' behaviour will align with the organisations' needs and interests. She further argues that 'line

of sight' is related to the contingency theory. Most importantly, Boswell and Boudreau (2001) argue in their 'line of sight' model that 'line of sight' leads to improved employee attitudes, such as job satisfaction, commitment and improved organisational outcomes.

The next section looks at the impacts of PS systems on performance.

2.4. Profit-sharing systems and their impact on performance

By impact on performance I mean both the impact on employee attitudes and the impact on organisational performance. In the following sections I will first look at what has been discovered about the role of pay knowledge, communication and information sharing. Next I will discuss the impact PS has on employee behaviour, that is, on pay satisfaction and organisational commitment. Then I will have a look at psychological ownership, which is a psychological phenomenon often related to financial participation schemes. Finally, I will examine the impact of pay systems on organisational performance and briefly describe two different ways of measuring organisational performance.

2.4.1. The role of pay Knowledge

One of the key elements which have been identified as affecting the success of the reward system is personnel knowledge of the pay system. Low awareness and poor understanding about compensation can according to Mulvey et al., (2002) cause pay dissatisfaction, which in turn may lead to low commitment, or even worse turnover. Pay can have significant effects on employee behaviour. If the employee has knowledge and insight of the pay system it will effect his or her motivation; performance, satisfaction, and the pay will thus, have more meaning for the employee (Thierry, 1998). Mulvey et al., (2002) and Heneman et al., (2002) have recently suggested that pay knowledge may be an important determinant of pay satisfaction and organisational efficiency. In their model, pay knowledge improves pay satisfaction, which in turn improves organisational performance. In their model, pay satisfaction thus mediates the effects of pay knowledge into better organisational performance. Pay knowledge may actually according to Heneman et al., (2002) be a more important determinant of pay satisfaction than the amount of pay. Improved pay knowledge is found to be related to higher levels of organisational

effectiveness than just additional pay (Mulvey et al., 2002). They argue further that a well-functioning pay system can make it easier for the individuals to think and to do the right things by making more clear and supportive goals and priorities for both the organisation and the individual, and at the same time maintain external competitiveness and internal equity. Knowledge of pay is also important so that the employees have a clearer vision of the organisational goals. Similar results have been found by other researchers (i.e. Martin & Lee, 1992), who find that knowledge of the pay structure when hired was among the most important predictors of perceived pay fairness and pay satisfaction. Dulebohn and Martocchio (1998) indicate that understanding the pay plan is, particularly, important for the perceptions of procedural and distributive justice when using work group incentive pay plans. Hence, there is a need to develop more theory to specify the most important interacting variables, so it is possible to evaluate under what circumstances variable pay plans are likely to be effective according to Miceli and Heneman (2000).

There is a rich literature on the determinants of the effectiveness of financial participation plans (e.g. Bakan et al., 2004; Klein 1987; Klein and Hall 1988; Long 2000), but few researchers have considered the impact of the knowledge of plan characteristics. Even though the influential frameworks of Long (1978) and Pierce et al., (1991) considered a rich set of potential variables that are related to the effectiveness of employee share ownership plans, including measures of employee involvement and information sharing on company performance, knowledge about plan characteristics was not addressed. Klein (1987) and Klein and Hall (1988) stress that that employees are most satisfied when the company is making large contributions to the ESOP. They also included a measure of how management communicates about the employee stock ownership plan to the employees, and find that extensive communications enhance employee satisfaction with the plan. Long (2000) considers communication on PS plans as one of his independent variables when examining the determinants of well-functioning PS schemes. He finds that communication on PS improves the outcomes. Hale and Bailey (1998) find that shareholder returns were higher in companies where employees were well-acquainted with their reward systems. Kauhanen and Piekkola (2006) find that the motivational effects of performance-related-pay are higher the better employees know the measures used in rewarding. A group incentive plan based on performance measures that are in the employee's sight and control is according to LeBlanc (1994) fair and motivating.

Communication and information sharing

Information sharing with employees regarding the ESOP may also be an important source of leverage for enhancing performance (Pierce et al., 1991) the extent of communication regarding the ESOP is one important ownership attribute. In four studies out of five reviewed by Brown and Armstrong (1999), communication is in some way related to the success of the team-based reward plan. The nature of the communication may be important; formal and informal communication may vary in form and fairness perceptions may be affected if there is no proper information provided (Miceli & Lane, 1991). If the company shares no information about the likelihood of increases (or chance to make a profit) then the employees will be unable to accurately assess the likelihood that increases will be received (Miceli & Lane, 1991). The communication system also helps to develop trust in management, that is, respondents that know more about the pay system are more engaged in their work and have greater trust which is needed to make the pay system work (Brown & Armstrong, 1999; Heneman et al., 2002; Milgrom & Roberts, 1995). Bollinger and Smith (2001) make a clear distinction between information and knowledge. Information is according to them processed data and it is available to everyone, for instance, through computers. They define knowledge as “the understanding, awareness, or familiarity acquired through study, investigation, observation or experiences over the course of time” (p. 9).

Earlier research has stressed the role of communication and information on performance-based pay. For instance Lawler (1981) argues that employees should have information of how the pay system works in order to understand the pay system. The effectiveness of PS systems may be questioned according to Lawler et al., (1995) for two reasons. First, they claim that the ‘line of sight’ for PS is often quite poor, individual employees may not know how to affect the distant measures of profit. Second, employee’s lack of information and knowledge about the business which exists in many organisations limits the “line of sight” even more. If there is no information and knowledge, variable rewards often emerge as random and unpredictable (Lawler et al., 1995). Brown and Armstrong (1999) argue that information for employees even if it is face-to-face information is not enough to involve or engage them in the process. The employer does not get trust or commitment if the employees do not see the bigger picture that is, understand the business. The next section deals with attitudinal impacts.

2.4.2. Attitudinal impacts

Pay Satisfaction

Heneman, Porter, Greenberger and Strasser (1997) argue that pay satisfaction is one important measure of organisational effectiveness. Organisations with satisfied employees tend to be more effective than organisations with less satisfied employees (Ostroff, 1992). Satisfaction with rewards can influence overall job satisfaction, as well as absenteeism, recruitment and turnover (Lawler, 1981). In addition, it is argued that employees are more satisfied when they see strong linkages between pay and performance, even if they receive no rewards (Miceli & Lane, 1991). One of the issues affecting employee pay satisfaction is the feeling of justice. In a review of several studies (Miceli & Lane, 1991) it is suggested that distributive justice has a strong relationship with perceptions of pay satisfaction. Employees who believe that their pay plan effectively rewards their work group's performance had higher justice perceptions than those who did not (Dulebohn & Martocchio, 1998).

Currall, Towler, Judge and Kohn (2005) indicate that an identification of variables that mediate the effects of pay satisfaction on organisational outcomes is a fruitful area of future research. Is there a relationship between employee satisfaction and financial performance? There are mixed answers to this question (e.g. Bernhardt, Donthu & Kennett, 2000). For instance Wiley (1991), found a non-existent relationship between overall employee satisfaction and financial performance. Currall et al., (2005) and Ostroff (1992) consider that one important issue for future research is to identify variables that mediate the effects of pay satisfaction and organisational outcomes. Profits are a result of several factors including satisfaction (Bernhardt et al., 2000). There is evidence that pay dissatisfaction is related to reduced levels of performance and it may have an undesirable impact on employee outcomes. (Currall et al., 2005; Heneman & Judge, 2000). Satisfaction with the PS plan has also been found to have a positive effect on organisational commitment (Buchko, 1993; Coyle-Shapiro et al., 2002; Florkowski & Schuster, 1992; Miceli & Mulvey, 2000).

Commitment

Employee commitment can be influenced through the adoption of HRM practices such as PS (Coyle-Shapiro et al., 2002). There is empirical evidence that employee ownership schemes and PS schemes enhance organisational

commitment (Buchko, 1993; Florkowski & Schuster, 1992; Klein, 1987; Klein & Hall, 1988).

Earlier research on organisational commitment has mainly used one commitment construct, affective or emotional commitment (Allen & Meyer, 1990; Culpepper, Gamble & Blubaugh, 2004). According to Allen and Meyer (1990), strongly committed employees identify themselves with the organisation, are involved in the organisation and enjoy their membership in the organisation. The hypothesis that financial participation leads to higher organisational commitment has been at the centre of financial participation research since at least the research of Long (1978). The findings of Klein (1987) and Klein and Hall (1988) emphasise the mediating role of satisfaction with the employee ownership plan in increasing commitment to the firm and the motivation to work there. It has also been suggested that organisational commitment increases performance (Coyle-Shapiro et al., 2002; Poole & Jenkins, 1990). The following section discusses the psychological phenomenon called psychological ownership.

Psychological ownership

Some researchers (e.g. Dirks, Cummings & Pierce, 1996; Pierce, Driscoll & Coghlan, 2004; Pierce, Kostova & Dirks, 2001; Pierce & Rodgers, 2004) argue that there is a psychological phenomenon called psychological ownership. The employees can under certain conditions develop feelings of ownership towards the organisation and various organisational factors (Pierce, Kostova & Dirks, 2001). Pierce et al., (2001) argue that the core of psychological ownership is the feeling of possessiveness and of being psychologically tied to an objective. The construct of psychological ownership is conceptually distinct from organisational commitment, identification, and internalisation, because it describes a unique aspect of the human experience in organisations, according to Pierce et al. (2001). Pierce et al., (2004) make the following distinction between psychological ownership and commitment: psychological ownership answers the question “how much do I feel this is mine?” and organisational commitment (Meyer & Allen, 1991) answers the question “should I maintain my membership in this organisation and why?”

Pierce and Rodgers (2004, 588) suggest that employee ownership can be “thought of as a dual creation - part an objective and part psychological state”. This means that ownership can be real or partly in the mind. Pierce and Rodgers (2004) argue that psychological ownership, the individual’s ownership

stake in the organisation, partly derives from investments of the self (i.e. working hours, tenure etc) in the organisation. They further claim that “the influence and information dimensions contribute to experiences of control over the target and intimate knowing of the target” (p.599), and thus there is a potential connection between formal and psychological ownership.

The next section deals with the impact of PS schemes on performance.

2.4.3. Impacts on organisational performance

The productivity effects of employee financial participation schemes including PS schemes have been the subject of an extensive literature, but it still remains a controversial issue (that is, Kalmi et al, 2005; Kato & Morishima, 2002; Perotin & Robinson, 2003). According to Robinson and Wilson (2006) there is still a way to go before we understand the full extent of the relationship between financial participation schemes (includes both PS and employee ownership) and productivity. Financial participation has both positive and negative effects, but the relative effect cannot be predicted precisely by the theory (Ben-Ner & Jones, 1995). The traditional rationale for financial participation schemes is that they align worker and employer objectives in maximising output (Bryson & Freeman, 2010) Mitchell, Lewin, and Lawler, (1990) argue that deferred PS plans can even in large corporations achieve two things: first paying for performance has some potential symbolic and communications value. It is an effective way to point out to the employees that they are part of the organisation and that co-operative effort is needed. Second, some companies seem to use PS plans to educate the employees about the financial conditions of the business, so that they become more aware of what profits mean for the firm and how they are calculated. Thus PS can increase both motivation and employee interest in learning about profits and thereby organisational effectiveness (Mitchell et al., 1990; Rousseau & Spherling, 2003). In addition, Corby et al., (2009) argue that share plans contribute to increased productivity, competitiveness, and profitability through enhanced employee loyalty and commitment and thus, when PS schemes are introduced both company profitability and worker productivity are seen as likely to be improved (Poole & Jenkins, 1990).

According to Freeman, Kruse and Blasi (2010), the outcome of shared capitalism (including PS and employee share ownership) that receives most attention is productivity. The belief is that when one ties workers' pay to workplace performance it is expected to induce workers to increase effort,

commitment, willingness to share information, and to decrease turnover and absenteeism. Jenkins et al., (1998) made a meta-analytic review about the impact of financial incentives to performance and found that financial incentives are related to performance quantity. They found no relationship to performance quality, but the study included only six studies and should then be viewed with caution.

Some researchers have some doubts regarding productivity effects, they argue that the collective nature of the incentive is generating “free riding” behaviour on the part of the workers’, because the benefits resulting from one employee’s effort are shared with others (see e.g. Alchian & Demsetz, 1972). Other researchers, for example, Ben-Ner and Jones (1995) counters these claims by arguing that financial participation schemes encourage peer monitoring, which in turn reduces the “free-rider” problem.

To sum up, the results on earlier studies have been mixed, and thus more research is needed on this topic. The next section goes through different ways of measuring organisational performance.

2.4.4. Different ways of measuring organisational performance

Objective performance measures

Economists, in particular, have been concerned with the micro economic effects of PS, and above all with the consequences on company performance (Poole & Jenkins, 1990). Many studies have pointed to a relationship between PS and share-ownership schemes and the economic and financial performance of organisations.

Economists usually measure performance with objective measures gathered from financial statements. Studies assessing the productivity impact of financial participation schemes usually use measures of output (typically value added or sales) and regress them on inputs (capital and labour) and augment the standard specification by including a measure for a financial participation scheme (usually a dummy variable). The most common specification in the literature is the Cobb-Douglas production function, although constant elasticity of substitution (CES) and translog functions are also used. Some studies use labour productivity which is the ratio of output to the number of employees, as the dependent variable. Studies that are able to use panel data, and where there are adoptions of financial participation schemes during the observation period, can control for unobserved heterogeneity by including the firm-level fixed

effects in their estimations¹⁰. The estimated effect of the adoption of a shared compensation practice is around 3-9 % increase in productivity (that is,, Cable & Wilson, 1989; Jones & Kato, 1995; Kato & Morishima, 2002)¹¹.

Positive results have also been found in studies assessing profitability effects with measures, such as ROI (return on investment), ROA (return on assets) (Mitchell et al., 1990), ROC (return on capital) (Fitzroy & Kraft, 1986) and net profit (Magnan & St-Onge, 2005). Mitchell et al., (1990) found that profit-sharing is positively related to ROI, ROA, and productivity for both clerical workers and production workers. Fitzroy and Kraft (1986) found, strong effects of profit-sharing on ROC using simultaneous WLS-Tobit estimates. In addition, Magnan and St-Onge (2005) found in their pre-post design, that firms adopting PS enhance their profitability in comparison to their own prior performance and to firms not adopting PS.

Subjective performance measures

There is much less literature studying the effects of financial participation schemes at the organisational level using subjective measures of performance.¹² There are two alternative approaches. The first one uses a performance measure where the respondents are asked to rate the productivity of their company relative to the competitors. This is then used as the dependent variable and is regressed on the financial participation indicator. This method is suitable for samples that include both firms with financial participation schemes and for firms without such schemes. Blanchflower and Oswald (1988) and Bryson and Freeman (2010) use this method, both being based on the British Workplace Employee Relations Survey (WERS). Neither of these studies finds any pronounced links between PS and productivity. The second type of studies, which is suitable for samples having no comparison firms without financial participation schemes, have direct questions on the performance effects of financial participation schemes. Such studies include

¹⁰ Some key studies include Cable and Wilson 1989; Conyon and Freeman 2004; Fakhfakh and Perotin 2000; Fitzroy and Kraft 1987; Jones and Kato 1995; Kato and Morishima 2002; Kruse 1993; Robinson and Wilson 2006; Wadhvani and Wall 1990.

¹¹ The productivity effects of performance-based pay are also tested with Finnish data, with results that are similar to those obtained internationally (see Kauhanen & Piekola, 2002; Uusitalo, 2002).

¹² However, there is a significant literature, beginning with Long (1978) studying the effects of financial participation schemes at the individual level using subjective measures.

Kalmi et al., (2005), Long (2000), Poole and Jenkins (1990), and Sweins, Kalmi, Hulkko-Nyman, (2009). These studies often indicate relatively strong links between financial participation and productivity.

Studies comparing objective and subjective performance measures

Productivity studies has rarely linked employee reports on how ownership plans actually influence company output, partly because the surveys lack the quantitative output data necessary for such a productivity analysis (Kruse, Freeman, Blasi, Buchele, Scharf, Rodgers & Mackin, 2003). There are a few recent studies comparing subjective and objective measures of overall workplace performance. These studies include Forth and McNabb, (2008), Guest et al., (2003), Haskel, (2005), Kersley, Alpin, Forth, Bryson, Bewley, Dix & Oxenbridge, (2006) and, Wall, Michie, Patterson, Wood, Sheehan, Glegg & West, (2004). However, none of these included PS systems. The research is dominated by data gathered from the WERS where the subjective measures are ordinal measures of performance and or productivity taken from HR managers which relate the performance/productivity of the respondent's workplace to the average for the industry on a five-point scale. Wall et al., (2004) used a similar measure of WERS on subjective performance by asking the respondents to rate the performance relative to the main competitors. Of these studies only Guest et al., (2003) and Forth and McNabb (2008) clearly distinguish between subjective productivity and profitability measures. The objective measures used in these studies are different accounting measures (i.e. gross/ mean output per worker, gross/mean value added per worker) mainly gathered from Annual Business Inquiry (ABI) and/or Financial Performance Questionnaire (FPQ).

As Wall et al., (2004) and Forth and McNabb (2008) argue, the expectation is that subjective and objective measures should give consistent results, that is there should be a high correlation between the two types of measure. However, the results from the literature are somewhat mixed. Guest et al., (2003) find a small positive correlation (0.06) between the objective and subjective measures of productivity, and a larger correlation (0.33) between the objective and subjective measures of profitability. Wall et al., (2004) find that the estimated correlations between the subjective and objective performance measures are not particularly high. Haskel (2005) finds no significant relationship between self-reported productivity data and ABI productivity data, even when using a wide variety of ABI productivity measures. Kersley et al., (2006) find the

correlations between the subjective and objective measures to be positive, but not very strong. Forth and McNabb (2008) argue that subjective and objective measures are weakly equivalent, but differences are also evident. To sum up, the literature tends to find evidence that there is a positive correlation, although mostly a rather weak one.

Unfortunately, subjective measures might have distinct disadvantages. The respondents may overstate the performance. For instance, in WERS a large majority of the respondents claim to have above average performance while only a few companies maintain it is below average (e.g. Bryson & Freeman, 2010). Sometimes the respondents may overstate the impact, if they have a stake in continuing the practice. For instance, employees value a compensation scheme that generates them extra compensation, and thus they may be inclined to overstate its effects in a survey, at least if they perceive that the survey results are used in management decision-making. Subjective performance variables might suffer from the 'common method variance' problem (Spector, 2006), which means that individuals may tend to give similar ratings to items asked by the same method, such as a survey questionnaire. Subjective measures are often limited because of their ordinal nature, and thus direct quantification of the impact is not possible (Forth & McNabb, 2008). Subjective performance measures are often gathered cross-sectionally, and the lack of longitudinal data hinders the assessment of causality.

Moreover, subjective measures may contain errors due to the respondents have only limited information on the performance variables. Studies that rely only on information provided by the management may suffer from single respondent bias (Gerhart, Wright, McMahan & Snell, 2000). In essence, if there are idiosyncratic differences among the performance raters that are random, having more respondents for each observation reduces the measurement error. However, if the differences among the raters are not random but systematic, then the situation is different. If group A provides poorer quality ratings than group B, then even if including the responses from group A may reduce random error, the increase in systematic error may outweigh these benefits. In other words, if information is gathered from a broader group of employees the risk of having misinformed respondents is increased. Moreover, it is likely that employees get their information on performance mostly from managers rather than through their own data collection effort, which also suggests that including the responses of lower-rank

employees may not increase the informational content of performance measures.

However, even if subjective performance measures suffer from a number of problems, a divergence between subjective and objective measures does not always mean that objective measures are more correct, because objective measures suffer from problems of its own. Also in financial statements there may be mis-measurement. For instance, when the statements are used for taxation purposes, companies try to minimise the tax burden, and this might skew the income statements. Sometimes the bias may arise from differing accounting standards (Machin & Stewart, 1990). Moreover, because the impact is assessed indirectly, any conclusions about causality depend on the model being correctly specified (i.e. not suffering from omitted variables bias). For instance, if companies using profit-sharing are systematically better than their comparison companies in some dimension (for instance, better managed), then the performance difference that is attributed to PS may in fact reflect other, unmeasured characteristics of management. These comments of course also apply to subjective performance measures, unless causality can be directly inferred from the questions.

Finally, it is possible that the divergence in the correlation between subjective and objective measures indicates that these two types of measure are not identical as assumed, but reflect different underlying concepts (Forth & McNabb, 2008). Bommer, Johnson, Rich, Podsakoff and Mac Kenzie (1995) criticise objective measures for being excessively narrow.

Notwithstanding these concerns, subjective performance measures have a number of significant advantages according to Forth and McNabb (2008). First, when objective measures are not available (at least at the level of establishment) or they are commercially sensitive. Second, subjective measures are less costly to collect, because there are no requirements to provide a detailed financial breakdown, and third subjective measures may attract high response rates.

To sum up, studies comparing PS firms with non- PS firms have usually found that PS ones perform better (Mitchell et al., 1990). Both company profitability and worker productivity are seen according to Poole and Jenkins (1990) to be likely to improve following the introduction of PS schemes. According to Poole and Jenkins (1990) there are contradictory findings on whether, financial participation schemes increase profitability or not. They argue that the inconsistency in the findings is not surprising, because there

might be events outside the employees' control that affects profitability. External events, for example, the market price on the final product, may enhance or reduce the profits within a company, regardless of the efforts of the employees.

The following section makes a brief explanation of the focus of this study.

2.5. The focus of this study

As former studies have revealed (that is, Combs et al., 2006; Coyle-Shapiro, 2002; Heneman et al., 2002; Ostroff, 1992; Poole & Jenkins, 1990) there seems to be a connection between PS and employee attitudes and organisational performance, but the mechanisms as to how the incentives enhance these issues is still unclear. One unexplored area is the impact of pay knowledge on employee attitudes and organisational performance. Thus, our aim in the first article was to explore the impact of PS knowledge on pay satisfaction and perceived economic performance, and perceived effects on workplace climate and co-operation. This was justified as one of the reasons why companies adopt PS schemes is to enhance workplace co-operation and productivity (i.e. Kruse, 1996). As mentioned earlier, recent research has found that knowledge of pay (Mulvey et al., 2002, Heneman et al., 2002) is an important factor related to pay satisfaction and productivity. The knowledge of pay study measured only perceived pay knowledge, therefore the aim of the first article was in addition to examine actual pay knowledge. In the subsequent articles we chose to use only actual knowledge as a measure for pay knowledge, based on the results from this first article.

As the analysis in the first article was made on the organisational level, and thus, there were restrictions as to how many independent variables could be included in the analysis, we decided to investigate the impacts of pay knowledge more closely on the individual level. The aim of the second article was to examine the antecedents of pay knowledge, as we found that there was only one study that had done this before (i.e. Klein, Schulte & Carberry, 2007). Furthermore the aim was to investigate the relationship between PS knowledge and pay satisfaction, as well as pay knowledge and affective commitment.

The grounds for the third article were that many studies are concerned, and point out that more research should be made under longitudinal conditions (i.e. Lawler & McDermott, 2003). In addition, there is a need to use case

studies to deepen the understanding of the important relationships of financial participation with other selected topics (Poutsma, 2001). Thus, the intention of the third article was to cover the topics explored in the two first articles under longitudinal conditions in one case organisation.

As the results of earlier studies have been mixed on productivity effects, the next step which seemed to be important was to study the productivity effects of the PS system (i.e. Poole & Jenkins, 1990). In the fourth article we compared organisations with a PF with organisations without PFs. Moreover, as we found no studies comparing the subjective and objective impacts of PS and thus, we wanted to make a comparison between these measures. In addition, we found it interesting to compare the two respondent groups we had, of which one was more knowledgeable (or at least they were supposed to be more knowledgeable) with the PS system than the other. Thus, we could explore if there are differences between the two informant groups.

To sum up, the analyses in the four different articles are made from different angles. First, data is analysed on different levels, on the organisational and individual levels. Second, we studied the phenomenon's both in cross sectional and in longitudinal conditions. Third, we compare the performance impacts in organisations with PFs with performance impacts in organisations that do not have PFs.

The next section summarises and describes the different datasets used in the four articles.

3. Data and methods

First, I will explain how the main dataset, which is the core of all articles, was gathered. Next, I will explain in more detail how the data was used in each article, and what additional data was gathered. More details of the sum variables used in each article can be found in the four separate articles.

3.1. Research data

The main data used in the four articles were gathered during a project I participated in at Helsinki University of Technology during 2000-2001. The data was gathered from all 36 operating PFs and the organisations behind them. Documents were collected from PFs and firms themselves and from the Ministry of Labour and the Statistical Centre of Finland. The data consists of a personnel questionnaire (n=1038) from 31 companies from which I have used only part of the variables available. Five companies did not want to participate in the questionnaire survey, because they had ongoing large surveys in the company or they had decided (due to mergers), not to pay any profit into the fund. The 31 companies represented 86 % of all firms with PFs in 2000.

The procedure for the questionnaire was as follows: the questionnaire was tested in one company before it was finalised. Some minor changes were then made. Before posting the questionnaires to the companies, we interviewed the management and the chairman of the fund in each company. This was made especially, in order to be able to build the tailor-made part that is, measuring actual knowledge of pay in each company. The questionnaires were distributed to only some employees in each company to save the cost in time caused to the participating companies. The number of questionnaires distributed depended on the size of the company, and it ranged from 7 to 300. The mean of distributed questionnaires in each company was 34. The companies were asked to distribute the questionnaires so that the employees who received them would represent all employee groups. The questionnaires were returned in sealed envelopes. The response rates in the companies (calculated as the number of respondents per questionnaires distributed) varied from 15 % to 100

%, the mean response rate being 59% that is, 1,038 individual responses were received out of 1,956 questionnaires sent. The companies represented different sectors from all parts of Finland and the size of the companies varied from 85 to 12,544 employees. In addition, interview evidence was used regarding communications issues from 64 interviews with management and chairmen of the funds performed in 2000. In article 4, we used also a shorter questionnaire, especially tailored to the chairmen of the funds.

As the third article is a longitudinal case study, we used supplementary data which was gathered in 2005¹³. At that point the company wanted to evaluate their total pay system, and there was a chance to renew the questionnaire from 2000. In addition, we used interviews made in 2000 and 2005 in this article.

In the fourth article, we used the above mentioned employee questionnaires from 2000, and a separate questionnaire made for the chairmen of the funds (n=15) using the items measuring subjective assessments of PF effects. The objective data was gathered from a database called Voitto + provided by Suomen Asiakastieto, which covered 1999-2003. This data was collected for 21 companies, because representative comparison companies could not be found for the others, for example the national airline company, insurance companies and banks.

3.2. Research design and data analyses

In article 1, the key explanatory variable was PF knowledge. This was measured in two ways: First with multiple choice questions (actual knowledge) and second with self-reports (perceived knowledge). A list of the items used can be found in Appendix 1. Actual knowledge was measured by the firm level mean of correct responses. Perceived knowledge was measured by two items at the general and firm levels. Concerning these two variables we calculated the firm-level means of respondents that were confident they knew the relevant principles. One company from the analysis had to be dropped, since there were no accumulated profit-shares in this company and, hence, some questions on PF knowledge were not asked. This left a sample of 30 companies.

For the other items used in the questionnaire we used factor analysis with

¹³The first data from 2000 was a part of the data explained above that is, one company out of 31.

Varimax rotation, which resulted in a three-factor solution; 1. Perceived effects of the PF system, and 2. Perceived effects on workplace climate and cooperation, and 3. Satisfaction with the PF system. The factor analysis for these items can be found in Appendix 2. As independent variables we used financial stake and membership size. All measures are explained in more detail in article 1.

The data was aggregated to firm-level and correlation analysis for all variables were made. Sector, investment in the company, and plan age were used as control variables. The next step was to conduct regression analyses.

In article 2, the same items were used for actual knowledge, and the perceived effects as explained above. Affective commitment was measured using three items. The factor analysis of the commitment items used can be found in Appendix 2, section 4. Communication of fund related matters was measured using one item, 'We discuss fund related matters often enough'. Feedback on performance was measured using one item, 'I get enough feedback on the development of performance measures'. Some observations had to be removed from the sample, because of observations that had missing values in variables used in regressions. This left a sample of 753 observations. The data was analysed on the individual level, so that it was possible to use several individual characters as control variables. As dependent variables we used single items for communication, feedback, membership length, and the sum variables for actual PF knowledge, PF satisfaction and commitment. The control variables used were monthly pay, tenure, supervision position, female, secondary degree, higher degree, and firm dummies. First a correlation analysis was carried out and then three regression analyses to investigate the determinants of PF knowledge.

The third article studies the same issues that were studied in the two first articles, now in longitudinal conditions in one case company. The same sum variables used in the two first articles were analysed with independent-samples T-tests for equality of means, to ascertain if changes were significant between the years. In addition, interview data was used to interpret the results of the questionnaires.

In article four, the subjective performance data (the perceived effects of the PF system) was gathered from the employee questionnaires in 2000 (n=31). For each PF company two comparison companies without a PF were chosen. The first criterion was narrow industry classification, and the second was the size of the company measured in sales. It was possible to match this data for 21

firms of the 31 firms available¹⁴. The next step was to calculate the change between the 5 years of objective data. We calculated the change in logarithms for the two first measures sales, and gross proceeds, but for ROI (return on investment), and ROA (return on assets) it was not possible so the change is calculated in percentage units. Furthermore, employee questionnaires and chairman questionnaires (n=15) were used to test if there are differences between the two informant groups (i.e. employees and chairmen) regarding the relationship between subjective performance assessments and objective performance measures.

The next section describes the main results of the four individual articles.

4. Results of the individual studies

4.1. The relationship between pay knowledge, pay satisfaction and pay effectiveness

Article 1 examines the impact of pay knowledge on company outcomes, both attitudinal and organisational efficiency and answers the first research question: What is the relationship between pay knowledge, pay satisfaction and pay effectiveness?

The aim was to ascertain first, if pay knowledge has a positive association with PF satisfaction. Second, if there is a relationship between pay knowledge and the perceived economic effects. And third, what is the relationship between pay knowledge and workplace climate and co-operation? Fourth, does the employee's financial stake in the PF have any relationship with pay satisfaction and perceived organisational effectiveness? As the motivational effects of PS plans are expected to diminish rapidly when the number of employees

¹⁴ Some of the companies were banks or insurance companies and thus, the financial statements could not be compared.

increases (Gerhart & Rynes, 2003) we controlled for the relationship between membership size.

As mentioned above we used two measures for PF knowledge in the first article, actual knowledge and perceived knowledge. When comparing the measures of actual pay knowledge and perceived pay knowledge, we found that the measure of actual knowledge is a more powerful predictor of both PF satisfaction and perceived organisational effectiveness. Another finding of this paper is that pay knowledge has an independent impact on organisational outcomes, rather than being mediated through pay satisfaction as for instance Mulvey et al., (2002) argued. These findings suggest that the true impact of pay knowledge may have been underestimated in previous literature, despite the often positive and sizable findings. The results of this article propose further that researchers should prefer measures of actual knowledge when they want to reliably estimate the relationship between pay knowledge and pay effectiveness.

4.2. The antecedents and consequences of pay knowledge

Article 2 is a continuation of article 1. As the size of the sample in article 1 was limited, that is, how many independent variables we could simultaneously include in the regression specifications, we decided to analyse the data on individual level so, that some more variables could be used in the analyses.

For pay knowledge we chose to use only the measure of actual knowledge, because the results of the first article found it to be a more precise measure than perceived knowledge. The aim of the second article was to answer the second research question: What are the antecedents and consequences of pay knowledge?

We started by making a review of the literature, and only one paper was found that studied the antecedents of pay knowledge written by Klein et al., (2007). Based on this paper and on expectancy theory (Vroom, 1964) we decided to test three variables that could be related to pay knowledge that is, communication, performance feedback and membership length. The next step was to test if PF knowledge is positively related to PF satisfaction and affective commitment? We further tested if the effects of PF knowledge are mediated by PS satisfaction by utilising the framework of Baron and Kenny (1986).

The key results of article 2 reveal that direct communication of fund related matters and the length of PF membership enhance PF knowledge. Performance feedback is muted in the specification when all explanatory variables were included. We further found that there is a positive relationship between PF knowledge and PF satisfaction and that the relationship between PF knowledge and firm commitment is mediated by PF satisfaction.

4.3. Testing if increased pay knowledge leads to enhanced attitudes and effects

Article 3 describes how a single company in the manufacturing industry used the PF scheme in longitudinal conditions. In addition, it explores how much pay knowledge increased over time, and what effects the enhancement of pay knowledge has on company outcomes. The aim of the third article is to answer research question 3: Does increased pay knowledge lead to enhanced attitudes and effects?

As the case organisation had amended their PF system the assumption was that pay knowledge has increased due to this arrangement, and thus pay satisfaction and commitment would also be enhanced (i.e. Mulvey et al., 2002). The findings of this longitudinal study were that even if pay knowledge had increased substantially, pay satisfaction and organisational commitment had not increased accordingly. The result might be due to recent disagreements in the case organisation about how to calculate the profit being paid to the PF. The employees perceived, however, that both economic efficiency and work input had increased since the first measurement. The employees perceived further that there was enough feedback, but too little communication about fund related matters.

4.4. Investigating the differences between informants regarding subjective and objective performance impact measures

The aim of the fourth article is to answer research question 4: Are there differences between informants concerning the relationship between subjective and objective performance impact measures?

The first aim was to explore if the use of a PF scheme increases performance. Second, we wanted to explore if the subjective measures on the impact of the PF indicate beneficial impacts from PF. Third, are the subjective and the objective performance measures correlated positively? The fourth and last aim was to explore if there are differences between informants when comparing these correlations.

Weak positive support for impacts for increased performance was found in companies with a PF, measured by sales growth, gross proceeds, ROI and ROA. Both employees and chairmen perceive that the PF has positive impacts on company performance. The correlations between subjective and objective performance measures differ between the two respondent groups that is, employees and chairmen. The result reveals that there is a difference between informants. The subjective assessments of chairmen had significant positive correlations with the objective performance measures, whereas the assessments of less informed employees had negative mostly non significant correlations.

5. Discussion

5.1. Summary and contribution

Many studies have been carried out regarding the impact of pay systems on both employee attitudes and organisational performance (Bakan et al., 2004; Heneman, Porter, Greenberger & Strasser, 1997; Klein, 1987; Long, 1978; Ostroff, 1992; Poole & Jenkins, 1990). However, it has still not been clear how the outcomes are developed. In this thesis the aim has been to study the impact of pay knowledge on employee attitudes and organisational performance in the context of Finnish personnel funds.

When PF knowledge was used in explaining pay satisfaction and perceived PF outcomes (performance), surprisingly no evidence was found that the effects are mediated through PF satisfaction as, for instance, Mulvey et al., (2002) and Heneman et al., (2002) do. On the contrary, the impact of PF knowledge was found to be directly connected to performance effects. These findings suggest that pay knowledge may have a stronger independent impact on the effectiveness of the pay systems than previously believed. Thus, we could indicate that a direct link between pay knowledge and pay effectiveness is consistent with the expectancy theory (Vroom, 1964), while the gift-exchange arguments (Appelbaum & Berg, 2000) would have indicated that the link would have been mediated through pay satisfaction. Furthermore, actual knowledge was found to be a more reliable measure than perceived knowledge in estimating the relationship between pay knowledge and pay effectiveness, and thus researchers should prefer measures of actual knowledge.

Moreover, for enhancing PF knowledge it seems that feedback on financial figures is not sufficient information. This was found especially in article 2 where we found that communication and membership length is more effective in increasing PF knowledge than just feedback. The results of the third article strengthens this view as pay knowledge had increased substantially in the case organisation, and still the employees perceived there were only a small increase in perceived performance effects. The employees perceived that they had got

more feedback on financial figures, but they did not feel that there were enough discussions related to PF matters since the first measurement. The conclusion of this result is that the 'line-of-sight' (Boswell & Bodreau, 2001) is still quite weak among the employees, and that there is a need for more discussions and training on the pay system and the role of one's work.

The results of article 4 indicate that using objective measures, firms with PFs are doing better than firms without PFs. Moreover, it was found that there are significant positive correlations between subjective and objective measures, when respondents are better informed, whereas in the case of respondents being employees at large the correlations are negatives and mostly insignificant. This result suggests that drawing subjective assessments from uninformed respondents may be a more serious source of bias than single respondent bias (see, i.e. Gerhart et al., 2000).

The findings in this thesis are based on four separate articles. These studies have a clear academic novelty in at least four ways. First, the impact of PF knowledge is directly connected to performance, and thus pay knowledge may have a stronger independent impact on the effectiveness of the pay plans than previously believed. Second, researchers should prefer measuring actual knowledge before perceived knowledge in order to gain more accurate information on the level of pay knowledge. Third, it is important to communicate fund related matters; feedback on financial figures is not enough when trying to increase knowledge of pay among employees. Fourth, it is better to rely on an informed single respondent than on a large pool of less informed respondents when making assessments of pay system effectiveness.

Figure 1 summarises the main findings of the four articles.

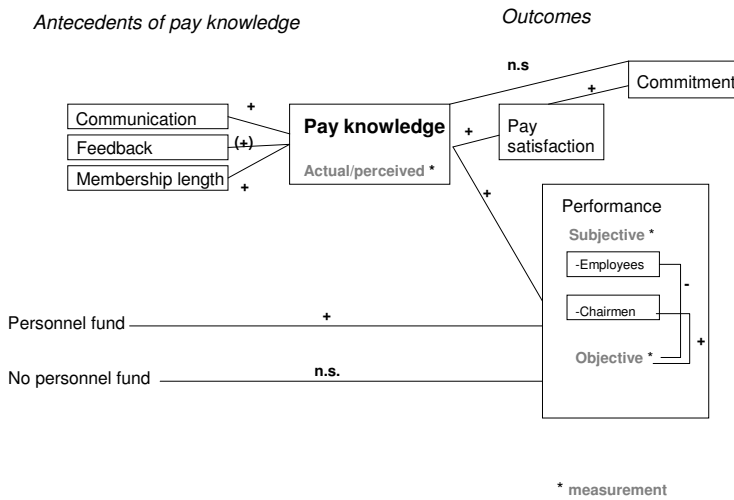


Figure 1. Summary of the findings

+ = positive relationship, n.s. = not significant

5.2. Practical implications

There still seems to be a need for more information and training for both managers and supervisors regarding the PF system, so that they would be able to communicate fund related matters easier to the employees. This is important because, communication on the PF system was found to increase knowledge more than just feedback (article 1). In addition, more discussions between supervisors and employees about the pay system, and how one may affect the results through work input, are needed in order to strengthen the 'line of sight' of the employees. Frequent information about the PF system is also important, if the company wants to use it as a steering mechanism. I argue further, that it is important to communicate compensation practices systematically not only during the design and implementation process, but also during the whole life cycle of the compensation system. It would be preferable to give the employees some information about the PF system as early as the recruitment stage.

Moreover, I argue that despite the so-called single respondent bias, it is better to use an informed single respondent than a number of less informed

respondents. The results of article four indicate that the bias arising from gathering data from less informed respondents is more severe than the bias when using only a single respondent. This would mean that many surveys on the financial impact of pay systems could be done more economically, when there would be less need to gather a large number of respondents from individual firms. The only problem is, to find the well informed respondents, when making a survey¹⁵.

According to the 'line of sight' theory (i.e. Boswell, 2006; Boswell & Bodreau, 2001; Lawler, 1995) the employees should know how they can affect the outcomes of the company with their work in order to achieve an effective pay system. I argue that knowledge of a pay system is essential to gain positive results, but there is also a need for the employees to understand the link between their work and the PF system in order to enhance the performance outcomes.

5.3. Limitations and future research

One potential weakness of article 1 is related to the rather limited number of organisations ($N = 30$) in our sample. It is often unfortunate but in practice unavoidable that a large number of observations cannot be obtained when doing organisational-level studies. Although there were only a few organisations the number of observations is actually the same as for instance in Hakonen and Lipponen (2009) study ($N = 30$). The data in all four articles represented the majority of the Finnish personnel funds, which existed in 2000. The employees had different educations and positions, and represented companies in all sectors throughout Finland, and thus I feel confident that the data was representative. Nevertheless, it would, of course, be important to replicate the results with larger samples before drawing strong conclusions.

These results can possibly be generalised to other pay systems as well. However, it should be remembered that personnel funds are a relatively egalitarian system of incentive pay. Therefore, it would be interesting to do a comparative study with different types of incentive pay.

¹⁵ I thank Professor Stephen Perkins for pointing this out at the 2nd Reward Management Conference in Brussels November 2009, where I presented an earlier version of this paper.

In article 2 the results should be taken with some caution since the sample size may be too small to reliably conduct the full test of mediation, and, therefore, there might be an insufficient basis to distinguish between the different theoretical arguments. It is also possible, that the test of mediation might produce stronger results at the level of individuals than at the organisational level. This issue could be further addressed in future research

Commitment was based on self-reports in the studies. In longitudinal studies it would be interesting to analyse employee turnover instead. Another line of inquiry could examine the relationship between the perceived fairness of PF system and pay satisfaction. Moreover, PF communication was measured in the studies with one item. It could be an issue for further research to clarify what kind of pay system communication the employees expect or need the most.

In the third article, a case company, which is a representative middle sized company using a PF, was examined. We are aware that the sample is quite small and this caused some limitations in what quantitative analyses could be done. In addition, it could have been valuable to follow up the answers of individual members in the questionnaires, but unfortunately there was no opportunity to do so. If we had had a bigger sample and followed up each member we could have used pair wise t-tests and in addition regression analyses. Thus, more exact information could have been acquired on the change over time. The interviews could have been conducted the second time with semi-structured questions, in order to get more information especially on the PF system.

We did not unfortunately test the knowledge of the chairmen in the fourth article. We just supposed they were more knowledgeable based on the interviews. Further in the fourth article the findings depend on the assumption that the objective measures of impact correspond with the real impact. As discussed in the article, there may be various reasons why this may not be correct. Unfortunately, we can only test whether the results are similar or not when using two types of measures, but not whether one (or both) set of results are correct. There is clearly more room for research on these issues, preferably overcoming some obstacles we faced. These include small sample size and non-representative sample, lack of changes in financial participation status (precluding fixed effects estimations), lack of information of many variables that may influence performance (such as the existence of complementary

workplace practices), and the absence of longitudinal data on subjective assessments of performance.

There is clearly room for future research to study pay knowledge and its impact organisational performance. This could be best done in a pre-post design, and could also be done for pay systems other than PFs. In particular there is more work to be done in examining the connection between pay knowledge and the employees' 'line of sight'. Why is it that even if pay knowledge increases the 'line of sight' still remains weak? Is it possible to strengthen the 'line of sight' by more face-to-face information? This could be examined by performing an evaluation on employees' pay knowledge in one company. Special efforts should be made to increase the information for the employees about the pay system. For instance, part of the employees could be provided by written information, and part of the employees could be provided with face-to-face information from the supervisors, and some of the employees could be left without information. An assessment before, and after these actions, would indicate how pay knowledge has developed due to the actions.

Because HRM processes have been found to be more likely to contribute to organisational success when they are introduced as a bundle of practices (Michie & Sheehan-Quinn, 2001), it could be interesting to examine how other issues in combination with pay knowledge affect the outcomes. For instance top managements' commitment and support for the pay system, because they have been found to play a major role behind successful pay systems (Belcher, 1996; Klein, 1986; Klein & Hall, 1987; Lawler, 1990; Wallace, 1990 in Balkin & Montemayor, 2000).

5.4. Conclusions

As the above discussion indicates, pay alone does not produce the desired attitudinal effects. That is, employees with knowledge, insight and understanding of the pay system will be more motivated, satisfied and committed as earlier research has also revealed (i.e. Mulvey et al., 2002; Thierry, 1998). Motivation arises from the understanding of what needs to be done in order to receive the rewards (e.g., Lawler et al., 1995). Commitment stems from the PS satisfaction associated with PS knowledge (article 1). The key also seems to be in how management follows up the system and not so much in the type of plan (c.f. Smith, Lazarus & Kalkstein, 1990). As Boswell and Boudreau (2001, p. 856) argue: “...it would seem that supervisor-subordinate relations have an influence on developing line of sight”.

The expectancy theory helps us to understand and predict motivational and behavioural consequences of pay (i.e. Gerhart & Rynes, 2003). It is not enough to know how the pay system works for the pay system to be truly effective. How should organisations then communicate pay system issues to the employees in the best way? Previous research gives some indications as to how this should be done. Face-to-face information seems to be the most successful way for internal communication and target information, but it should be combined with other communication systems, such as notice boards and emails according to Ukko, Karhu and Rantanen (2006). The employees seem to be more satisfied if they receive more face-to-face communication, especially from upper management and supervisors (Kreps, 1990; Mulvey et al., 2002). Communication is important in creating trust in management which is also needed for the pay system to work well according to Brown and Armstrong (1999). Moreover, we need communication so that the organisational objectives and HRM practices would fit with each other. The organisation can use the PF system, so that the employees would get more aligned with the organisational objectives. When the employees know and understand the objectives, and when they know how to contribute, we get an optimal ‘line of sight’ as explained by Boswell (2006) for instance.

One can ask if there is a psychological phenomenon called psychological ownership in the context of PFs. Are the employees more satisfied, when they get profit shares from a PF even if the PF is not necessarily investing the assets in the organisation? Is there a feeling of control over the target? Even if we did not investigate the phenomenon as such, we could in the interviews notice, that

at least the fund chairmen had a feeling of ownership towards the organisation in practically all organisations. This feeling can perhaps, together with a better 'line of sight', be the reason why the subjective impact assessments of chairmen were positively correlated with the objective impact measures, whereas the subjective impact assessments of employees were not.

Despite the above mentioned limitations this thesis contributes to the HRM literature by giving new insights into the role of pay knowledge on organisational performance. The four separate studies suggest that the impact of pay knowledge is essential in several ways. First, the results reveal that the impact of personnel fund knowledge is directly connected to performance, and not mediated through pay satisfaction as earlier research argues. Thus, the findings suggest that pay knowledge may have a stronger independent impact on the effectiveness of the pay system than previously believed. Second, actual knowledge is a more reliable measure than perceived knowledge in estimating the relationship between pay knowledge and pay effectiveness, and thus researchers should prefer measures of actual knowledge. Third, for enhancing knowledge about the personnel fund it is not enough to provide just feedback on financial figures. I argue that communication about fund related matters is important in order to increase pay knowledge and especially the employees' 'line of sight'.

The results suggest moreover, that drawing subjective performance assessments from uninformed respondents may be a more serious source of bias than single respondent bias. This would mean that many surveys on financial impacts of the pay system could be done more economically, when there would be less need to gather a large number of respondents from individual firms.

APPENDIX 1

Items measuring personnel fund knowledge

Actual knowledge

Length of the vesting period
 Maximum annual withdrawal
 Taxation of withdrawals from the fund
 Allocation criteria of fund shares
 Percentage of profit paid to the fund
 Information about fund related matters

Perceived knowledge

Perceived awareness of general principles of PFs
 Perceived awareness of firm-specific applications

APPENDIX 2

	Component			
	1	2	3	4
1. Perceived effects of the PF system				
Quality	0.694	0.013	-0.026	-0.066
Economic efficiency	0.581	0.031	-0.061	-0.010
Flexibility	0.690	0.026	-0.161	0.022
Productive efficiency	0.674	0.021	-0.125	0.004
Delivery reliability	0.878	0.016	0.024	-0.066
Customer service	0.827	0.017	0.014	-0.020
Planning ahead	0.635	-0.003	-0.174	0.030
2. Perceived effects on workplace climate and co-operation				
Communication	0.035	0.057	-0.585	0.012
Co-operation at work	0.110	-0.002	-0.779	0.010
Workplace atmosphere	-0.048	0.019	-0.751	-0.133
3. Satisfaction with the PF system,				
I am satisfied with the PF system	0.129	0.041	-0.033	-0.749
I am satisfied with the yearly acquired bonuses	0.027	0.030	-0.164	-0.690
4. Commitment				
I do not feel emotionally attached to this organisation (rs)	-0.016	0.564	-0.062	-0.005
This organisation means a great deal to me personally	0.064	0.658	0.021	-0.120
I do not feel a strong sense of belonging in my organisation (rs)	-0.041	0.798	-0.028	0.040

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser

Normalisation. Rotation converged in 3 iterations.

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Many studies have been carried out on the impact of pay systems on both employee attitudes and organisational performance. However, it is still unclear how the outcomes are developed. In this dissertation my aim has been to study the impact of pay knowledge on employee attitudes and organisational performance in the context of Finnish personnel funds, which are deferred profit-sharing schemes. By pay knowledge I mean employee knowledge of both joint and firm specific principles of personnel funds. The results reveal that the impact of pay knowledge is directly connected to performance and not mediated through pay satisfaction as earlier research argues. I argue that actual knowledge is a more reliable measure than perceived knowledge in estimating the relationship, and thus one should prefer measures of actual knowledge. To enhance knowledge about the personnel fund, it is not enough to just provide feedback on financial figures. Communication about fund related matters is important in order to increase pay knowledge and the employees' 'line of sight'.



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