

# Making Strategy Work: Sense and Sensibility of Results-Oriented Pay Systems

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Kiisa Hulkko-Nyman





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**Kiisa Hulkko-Nyman**

A doctoral dissertation completed for the degree of Doctor of Science (Technology) to be defended, with the permission of the Aalto University School of Science, at a public examination held at the lecture hall TU1 of the school on 21 May 2016 at 12 noon.

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**Abstract**

Incentive systems are here to stay. They are meant to motivate employees and boost their performance - but often their impact is not quite what was expected. It is thus essential to study how their outcomes are generated and under what conditions systems work best. This dissertation sheds light on these topics. A model is built and tested to find out how results-oriented pay (ROP) systems influence satisfaction with the ROP system, performance and co-operation as perceived by the employees. The model combines propositions from the theories of contingency, expectancy, goal setting, and procedural justice in a novel way to build a midrange theory. It proposes that ROP system outcomes are generated by four antecedents - employees' knowledge of ROP and the importance they ascribe to it, along with their perceptions of fairness of ROP procedures and fit between the ROP system and the organizational goals. Further, the study contributes to our understanding of how this happens in the contexts of three types of ROP systems identified.

The data (N = 1778) were collected from informants belonging to 35 different ROP systems in 18 organizations from Finnish private and public sectors. In addition, descriptions of the ROP systems were used. The data were analyzed with hierarchical regression analyses and correspondence analysis.

The results show that the systems had on average only from modest to moderate outcomes - there is room for improvements. Positive ROP outcomes emerged when the respondents experienced that the ROP systems made sense, i.e., the link between ROP and goals was clear and the employees knew the system well, and had sensibility, i.e., the employees were fairly treated. The generation of outcomes was unique for each of the three contexts, thus the study emphasizes context-sensitive approaches. Ideally, incentive systems should be built to match organizational goals, and managers should communicate this strategic link so that systems make sense. The choice between individual and group bonuses should be made by taking into account that co-operation outcomes were lowest for individual bonuses. The managers of individual bonuses should strive for fairness and the managers of group-based bonuses should invest especially in active communication of the ROP system.

**Keywords** Incentive systems, results-oriented pay systems, performance outcomes, co-operation outcomes, pay satisfaction, knowledge of pay, fairness of pay procedures, contingency perception, importance of a pay system

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**Tiivistelmä**

Tulospalkkiojärjestelmät ovat tulleet jäädäkseen työelämään. Ne vaikuttavat henkilöstön motivaatioon ja työsuoritukseen, mutta eivät välttämättä toivotulla tavalla. Siksi on oleellista ymmärtää, miten niiden myönteiset vaikutukset syntyvät ja missä olosuhteissa ne toimivat parhaiten. Väitöskirjassa rakennettiin ja testattiin malli siitä, miten tulospalkkiotytytyväisyys ja tulospalkkioiden vaikutukset organisaation suoritukseen ja yhteistyöhön syntyvät Suomessa. Mallissa yhdistetään uudella tavalla yhteensopivuusteorian, odotusarvoteorian, tavoitteen asettamisen teorian ja menettelytapojen oikeudenmukaisuuden teorian ajatuksia palkitsemisen vaikutusmekanismeista keskitason teoriaksi (midrange theory). Mallin neljä tekijää edistävät myönteisiä vaikutuksia – henkilöstön tietämys palkkiojärjestelmästä, järjestelmän koettu tärkeys, järjestelmän prosessien oikeudenmukaisuus ja kuinka hyvin järjestelmä sopii yhteen organisaation tavoitteiden kanssa. Lisäksi tunnistettiin kolme tulospalkkiojärjestelmätyyppiä ja niiden vaikutusten syntyä tutkittiin erikseen kussakin kontekstissa.

Tutkimuksen aineistona oli 35 palkkiojärjestelmää koskeva dokumentaatio ja henkilöstökysely (N = 1778). Järjestelmiä tutkittiin 18 yksityisen ja julkisen sektorin organisaatioissa. Analyysimenetelminä käytettiin hierarkkista regressioanalyysiä ja korrespondenssianalyysiä.

Palkkiojärjestelmillä oli keskimäärin vain vähäisiä tai kohtalaisia vaikutuksia - niiden vaikuttavuudessa oli parantamisen varaa. Myönteisiä vaikutuksia esiintyi silloin, kun henkilöstön mielestä palkkiojärjestelmissä oli järkeä eli järjestelmä sopi yhteen organisaation tavoitteiden kanssa ja henkilöstö tunsii järjestelmän ja silloin, kun henkilöstö koki järjestelmän käyttämisen tavan oikeudenmukaiseksi. Lisäksi vaikutusten syntymekanismit olivat erilaiset kolmessa järjestelmätyypissä. Ihannetilanteessa työpaikalla sovitetaan palkkiojärjestelmä tavoitteisiin ja viestitään sen strategiyhteydestä tehokkaasti, jotta henkilöstö voi kokea palkkiojärjestelmän järkevänä. Yksilö- ja ryhmäpalkkioiden välistä valintaa pohtivien kannattaa huomioida tutkimuksessa havaitut vaikutukset yhteistyöhön; ne olivat yksilöpalkkioilla heikoimmat. Yksilöpalkkioita käyttävien on tärkeää panostaa oikeudenmukaisiin menettelytapoihin ja ryhmäpalkkioita käyttävien on puolestaan oleellista varmistaa, että koko henkilöstöllä on riittävästi tietoa järjestelmästä.

**Avainsanat** Tulospalkkiojärjestelmät, organisatoriset vaikutukset, yhteistyövaikutukset, palkkatytytyväisyys, palkkatietämys, menettelytapojen oikeudenmukaisuus, yhteensopivuus, palkkausjärjestelmän tärkeys

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I wish that I can pay forward the good deeds I have received in the spirit of another Yoda quote: *“Pass on what you have learned”*.

Kiisa Hulkko-Nyman

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# List of Abbreviations and Symbols

CA	Correspondence analysis
CFA	Confirmatory factor analysis
EFA	Exploratory factor analysis
PCA	Principal components analysis
ROP system	Results-oriented pay system





# 1. Introduction

## 1.1 Background and purpose

Incentive systems are here to stay. More than 90 % of US organizations and almost two-thirds of European organizations offer some type of an incentive system to their employees (Aon Hewitt's 2014 U.S. salary increase survey, Eurofound, 2015). These systems are also part of everyday working life for a significant share of Finnish employees and organizations. Approximately half of the private sector and one in ten public-sector employees are subject to an incentive system (Local government employers' KT survey, 2013; Confederation of Finnish Industries, 2015; Ministry of Finance, 2014).

Incentive systems influence how employees feel about their work, how they are motivated, and how they perform. Managers strive to make their organizations perform well and employees to work effectively and intelligently to accomplish organizations' goals – to make strategy work. After creating the title for my dissertation, I noticed the Harvard Business Review cover from March 2015. The issue was dedicated to Making strategy work – how to avoid traps and execute brilliantly. This topic is of significant interest to most managers. Sull, Homkes, and Sull (2015) identified in their article the execution of strategy as the number one challenge of translating strategy into results. I argue that incentive systems are critical in communicating strategic goals and eliciting desired actions in the organization. Essentially, incentive systems are among the powerful means available to make strategy work.

However, reward systems are under-researched, as Gupta and Shaw (2014) write in their introduction to a special issue on compensation published in Human Resource Management Review. There is a continuing call for research to shed light on how and why and under what conditions incentive systems work (Gerhart, Rynes & Fulmer, 2009; Shaw & Gupta, 2015).

The present study concerns incentive systems, their impact on perceived individual and organization level outcomes, and the processes leading to the outcomes in the context of Finnish working life and in diverse work contexts within Finland. Incentive systems provide cash payment in the form of a bonus and are tied to team, business unit, or organizational measures of performance (Miceli & Heneman, 2000; Milkovich & Newman, 2005). There are several terms used for describing incentive systems in the literature such as variable pay, bonuses, and goal-sharing systems. Regardless of the concept used, incentives are one-

off payments that do not have a permanent effect on labor costs. I use the term results-oriented pay systems (ROP systems) to describe the incentive systems studied in this thesis:

**Results-oriented pay (ROP) systems** reward employees for their performance outcomes or work outcomes. The outcomes can be measured at the individual, group, or organizational level. Typically, the Finnish ROP systems reward for a combination of different level outcomes, for example, company, unit, and individual performance. Additionally, the outcomes measured can be of diverse qualities within one ROP system (e.g., operational outcomes and financial outcomes). The Finnish ROP systems are typically paid on top of the base pay and are not usually subject to collective bargaining. (Hulkko, Ylikorkala, Hakonen, & Sweins, 2005.)

Financial incentives have an overall positive effect on performance as evidence from the meta-analyses of recent decades shows (e.g., Condly, Clark & Stolovitch, 2003; Garbers & Konradt, 2014; Jenkins, Mitra, Gupta, & Shaw, 1998; Locke, Ferren, McCaleb, Shaw & Denny, 1980; Stajkovic & Luthans, 1997). As Shaw and Gupta (2015) wrote, the question should not be whether financial incentives work but rather how and why they work and, furthermore, under what conditions do they work best.

The how and why embraces the areas of fascinating psychological processes by which individuals perceive incentives, are motivated by them, and act. For example, motivation theories such as equity theory (Adams, 1963), expectancy theory (Vroom, 1964), and goal-setting theory (Locke & Latham, 1990, 2002) as well as procedural-justice theory (e.g., Leventhal, 1980) offer insights for understanding why incentive systems work or do not work. For instance, at an individual level, one must feel that goals are attainable, reaching the goal will lead to an incentive, and that the incentive is desirable for an incentive system to motivate working for those goals (Vroom 1964). Gerhart and Rynes (2003) note that multiple disciplines are needed to understand compensation systems' outcomes. I read the propositions of these theories as providing together a view in which both sense and sensibility are necessary to make incentives work. By sense I refer, for example, to propositions emphasizing that individuals must understand the incentive system to make rational decisions. Sensibility concerns those theoretical propositions in which, e.g., experienced fairness leads to actions.

The conditions under which the financial incentives work best include understanding both incentive structures (e.g., Gerhart et al., 2009) and the contexts in which the incentives are used (e.g., Gerhart & Fang, 2014). Because many of the incentive systems in real life consist of complex combinations of structural characteristics – including, for example, organizational, group, and individual goals – they should be best studied as holistic entities rather than one structural characteristic at time (Gerhart et al., 2009). Furthermore, there is a need to examine closely how and why a certain type of incentive system works. Heneman (2000) suggested that compensation studies should focus more on midrange theories that explain better the outcomes of the compensation systems by focus-

ing, for example, on interactions and system characteristics. The incentive systems are used in a certain context of the organization in its own environment. Thus, it is important to understand the context in which the incentive system is used and how the context modifies the actual incentive system structure and individuals' expectations of the system. Calling for management scholars to bring the context strongly into their research, George (2014) states, "Studies that explain individual behavior are best positioned to take advantage of context [by] understanding an organization, its culture, its policies, and physical environment and how they might influence, for example, moods, emotions, actions, or behaviors" (p. 2).

Satisfying, fair, and efficient incentive systems are difficult to design because they must meet the demands of several stakeholders, and the theoretical discussions and empirical findings in the field are often contradictory, for example, concerning what types of incentive systems have the most-positive outcomes (Gerhart et al., 2009). However, because of the potentially strong influence that incentive systems have on individuals and organizational outcomes, it is crucial to make them work well. Experience tells that it is all too easy to make catastrophic mistakes that lead to dissatisfaction, sub-optimization, employee turnover, and other undesired consequences.

In Finland, the outcomes of results-oriented pay (ROP) systems, my central interest in the thesis, vary from highly positive to even detrimental (Nurmela, Hakonen, Hulkko, Kuula, & Vartiainen, 1999). There are real practical and theoretical challenges concerning the outcomes of ROP systems. The questions of what types of ROP systems have positive outcomes and how the outcomes originate are of significant practical importance to Finnish organizations and the Finnish economy. The challenges of this complex situation have kept me interested in results-oriented pay system dynamics and their effects on organizational performance and employees' experiences.

My study contributes to understanding the individual and organizational outcomes of different types of ROP systems and how the effects originate in a specific cultural context of Finnish working life and in the contexts of the three types of ROP systems identified during the research process.

## 1.2 Theoretical roots

I want to contribute to the understanding of results-oriented pay systems' outcomes and how they originate. I have chosen, first, to consider how certain types of ROP systems are chosen via institutional theory, contingency theory, and configurational theory lenses and second, to study how psychological mechanisms explain individual and group behaviors in the context of ROP systems.

Organizational theory aims to explain the success or failure of organizations. It is a vast field, covering, for example, studies on the structure of the organization and understanding of organizations in general and their functions. My work is in the area of organizational behavior and includes a multitude of fields. Hatch and Cunliffe (2006), for example, view organization theory being always

a bearer of multiple perspectives because it draws from a variety of other fields and organizations are too complex to be summarized by any single perspective. I fully concur with the authors. I therefore chose to include multiple theoretical views and propositions into how I performed this research and formulated the theoretical model of how positive ROP outcomes are generated.

As a starting point, I view the ROP system as a *potentially positively influencing* factor in an organization for both employees and the organization. In the following, I initially review theories on how organizational structures such as incentive systems are formed and chosen and then describe the known implications for pay system outcomes. *Institutional theory* explains why and how organizations in certain areas (geographical, national, cultural, and business) tend to become similar to one another (DiMaggio & Powell, 1983). Similarity may occur in geographically or culturally neighboring areas and in organizations operating in similar business areas even in geographically distant locations. *Contingency theory* explains how organizations may strive for effectiveness by improving the fit between the characteristics of an organization, such as its structure, and contingencies that reflect the situation of the organization, such as organizational strategy (Donaldson, 2001). In other words, organizations choose and form their structures, for example, incentive systems, to fit their strategy. Institutional theory and contingency theory both explain in their own way why certain types of incentive systems are used in specific organizations. Contingency theory implies that the choices that fit the organization also lead to better outcomes. *Configurational theory* differs from contingency theorists' approach and the universalistic approach of best practice in its concern with "how the pattern of multiple independent variables is related to a dependent variable rather than with how individual independent variables are related to the dependent variable" (Delery & Doty, 1996, p. 804). Looking from both the contingency and configurational theory point of view, I see ROP systems as structures that should ideally fit the strategy of the organization in order for the strategy to result in good organizational performance. The strategic role of the incentive systems can be also seen through the lens of the *resource-based view of the firm* (e.g., Barney, 1991; Delery & Shaw, 2001; Newbert, 2007). The resources that are valuable, rare, imperfectly imitable, and non-substitutable are sources of sustained competitive advantage for organizations (Barney, 1991). Further, scholars have stressed the value of e.g., dynamic capabilities as "routines by which firms achieve new resource configurations as markets emerge, collide, split, evolve, and die" (Eisenhardt & Martin, 2000, p. 1107). Human resource management practices such as incentive systems can be seen as means of improving the competitive advantage of human capital resources (Delery & Shaw, 2001). I see ROP systems as means for an organization organize its resources or manage its capabilities in a dynamic way. Thus the ROP systems as such do not necessarily have to be valuable, rare, inimitable and non-substitutable. Instead, they have to be utilized wisely to manage the valuable, rare, inimitable and non-substitutable resources or capabilities in order to bring sustainable competitive advantage for the organization. Further, Gerhart (2000) argues that fit between e.g., compen-

sation systems and business strategy may be of importance also from the resource-based view of the firm; developing unique alignments can create sustainable competitive advantage because it can be difficult to imitate. Configurational theories assume “equifinality”, i.e., that several patterns may lead to the same outcome (Meyer, Tsui & Hinings, 1993). Typically, configurational studies aim at finding typologies. ROP systems have a multitude of characteristics such as whether they reward individual or group performance, what criteria there are to measure performance, and how much bonuses can one have. My interest is in finding configurations of characteristics in ROP systems, i.e., typologies of ROP systems.

In the workplace, individuals experience the chosen ROP systems in a variety of ways. By experiencing, I refer to how individuals perceive the ROP system itself, how well they know it, how they perceive the ROP system in relation to the organizational context, and how fairly they feel and perceive they are treated by the ROP system. These individual experiences and perceptions lead to ROP satisfaction, actions and behaviors that can be indirectly detected with respondents’ evaluations of how ROP influences organizational performance and co-operation. Accordingly, I review in the following the *individual level theories* explaining pay outcomes in the workplace: the role of motivation, knowledge, perceived fit between the incentive system and organizational goals, and perceived fairness. Major process *theories of work motivation* are also reviewed to illuminate the role of motivation in behavior at work and the role of incentives in motivational processes. The focus is on theories that clearly have been used to understand pay outcomes: equity theory (Adams, 1963), expectancy theory (Vroom, 1964), goal-setting theory (Locke & Latham, 1990), and self-determination theory (Deci & Ryan, 1985, 2000). The valence of incentives is highlighted as one key element in explaining ROP effects (Vroom, 1964; Locke & Latham, 1990) and I discuss how the perceived importance of the ROP system reflects the valence in my study. Then, I present knowledge of the ROP systems role in creating ROP outcomes. First, the importance of ROP system knowledge is deduced from process theories of work motivation (Vroom, 1964; Locke & Latham, 1990). Second, empirical evidence of knowledge of pay system effects is presented (e.g., Mulvey, LeBlanc, Heneman, & McInerney, 2002, Moisis et al., 2012). The perceived fairness of ROP systems and their implementation is one of the factors affecting, for example, pay satisfaction and individual performance. *Procedural fairness theory* is reviewed in pay-related situations (e.g., Folger & Konovsky, 1989). Furthermore, I wish to apply a contingency theoretical view at the individual level (Gerhart & Rynes, 2003). The main suggestion here is that for the fit between an incentive system and an organization to produce positive outcomes, the individual must perceive the fit. When the individual perceives a good fit between the ROP system and, e.g., organizational goals, he / she may perceive the ROP system as “good” and change or modify his / her behavior according to ROP goals.

Last, I review the consequences of pay system characteristics on pay system outcomes such as pay satisfaction, performance, and what can be expected of, for example, individual- or group-based bonuses in the light of individual level

theories. Theoretical insight is drawn, particularly from motivation theories such as equity theory, expectancy theory, and goal-setting theory. Furthermore, I review empirical findings on the relationship between pay system characteristics and pay outcomes.

### 1.3 Research questions

My first aim is to build a model for understanding how results-oriented pay systems' perceived outcomes on individual and organizational levels are generated, using data from Finland. That is, how are ROP satisfaction, perceived ROP effect on organizational performance, and co-operation generated? Based on the theories reviewed, I expect that four aspects of individual perception have a substantial role in generating the ROP outcomes. These aspects are how important is the ROP system as perceived by the individual, how well the individual knows the system, how fair, as perceived by the individual, are the processes of using the ROP system, and how well does the individual perceive that the ROP system fits with the organizational goals.

The second aim is to test the theoretical model of how ROP outcomes originate by using the data from 35 Finnish results-oriented pay systems. Third, I aim at understanding the processes of ROP effectiveness in the context of different ROP types and assume that the processes differ from one another.

Thus, I have described two broader research questions below. In chapter three, as the theoretical background, I describe the theoretical model of the ROP effect on individual and organizational consequences. After reviewing the essential theories, I present the more detailed hypotheses concerning the following two broad research questions:

*Research question 1:* How do the four antecedents (employees' knowledge of ROP and the importance they ascribe to it, together with their perceptions of fairness of ROP procedures and fit between ROP and organizational goals) influence the three important ROP outcomes (i.e., perceived satisfaction together with perceived effect on organizational performance and co-operation)?

My hypothesis is that all four antecedents have an independent role in predicting all three ROP outcomes. Later, I hypothesize that the level of perceived importance of ROP and knowledge of ROP moderate the relationships between the other two independent variables and the outcomes.

*Research question 2:* How do the four antecedents (employees' knowledge of ROP and the importance they ascribe to it, together with their perceptions of fairness of ROP procedures and fit between ROP and organizational goals) influence the three important ROP outcomes (i.e., perceived satisfaction together with perceived effect on organizational performance and co-operation) *in the context of diverse ROP systems*? What are the diverse ROP types like and how does the theoretical model fit the sub-datasets formed by ROP types?

My aim is to study why and how different types of ROP systems have positive outcomes by answering these two broad research questions in the context of

Finnish working life. ROP systems are formed by the context and perceived by individuals raised largely in this context. Furthermore, ROP systems are categorized into different types of ROP systems by their characteristics, which offers a possibility to study the effects and the mechanisms of effects in the three identified types of ROP systems.

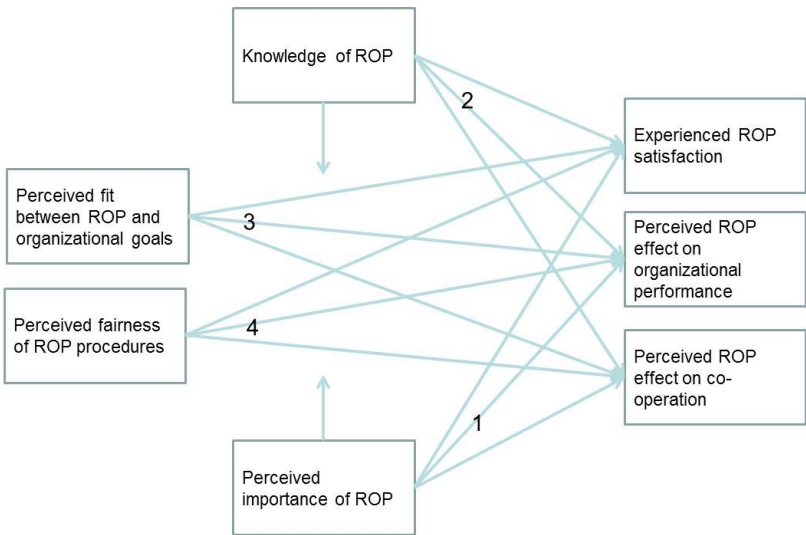
#### **1.4 Model of results-oriented pay (ROP) individual and organizational outcomes**

I test a theoretical model that I constructed for understanding how ROP influences employees' ROP satisfaction and their perceptions of its effect on organizational performance and co-operation (Figure 1). The model is presented briefly here to make its relationship with the theoretical background easily visible. Currently, ROP is viewed as a factor with a potentially positive influence in an organization both from the point of view of the employee and organizational functions. Positive influences on the employee could be, for example, better income and a pay that is perceived to be fair. Positive influence for the organization could be, for example, better performance of individuals, groups, and the organization as a whole. The research group at Aalto School of Science has defined an *effective ROP system* as a system producing desired effects and satisfaction of the employees and the employer (Hulkko, Hakonen, Hakonen, & Palva, 2002). Thus, in the present work, I entertain normative assumptions about what is and what is not an "effective" ROP system.

I propose and test the model for understanding the individual and organizational consequences of results-oriented pay systems. Bartol and Locke (2000) stated that, "Ideally, a compensation system will promote both productivity and satisfaction" (p. 123). Here I focus on satisfaction with ROP and influence of ROP systems on organizational performance and co-operation as perceived by employees and on the ways in which ROP affects such experienced satisfaction and perceived influence. The model builds on multiple disciplines to obtain a holistic view of the complex issue of ROP effectiveness (Gerhart & Rynes, 2003). The model specifically proposes mediating variables between the ROP system itself and its consequences to understand the mechanisms behind ROP effectiveness (the black box), as suggested by Gerhart et al. (2009).

The model builds on four theoretical propositions (Figure 1) and combines them in a novel way. The first underlying theoretical proposition is that positive ROP outcomes (higher ROP satisfaction, organizational performance, and co-operation) can be reached only if the system itself is of value for the individual employee, that is, the valence proposition (Vroom, 1964; Locke & Latham, 1990). The second underlying theoretical proposition is that positive ROP outcomes can be reached only if employees are familiar with the pay system, that is, the knowledge-of-pay proposition (Vroom, 1964; Locke & Latham, 1990). The third underlying theoretical proposition is that for positive ROP outcomes to emerge, employees should be able to recognize the link between the pay system and organizational goals, that is, the contingency proposition (Gerhart & Rynes, 2003). The fourth underlying theoretical proposition is that employees

must experience the pay system processes fair to be satisfied with the ROP and to be willing to work to achieve organizational goals, that is, the organizational-justice proposition (e.g., Folger & Konovsky, 1989). I also propose that the knowledge of ROP moderates the relationship between how well employees recognize the link between ROP and organizational goals and how fair they perceive the ROP procedures and the three types of outcomes to be. Furthermore, I propose that the perceived importance of ROP has a similar moderating function.



**Figure 1.** Theoretical model of the study

In addition to the novel combination of theoretical propositions including the moderation hypotheses, the theoretical model contains some scarcely studied propositions. First, there have been only a few studies on incentive system contingency and outcomes relationship as perceived by individual employees. Second, the relationship between procedural justice and organizational performance is among the least clear relationships in the procedural justice literature and there are very few studies on the relationship in the context of pay systems. Third, pay system knowledge is still relatively scarcely studied and there is no single best model in the literature of how it is connected to e.g. pay satisfaction and organizational performance.

I also expect that the structure or the type of the ROP system influences the outcomes and the mechanisms through which the outcomes originate. For example, I expect the maximum amount of bonuses offered, the actual payments made and whether performance is measured at an individual or group level to have a role in predicting outcomes. This expectation underlines the importance of how and why certain structural choices are made in an organization. Furthermore, I expect the model to function differently in different ROP contexts. I rely on the configurational idea of organizational structures and management systems to be “best understood in terms of overall patterns rather than in terms of



analyses or narrowly drawn sets of organizational properties” (Meyer et al., 1993, p. 1181). Thus, I organize the data both theoretically and empirically into three different contextual datasets and study the model and the model propositions within each of the three datasets.

Based on these propositions concerning the model variables and the contextual and structural factors, I formulate more-specific hypotheses and present them in Chapter four.

## 1.5 Structure of the thesis

The thesis is divided into seven chapters followed by the list of references and appendices. The first four chapters present the background of the study including theories and the context of results-oriented pay in Finland and the research questions. The second chapter introduces reward systems, their history, definitions, and prevalence. The chapter concentrates on what ROP systems are like in the Finnish context. The third chapter is dedicated to reviewing the theoretical background behind the model explaining ROP outcomes. The research questions and hypotheses are presented in detail in the fourth chapter.

The fifth chapter describes the data from 35 ROP systems used in the study, how it was gathered, and what was my role in data collection. I also describe the measures that I use in the study including the independent measures, the outcome measures, the control measures, and how I did the theory-based coding of ROP characteristics. Finally, I describe the statistical methods used in the study including missing data analysis, hierarchical regression analyses, and multiple correspondence analyses.

The sixth chapter is dedicated to the results of the study and divided into two main sections each answering one research question. The first section 6.1 presents the findings on how do the four antecedents (employees’ knowledge of ROP and the importance they ascribe to it, together with their perceptions of fairness of ROP procedures and fit between ROP and organizational goals) influence the three important ROP outcomes (i.e., perceived satisfaction together with perceived effect on organizational performance and co-operation). The second section 6.2 reveals the three configurations of ROP systems that were found among the 35 systems studied and how ROP outcomes were generated in the context of these three different configurations.

In the seventh chapter, I discuss the findings, the theoretical and practical contributions of the thesis, the limitations of the study, and at the end, I propose some future research questions.

## 2. Reward systems and results-oriented pay

Reward systems are briefly presented and defined here in the international setting and in Finland. I focus on the use of diverse incentive systems in the US, the EU, and particularly Finland. I will discuss what the results-oriented pay systems are like and how often they are used in Finland. But first, let us take a brief look at the history of incentive systems.

### 2.1 History of incentive systems and studies of their effects

Paying for results or performance is not a recent invention. According to Masternak (2008), one of the first documented profit sharing plans in the US was implemented more than 200 years ago, in 1794, at a glass company. However, profit sharing systems became more prevalent only later, in 1920s (Masternak, 2008). In the US, the use of individual incentives, including piece-rate pay and sales commissions, was booming already in 1920s and 1930s (Lawler, 1990). Many of the group based systems have been around almost as long, gainsharing since 1930s and profit sharing even before that (Lawler, 1990; Masternak, 2008). In Finland, the types of results-oriented pay systems studied in this thesis were introduced in metal industry as late as in the mid 1980's.

Studies of diverse incentive systems' effects on productivity have been carried out since the origins of scientific management in the 1890's. Even before, Towne (1886) illustrated the connection between piece-work and reduced labor cost of products in a US company between 1870 and 1885. Towne's paper is considered as the first call for scientific management (Shafritz & Ott, 1992). Taylor (1911), the father of scientific management, had crystallized views on how the production increased by scientific management will pay off to both employers and employees and how payment by results will enhance productivity. "The principal object of management should be to secure the maximum prosperity of the employer, coupled with the maximum prosperity for each employ  " (Taylor, 1911, p. 9). His view was that the most effective payment systems were based on individual achievement. He criticized the profit-sharing systems and other collective systems for producing only mild effects. Furthermore, individual piece-rate

systems, commonly used before, needed to be backed up by scientific management to keep them up-to-date and profitable. He wrote that scientific management actually introduces a complete mental revolution:

The new outlook that comes under scientific management is this: The workmen ... and the management come to see that this surplus can be made so great, providing that both sides will stop their pulling apart, ... that there is no occasion to quarrel. Each side can get more than ever before. (Taylor, 1916 in Shafritz & Ott, 1992, p. 73.)

At the same time Fayol (1916), in France, published the first complete theory of management, which included also ideas and views about fair and effective payment systems:

The method of payment can exercise considerable influence on business progress, so the choice of this method is an important problem. It is also a thorny problem which in practice has been solved in widely different ways, of which so far none has proved satisfactory. (Fayol, 1916 in Shafritz & Ott, 1993, p. 60.)

Both individuals (fairness, motivation), and organizations (enhanced performance, effective use of resources, possibility for strategic choices) have high hopes for incentive systems. There is a great deal of accumulated experience in using them in organizations, but research disagrees on the effects of performance based pay systems or incentive systems (Gerhart et al., 2009). Gerhart et al. (2009) illustrate the disagreement with two examples. In their classic meta-analysis on relative effectiveness of methods of motivating employee performance, Locke et al. (1980) state: “No other incentive or motivational technique comes even close to money with respect to its instrumental value. It is not surprising, then, that people will work harder when given a chance to earn more of it” (p. 379). Pfeffer (1998) views the evidence in an opposite way: “Literally hundreds of studies and scores of systematic reviews of incentive studies consistently document the ineffectiveness of external rewards” (p. 214-215). Even though there is a growing body of knowledge on variable pay effectiveness, there is still relatively little knowledge on why certain types of incentive systems are effective and under what conditions they are effective (Heneman, 2000). Lately, Shaw and Gupta (2015) wrote eloquently:

As with debates about whether the sun goes around the earth and whether there is climate change, the scientific evidence has spoken about financial incentives in work settings – they are effective, they improve performance quantity, they improve performance quality and they do not erode, but rather enhance the potency of, intrinsic motivation. It is time to put the issue of whether they work to rest; it is time to attend to issues of how and why they work. (p. 289)

Furthermore, the majority of studies on incentive systems have been carried out in the US. The academics in Europe have given surprisingly little attention to studying pay systems in general (Kira & Neu, 2007). The practices of variable pay system have diffused from the US and Great Britain to other European countries and other parts of the world. Due to the origin of these practices, one of the essential questions remaining is whether the variable pay systems created in a specific cultural environment (US and Great Britain) function in a similar

and expected way in another cultural environment. Some interesting analyses on the suitability of the performance management ideologies in other cultures have been offered, e.g., by Nørreklit, Nørreklit and Melander (2006) in Denmark. Nørreklit et al. (2006) describe the performance management systems of US origin as being based on a “fair contract” between free individuals. Fairness is associated with the suitable rewarding of each individual’s performance. The Danish tradition is influenced by Lutheran faith and duty ethics where an individual is committed to bring perfection for his work because it is his / her duty as such. Nørreklit et al. (2006) question the suitability of American performance management systems in the Danish culture because of the differences in underlying cultural expectations of individuals. Furthermore, the pay practices or the performance management systems may not be actually the same as they were in the country of origin after they have been implemented in another country and cultural context. The so called translation may take place. The translation is done for instance by loosely coupling, that is, by giving an existing practice a new name but not actually implementing the new practice or making adjustments to the new practice to make it more suitable (e.g., Lunnan et al., 2005; Björkman & Lervik, 2007). Thus, it is possible that also the incentive system practices in Finland – the ROP systems – may be different from the practices in the US.

## **2.2 Reward systems in the US and EU**

A reward system includes several elements of reward: policies, practices, processes of assessment, procedures of maintaining the system, and structures. Total rewards system refers to the combination of financial and non-financial rewards available to employees (Armstrong & Stephens, 2005). Milkovich and Newman (2005) use the concept of “total returns” and divide the returns into two major categories: 1) total compensation including direct pay and incentives and indirect compensation in benefits, and 2) relational returns, for example, learning opportunities, challenging work, employment security, and recognition. Compensation or remuneration consists of pay received by an employee directly in cash, for example, base pay, merit increases, incentives or indirectly through benefits such as health benefits, pensions, paid time off (Baeten & Verbruggen, 2007; Milkovich & Newman, 2005). Compensation and remuneration refer specifically to the financial elements of total rewards.

Base pay is the pay an employee receives regularly. Variable pay is a cash payment in the form of a bonus, and it is tied to team, business unit, or organizational measures of performance (Miceli & Heneman, 2000). Milkovich and Newman (2005) prefer the concept of incentives in describing similar kinds of bonuses. However, a number of terms and definitions are used for describing diverse types of variable pay or incentives, for example, gainsharing, profit sharing, and team pay. Gainsharing is a results-based program that links pay and performance in a collective, typically facility level. In gainsharing, organizational success can be rewarded according to measures such as controllable costs or units of output. Gainsharing was originally used in factory environments

where the measuring of output was practical. Profit sharing typically pays for organization level performance. (Gerhart & Rynes, 2003.) In this thesis, I use results-oriented pay (ROP) as a concept describing incentives in the Finnish context. In results-oriented pay, the employees receive bonuses for reaching performance targets set in advance. Targets can be set on individual, group, business unit, and organizational level. (Hulkko et al., 2005.)

The considerable variation in the use of incentive terms globally makes reading of prevalence studies challenging. However, it is evident, that the use of incentive systems in the US is more frequent than in the EU. In 2014 already 91 % of US organizations offered a variable pay program to their employees (Aon Hewitt's 2014 U.S. salary increase survey). They have become more common relatively rapidly since the beginning of 1990's when 51 % of US companies offered a variable pay program according to Hewitt Associates salary surveys. In the 1990s, about 35% of US Companies paid their employees individual incentives and about 15-20% paid small group incentives (McGee, Dickinson, Huitema, & Culig, 2006). The use of small group incentives has since increased. According to Hewitt Associates 2003 salary survey, 77% of the US companies offered at least some plan connecting pay to performance (Pfeffer, 2007). Over the past two decades, organizations in the US have moved more towards measuring and rewarding performance at plant, division, and corporation levels (Gerhart et al., 2009).

In the EU countries, the use of variable pay systems has historically been less frequent but growing. The use of variable pay has become even more prevalent during the last decade: in 2013 the cross-national European Company Survey found that almost two-thirds (63%) of establishments studied used some form of variable pay systems in 32 European countries (Eurofound, 2015). These included different types of variable pay systems, for example, results-based pay systems were used in 34 %, group-based pay systems in 25 %, and profit-sharing in 30 % of establishments (Eurofound, 2015). The relative historical slowness in variable pay implementation may partly be due to the resistance by trade unions (Van het Kaar & Grünell, 2001). Variable pay had been seen as an "employers' issue". However, the opinions seem to have changed somewhat, and variable pay has even been given a high priority on some unions' bargaining agendas (Van het Kaar & Grünell, 2001). The European Union institutions also started to promote variable pay, especially employee financial participation, already in the 1990's and the incidence of variable pay systems increased throughout Europe in the late 1990s (Van het Kaar & Grünell, 2001). The reasons for the increase has varied between countries, for example, in France a law of mandatory and voluntary profit-sharing schemes was introduced, and in Italy and Spain the decentralization of the collective bargaining structure led to an increased use of variable pay. In 1996 every third European workplace used modern forms of variable pay for the largest occupational group according to the cross-national EPOC survey (Antoni, 2007).

The use of variable pay systems was less common at the time of the data collection of this thesis between 2003 and 2007. For example, in 2009, 36 % of

European establishments with ten or more employees used pay elements related to individual or group performance and only 14 % of establishments used profit-sharing schemes (European Company Survey 2009). In 2009 the prevalence of variable pay systems varied substantially between countries: Finland was among the top four countries both in the prevalence of individual or group performance-based pay and in profit-sharing.

The use of incentive systems varies not only between countries or regions, but also between sectors of industry and by a number of organizational characteristics. First, there is considerable variation in variable pay prevalence between the different sectors of working life (Eurofound 2015; European Company Survey 2009; Van het Kaar & Grünell, 2001). In Europe, the incidence of individual or group performance-based pay was highest in the financial sector (over 50 %) and lowest in the health and social work sector (less than 25 %) (European Company Survey 2009). The use of variable pay systems is more common in large organization than small organizations - the larger the organization the more frequent the incidence of variable pay (Eurofound, 2015; European Company Survey 2009; Van het Kaar & Grünell, 2001).

## **2.3 Reward systems in Finland**

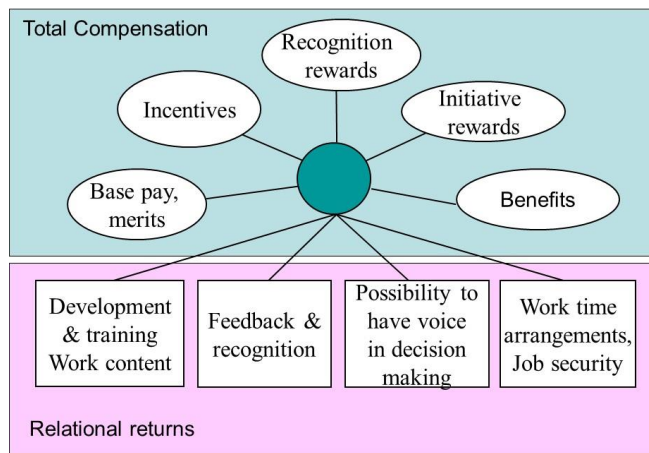
The number of employees in Finland in August 2015 was approximately 2.47 million and the population at the end of August 2015 was approximately 5.48 million (Official Statistics of Finland (OSF): Labour force survey and Preliminary population statistics). Roughly three quarters were employed in the private sector companies and one quarter in public-sector organizations (6 % in central government, and 20 % in local government sector). This division of labor force between sectors reflects the situation also at the time of data collection between 2003 and 2008. The public-sector is divided into central government (state) and local government (municipalities). State operations provide important and essential services such as defense and university education. The municipalities provide basic public services such as basic education and health care.

The Finnish labor market system is characterized by the strong position of labor market organizations including a tripartite co-operation between the government, employers' unions and trade unions. There has been a tradition of centralized collective agreements in the labor market, which has now shifted towards more emphasis on company level decisions. The employers are striving to shift the emphasis of decision making more towards individual companies and workplaces. The regulation of the labor market in Finland is based on labor legislation and on collective agreements. Nearly all collective agreements are branch-specific. (Confederation of Finnish Industries EK.) Most of the Finnish trade unions seem to be in favor of results-oriented pay systems (Hulkko & Vartiainen, 2007). However, the trade unions' and employers' unions discuss from time to time of whether the decisions concerning the ROP should be made at the collective agreement level or at company level. Today, the decisions are made purely at company level in most of the branches, and the ROP systems are not regulated through collective agreements.

The reward systems used in Finnish organizations can be presented with help of the total rewards –concept. Figure 2 presents a total rewards model used in the work of the Research program of rewarding at Aalto University School of Science. In the upper part of the figure, the model shows the monetary rewards, and in the lower part the non-monetary rewards. I also incorporated Milkovich and Newman (2005) model of total returns into the picture to show the similarities between the models. Due to the intensive research programs, active development work in the area, and the practicality of the model in describing total rewards in Finnish organizations, The Aalto University School of Science model has been widely used in Finnish private and public-sector organizations and in employers' and employees' unions.

The non-monetary rewards of the model include many potentially highly motivating elements. One of the elements consists of diverse work and development related offerings: development possibilities, training possibilities, and the actual content of the work. The second element clusters feedback the employee receives from, e.g., their supervisors, with the other elements contributing to the feeling of being appreciated. The third element consists of employees' possibilities to participate and have voice in decision-making. The fourth element includes, in a sense, the frames of the employment: job security and work time arrangements.

The monetary rewards in the model consist of base pay including merit raises, incentive systems which in my study are a synonym for results-oriented pay systems, two other specific types of variable pay systems namely recognition rewards and initiative rewards, and employee benefits. Recognition rewards and initiative rewards are distinguished from the other incentive systems due to their specific nature. Recognition rewards are typically given without a pre-hand knowledge of targets and are one-off events; they can be anything from a significant amount of money to small delightful objects like flowers. Initiative rewards on the other hand are often regulated by a system documentation and awards can be achieved with initiatives improving, for example, production quality. The initiative rewards are used to promote initiatives as the name suggests, and they have typically quite a small monetary value. However, especially in manufacturing organizations, improvement suggestions leading to considerable savings may also provide the person or persons responsible for the suggestion a considerable share of the savings. Employee benefits, in the Finnish context can be divided into two broad categories. There are first, benefits that are taxed such as telephones, lunch benefits, cars, or housing. These may be a substantial part of a persons' monetary compensation especially in managerial jobs. Second, there is a multitude of tax-free benefits offered for the entire personnel of an organization such as regulatory-level health care or wider plans, benefits for exercise and other hobbies, possibility to buy company products in a reduced rate, internet at home, childcare for a sick child, etc.



**Figure 2.** Total rewards model (Inner figure is from Hakonen, 1996; Vartiainen, Hakonen, & Hulkko, 1998; Total compensation and relational returns shown as outer boxes are from Milkovich & Newman, 2005.)

Moving back to the base pay and incentives, the Finnish cash compensation system consists typically of three main pay components (Table 1). Fixed pay, i.e., base pay is typically defined by collective agreements. It can have, and often has, two main types of pay bases at the same time: 1. Job and task requirements and 2. Competencies and performance. Job and task requirements often form the larger part of the base pay and are determined, for example, by job evaluation techniques. There, the actual job performed determines the amount of pay. Competence and / or performance based pay forms the so called person-based pay. This part of pay is influenced by the personal competencies and performance at work. Often a method of annual review discussion is used in determining the person based pay.

Variable pay or the ROP component is usually fully decided at the organizational level and pays for results and work outcomes in form of a cash bonus.

**Table 1.** The bases, measurement, and components of Finnish pay systems (Hulkko & Vartiainen, 2007, 166)

Bases of compensation	Measurement	Pay components
Job and task requirements	Job evaluation <i>-What is done?</i>	Job-based pay e.g., monthly base pay
Competences and performance	Appraisal of competences and personal performance <i>-How is work done?</i>	Person-based pay e.g., personal allowance
Results and outcomes	Result and outcome indicators <i>-What are the outcomes of the work?</i>	Results-based pay e.g., profit-sharing, group bonus

Within Finnish working life, the division between especially public and private sector workplaces should be made when discussing pay systems. The entire public-sector has pay schemes based on job evaluation and performance appraisal. This is the result of the major public-sector pay reform in late 1990s and in the beginning of 2000s. The aim was to improve the competitive edge of the public-sector on the labor market. In addition to the base pay, an effort was made to



implement results-oriented pay systems also in public-sector. In the local government sector, also the ROP maximum amount is regulated by the collective agreement. Results-oriented pay systems in the Finnish public-sector are predominantly group-based and offered to the whole personnel (Schmidt & Vanhala, 2010). The pay practices in private sector differ from those of public-sector in many ways. First, the different branches of industry have each their own collective agreements. Furthermore, the higher ranking employees are typically not subject to collective agreements. Thus, the pay systems vary more according to branch and employee group. Results-oriented pay is not typically regulated by collective agreements in the private sector.

## **2.4 Results-oriented pay in Finland**

ROP systems are used in Finland, as in other countries, for several purposes ranging from attracting and motivating employees to achieving operational goals and creating flexibility to pay related costs (Hulkko et al., 2002). The Finnish pay systems are generally otherwise quite regulated by collective agreements but ROP systems provide a possibility to align them with strategic changes or to differentiate from other organizations as an employer. The expectations for ROP systems to reach their potential in creating positive outcomes are high in the Finnish working life. The use of ROP systems increased especially in the 90's, and in the beginning of 2000 and by 2004 ROP systems covered approximately half of the private sector employees, more than ten percent of central government and five percent of local government employees. The increase stagnated in the private sector in the late 2000's and early 2010's and has even turned to decrease by 2014 when 45 % of employees were covered by ROP systems (Confederation of Finnish Industries 2010, 2012, 2015).

The characteristics of a typical Finnish ROP system often combine elements of different types of incentive systems. This is one reason for the Finnish ROP systems to be an interesting subject for research. The gainsharing has proved to have more positive effects than profit sharing in the US (Lawler, 1990). Because the two types of systems both have their own strengths, Lawler suggested as early as 1990 an ideal combination especially to large companies to be corporate-wide profit-sharing and stock ownership accompanied with unit-level gainsharing (p. 129). Many of the Finnish results-oriented pay systems today actually do resemble a mixture of profit sharing and gainsharing, or a mixture of those two and further individual incentives.

### **2.4.1 Prevalence of ROP**

Almost half of the Finnish private sector employees (45 %) and approximately one in ten local government employees (12 %) are subject to ROP systems. Furthermore, 6 % of central government employees had received ROP bonuses in 2014 but data on the total number of employees subject to ROP systems is not available. (Figure 3, Confederation of Finnish Industries, 2015; Local government employers KT; Office for the Government as Employer (VTML)).

*Private sector*

The private sector companies used ROP systems slightly more at the time of data collection than now - 52.5 % of employees were subject to the ROP systems in 2004 and 47 % in 2008 (Confederation of Finnish Industries). There are reasons to believe that the ROP systems are here to stay - a large proportion of Finnish companies were still planning to increase the use of their ROP systems for higher ranking employees (81 %), salaried employees (72 %), and blue collar employees (67 %) (Confederation of Finnish Industries, 2015).

The use and the trend of use of ROP systems differ between industries. The prevalence of ROP systems has even increased in some industries from early 2000 to 2015 (e.g., in hotels and restaurants from 25 % to 45 %) while it has decreased in some private sector industries (e.g., energy sector from 98 % to 82 %) (Confederation of Finnish industries pay system study 2008 and 2015).

Larger companies use ROP systems more often than smaller companies. Only 24 % of employees working in small (less than 100 employees) companies have ROP while 53 % of employees working in large (over 1000 employees) companies have ROP. (Confederation of Finnish Industries, 2015.)

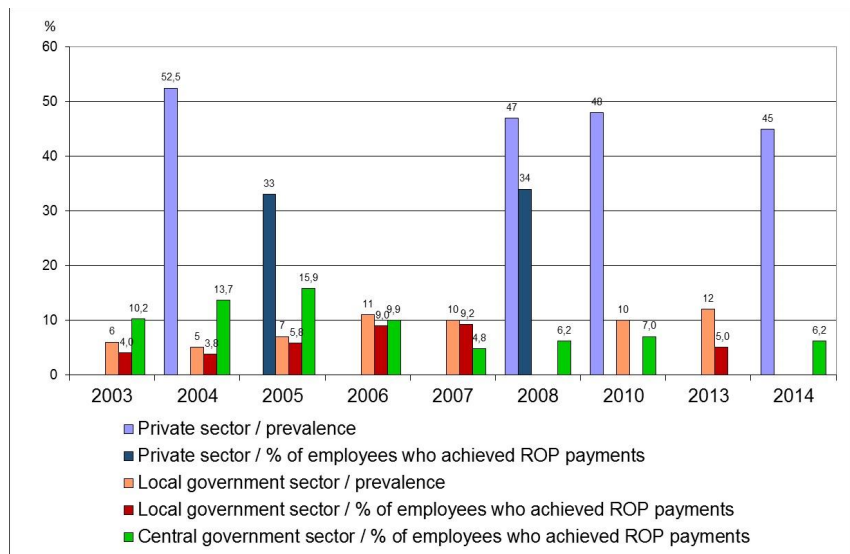
There is a relatively long tradition in the private sector to use ROP systems, especially performance based pay systems in manufacturing since the 1970's. The first ROP systems for employees were implemented in metal industry in the late 1980's. ROP has been traditionally more prevalent in manufacturing sector (69 % in 2004) than in service sector (44 % in 2004). At that time the ROP systems covered the personnel in more than half of the companies. However, it is typical to have several different ROP systems within one company (e.g., production ROP, sales ROP, and management ROP).

*Public-sector*

Local government organizations became more active ROP users during the data collection period – in 2003 only 6 % of local government employees were subject to ROP systems while in 2007 ROP systems covered 10 % of employees (Local government employers KT employment surveys). It seems that fewer central government employees receive ROP bonuses now than in the beginning of the data collection period. In 2003 as many as 10.2 % of central government employees received bonus payments as opposed to only 4.8 % in 2007. (Office for the Government as Employer, VTML.) Against expectations, the ROP systems have not become much more common in the public-sector. Economic downturn has undoubtedly a role in this.

Because the public-sector data in this study covers only local government ROP systems, the local government practices are examined in more detail. There the ROP systems are most often designed for a specific branch of activity (e.g., dental care) or for specific pilot units (e.g., one dental care center within the municipality). Typically the whole personnel of the branch or unit in total are subject to the ROP (except for chief executives). At the same time the majority of the employees within the same municipality are not covered by ROP systems. One

should observe that ROP systems are still relatively new in the public-sector setting as whole.



**Figure 3.** ROP prevalence (in % of employees of each sector) in Finland 2003-2014 (Figures from the Confederation of Finnish Industries EK; Local government employers KT employment surveys; Ministry of Finance: Valtion henkilökärekisterit 2003-2005 and Työnantajan henkilöstötieto Tahti -järjestelmä 2006-2008)

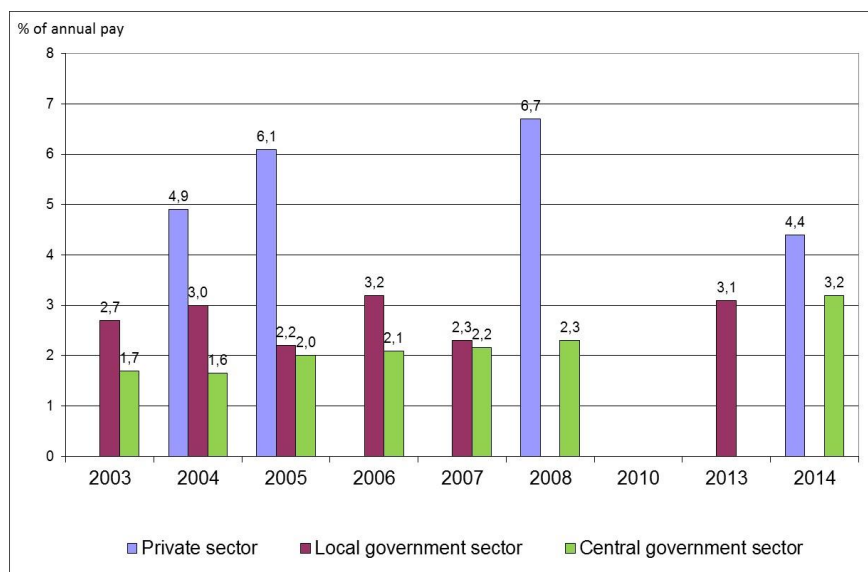
#### 2.4.2 Size of bonuses and measurements used in ROP systems

The size of both maximum bonuses and actually achieved bonuses vary between the private sector and the public-sector and between private sector branches. In the private sector, the maximum bonuses equal on average a little more than one month's pay (approximately 10 % of annual pay) with a large variability between companies, branches (e.g., chemical industry 15 %, financial sector 18 %, technology industry 10%, and hotels and restaurants 3 %) and personnel groups (approximately 6 % of annual pay for blue collar employees, 11 % for salaried employees, and 15 % for higher-ranking employees). (Confederation of Finnish industries, 2015.) The maximum bonuses have increased on average slightly since 2008. The maximum bonuses for higher management are not discussed in this thesis, but clearly, the amounts vary by companies and are typically significantly higher than in the case of other employee groups. The municipal sector collective agreement regulates the maximum amount of bonuses to be 5 % of unit wages. This equals to little over two weeks salaries. The governmental sector maximum bonuses vary more than the municipal sector maximum bonuses, but are smaller on the average than in the private sector.

The actualized bonuses have been about half of the maximum bonuses in the private sector ranging from 4.4 to 6.7 % on average between 2003 and 2014 (Figure 4). The average bonuses achieved in the local government sector have varied between 2.2 and 3.2 % between 2003 and 2014. During the same time,

the bonuses achieved varied between 1.6 and 3.2 % in the central government sector. To conclude, the average bonuses achieved stayed quite stable during the period of data collection 2003 to 2008 and diminished in the private sector by 2014.

The ROP systems of private sector reward typically at least for achieving financial targets, but operational criteria are also often used. The most common criteria are profit, productivity, quality, and development targets. Criteria that measure profit are used in the vast majority of ROP systems (82%). Half of the ROP systems include productivity criteria and an equal number of systems include some quality criteria. 37 % of the ROP systems have development targets as criteria. (Confederation of Finnish Industries EK, 2015.)



**Figure 4.** Average bonuses paid in Finland 2003-2014 as percentage of annual pay (Figures from the Confederation of Finnish Industries EK, where annual pay includes also bonuses; Local government employers KT employment surveys; Ministry of Finance: Valtion henkilökärekisterit 2003-2005 and Työntantajien henkilöstötieto Tahti -järjestelmä 2006-2008, where annual pay does not include bonuses)

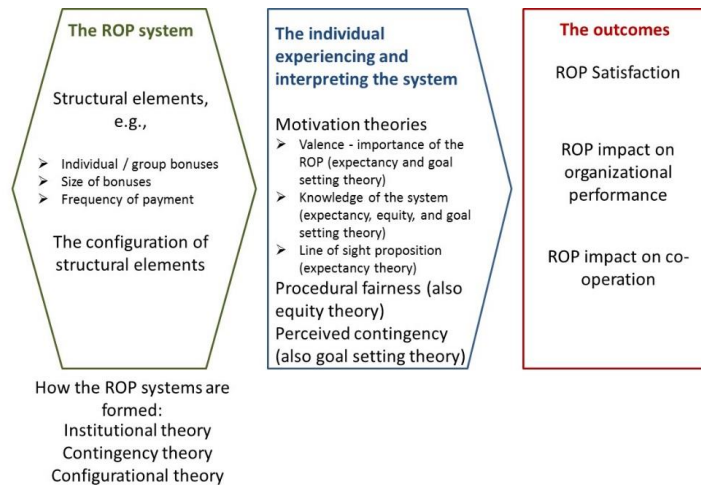
Most often the results are measured at company or profit-center level. Today 47 % of the employees covered by ROP have also team- or group level performance targets and 41 % have also individual performance targets (Confederation of Finnish Industries EK, 2015). A typical private sector ROP system includes 3 to 4 criteria for bonuses (Confederation of Finnish Industries EK, 2012). The systems are not the same for different groups of employees. Kauhanen and Napari (2012) found that the systems for white collar employees in Finland had typically broader variation of bonus criteria and that they were measured from several organizational levels as opposed to blue collar employees' ROP system practices.

In the local government sector, there is a strong tendency to measure and reward group performance instead of individual performance. The same holds for

the central government sector, where rewarding of groups is recommended by the Government as employer. The criteria used in the local government sector ROP systems tend to be less financially results-oriented than the private sector systems. The reason is practical, because the financial results are not as straightforwardly measured in the public-sector. Many of the local government sector ROP systems aim at promoting change in operations and thus the criteria often include, for example, success rates of development projects.

### 3. Theoretical background

It is not exactly known how results-oriented pay systems' outcomes are born. In reviewing the theories relevant to this study, I first discuss pay system outcomes from two perspectives: pay satisfaction and organizational performance. Second, I review theories on how organizational structures such as incentive systems are formed and chosen and what their implications are for pay system outcomes. *Institutional theory* explains why and how organizations in certain areas tend to become similar with one another. Similarity may occur in geographically or culturally neighboring areas as well as in organizations operating in similar business areas even in geographically far away locations. *Contingency theory* explains how organizations may strive for effectiveness by improving the fit between the characteristics of the organization, such as its structure, and contingencies that reflect the situation of the organization, such as organizational strategy. This implies that organizations choose and form their structures, e.g., incentive systems, to fit their strategy. Institutional theory and contingency theory both explain in their own way why certain types of incentive systems are used in specific organizations. Contingency theory further implies that the choices that fit the organization lead to better organizational outcomes. Third, I review individual level theories explaining pay outcomes: the role of motivation, knowledge, perceived fairness, and perceived fit between the incentive system and organizational goals. Fourth, I review the influence of pay system characteristics on pay system outcomes. Finally, I discuss what can be expected of, for example, individual or group based bonuses in the light of individual level theories and contextual theories. See also Figure 5.



**Figure 5.** Theories explaining the formation of ROP systems (on the left) and the processes creating positive ROP outcomes (in the middle)

### 3.1 Pay satisfaction and performance as pay outcomes

I have divided potential pay system outcomes into pay satisfaction and performance on different levels. In the literature, these two types of pay outcomes have been widely studied (e.g., Bartol & Locke, 2000; Garbers & Konradt, 2014; Gerhart, 2000; Gerhart & Fang, 2014; Heneman & Judge, 2000). I briefly review the literature on these two types of pay outcomes, especially when they are studied in relation to ROP systems.

#### 3.1.1 Pay satisfaction as an outcome

Pay satisfaction is directly linked to how the employees experience their pay systems; the pay received, the fairness of the pay system and the implementation of the pay system. Pay satisfaction is seen as one of the determinants of how the employee chooses to behave (Heneman & Judge, 2000).

Pay satisfaction can be defined as the “amount of overall positive or negative affect (or feelings) that individuals have toward their pay” (Miceli & Lane, 1991, p. 246). Satisfaction with pay is somehow the intuitive outcome of a pay system. An individual receiving pay is bound to have some feeling of satisfaction or dissatisfaction towards it. I find the concept of pay satisfaction covers the overall attitudinal response to pay quite well. The major practical and theoretical interest in pay satisfaction is grounded in the diverse and significant pay satisfaction outcomes. Pay satisfaction affects the way individuals behave in the organizational settings - in the cognitive or behavioral sense (Heneman & Judge, 2000). If an employee is unsatisfied with the pay, a change can occur in his/her perceptions of, for example, the work effort and the related pay. The unsatisfied may also change their explicit behavior, for example, they may ask for a pay raise or lower their work effort.

In the context of pay satisfaction, the term pay refers to multiple forms of monetary compensation such as salary, pay raises, benefits, plus system structure, and the processes of compensation system administration (Heneman & Schwab, 1985). Pay satisfaction is thus conceptually a multidimensional phenomenon, and individuals may experience different feelings of pay satisfaction along each dimension. Additions and / or modifications have been suggested to the dimensions proposed by Heneman and Schwab (1985), e.g., Miceli and Lane (1991) proposed a model of five dimensions: satisfaction with pay level, pay system (within a job class and between job classes), benefits level, and benefits system. Pay level satisfaction is the most widely studied aspect of pay satisfaction (Williams, McDaniel, & Nguyen, 2006). Miceli and Lane (1991) proposed that people are satisfied if the system functions as they think it should function. Heneman and Judge (2000) suggested that modifications to pay satisfaction measurement and research are needed especially due to pay system changes such as the increased use of variable pay practices. In that spirit, Sturman and Short (2000) presented a scale for studying so-called lump-sum bonus satisfaction. Their scale included satisfaction with the actual bonuses, which corresponds to pay level satisfaction and items that correspond to pay raise satisfaction – how satisfied respondents are in how the bonuses are determined. Lump-sum bonuses correspond to results-oriented pay: they are an extra payment usually for goals achieved that are not added to the base pay of an employee. In this work a measure created by Sturman and Short (2000) is used and modified to fit the context of Finnish results-oriented pay systems.

### *Antecedents of pay satisfaction*

The two most frequently used models of pay satisfaction are the equity model (Adams, 1963), and the conceptually related discrepancy model (Lawler, 1971). Equity theory suggests that pay satisfaction depends on the comparison of individual's outcome (pay) – input (e.g., effort) ratio compared to the outcome-input ratio of other persons. The more similar the ratios are, the more satisfied the individual is. The discrepancy theory suggests that the primary determinant of pay satisfaction is the discrepancy between the pay that one feels should be received and the amount of pay one actually receives. The models suggest that feelings of dissatisfaction create a dissonance in the employee and he/she will then take actions to reduce the dissonance. The equity theory and the discrepancy theory are reviewed in more detail in Chapter 3.3.1.

To illuminate the main findings on pay satisfaction antecedents, a review from a book chapter and two meta-analyses papers are reviewed here (Heneman & Judge, 2000; Judge, Piccolo, Podsakoff, Shaw & Rich, 2010; Williams et al., 2006). The main findings that are central to this work are summarized in Table 2 along with a few other research papers that involve antecedents focal to this work such as knowledge of pay. Heneman and Judge (2000) reviewed research on pay satisfaction antecedents from two angles. First, how the actual pay influences pay satisfaction, and second, how the other hypothesized antecedents such as pay program characteristics and pay perceptions influence pay satisfaction. Williams et al. (2006) meta-analyzed 203 studies conducted after 1960 on



pay level satisfaction antecedents and consequences. Judge et al. (2010) meta-analyzed 86 studies on the relationships between pay level, pay satisfaction, and job satisfaction and found that pay level and pay satisfaction were positively correlated.

Thus, *pay level* itself has had a positive correlation with pay satisfaction in diverse studies (Heneman & Judge, 2000; Judge et al., 2010; Williams et al., 2006). However, according to Heneman and Judge (2000), the correlations are surprisingly weak, typically around  $r = .15$ . Judge et al. (2010) found the correlation to be a somewhat higher but still modest .23.

*Equity or discrepancy comparisons* have been found to have a clear relationship with pay satisfaction as suggested in equity and discrepancy theories. Heneman & Judge (2000) stated the studies they reviewed gave clear support for this, especially that less discrepancy between pay and inputs of one self and compared to others, yields more pay satisfaction. Similarly, Williams et al. (2006) identified the discrepancy between perceptions of the pay expected and actually received as the primary determinant of pay satisfaction.

Heneman and Judge (2000) concluded that studies imply both actual and perceived pay system characteristics influence pay satisfaction. For example, pay-for-performance perceptions were connected to higher pay satisfaction (Heneman et al., 1988). Williams et al. (2006) found perceptions of pay policy and administration (performance reward contingency) to be connected to pay satisfaction.

The concepts of *distributive and procedural justice* have been introduced as pay satisfaction antecedents (Folger & Greenberg, 1985; Greenberg, 1987, 1990). Miceli and Lane (1991) argued that the more fair employees perceive the pay procedures to be the more satisfied they are with their pay level and pay system. Heneman and Judge (2000) reviewed studies on distributive justice, procedural justice, and pay satisfaction. They concluded that both have a role in determining pay satisfaction, but distributive justice had a stronger impact than procedural justice. Distributive justice was more strongly correlated with pay level satisfaction than procedural justice in Williams et al. (2006) study. I view distributive justice more as a part of pay satisfaction than an antecedent of pay satisfaction and present distributive justice in Chapter 3.3.1 in the context of equity theory. I am interested in the role of procedural justice in creating pay satisfaction. Moisio et al. (2012) found procedural justice to be strongly connected with pay satisfaction in the Finnish context. I concentrate on procedural fairness as an antecedent of pay outcomes in chapter 3.3.3.

Miceli and Lane (1991) argued that *knowledge of, for example, pay rates* is connected to pay satisfaction because knowledge influences the comparisons between self and others. Mulvey et al. (2002) found knowledge of pay systems to be strongly correlated with higher satisfaction with diverse aspects of pay systems. Salimäki, Hakonen, and Heneman (2009) and Moisio et al. (2012) support the findings of Mulvey et al. (2002) in the context of Finnish pay systems. Considering incentive systems, pay system communication was connected to

higher pay satisfaction in case of employee stock ownership plans (ESOP) (Klein, 1987) and employees' knowledge of their profit sharing system was connected to higher satisfaction with the system (Sweins & Kalmi, 2008; Sweins, Kalmi, & Hulkko-Nyman, 2009). Communication of pay systems should enhance pay knowledge and this will be discussed in Chapter 3.3.2.

*Pay system characteristics* have an impact on pay satisfaction (e.g., Heneman & Judge, 2000). This is shown for example when pay systems are implemented or developed, for example, the implementation of incentive plans enhanced pay satisfaction (Petty, Singleton, & Connell, 1992) and when satisfaction effects are compared between different types of incentive systems (Gomez-Mejia & Balkin, 1989; Hakonen, 2012; Nurmela et al., 1999). Pay system characteristics' influence on pay outcomes are reviewed in chapter 3.4.

In summary (Table 2), to predict pay satisfaction, it is essential to

- a) take into account the actual pay and raises,
- b) analyze pay system characteristics,
- c) take into account employees' knowledge of pay
- d) understand which elements impact the discrepancy and distributive fairness perception of employees, and
- e) understand how fair the processes are perceived to be.

I choose to use all but the discrepancy perception in the theoretical model built for this study. I leave out the discrepancy because the ROP satisfaction concept itself reflects the discrepancy when employees are evaluating if they are satisfied with their own possibility to influence their bonuses.

**Table 2.** Antecedents and correlates of pay satisfaction

Antecedent / correlate	Pay satisfaction (general)	Pay level satisfaction	Pay system / pay administration satisfaction	Lump-sum satisfaction
Actual pay level / raises / bonus level	Moderate positive (Williams et al., 2006) Weak / modest (Judge et al., 2010).	Weak positive (Heneman & Judge review, 2000); Moderate positive (Williams et al., 2006)		Positive (Sturman & Short, 2000)
Pay program characteristics	Have a relationship to pay satisfaction (Heneman & Judge review, 2000).	Have a relationship to pay satisfaction (Heneman & Judge review, 2000).	Have a relationship to pay satisfaction (Heneman & Judge review, 2000).	Satisfaction differs between different types of ROP systems (Hakonen, 2012; Nurmela et al., 1999). Team based bonuses had better pay satisfaction results for R&D employees than individual or large group bonuses (Gomez-Mejia & Balkin, 1989).
Knowledge / understanding of the pay plan / communication about the pay plan	Positive (Mulvey et al., 2002)	Positive (Mulvey et al., 2002); Positive (Salimäki et al., 2009); Weak positive (Moisio et al., 2012)	Positive (Mulvey et al., 2002); Positive for pay system satisfaction (Moisio et al., 2012)	Communication positive for ESOP plans (Klein, 1987); Knowledge positive for profit sharing systems (Sweins & Kalmi, 2008; Sweins et al., 2009) Knowledge positive for short term incentives (Mulvey et al., 2002)
Distributive justice	Positive (Williams et al., 2006; Positive (Heneman & Judge, 2000)	Positive (Williams et al., 2006); positive for pay raise satisfaction Folger & Konowsky (1989)		
Pay comparison (equity, discrepancy)	Strong relationship (Heneman & Judge review, 2000)	Strong relationship (Heneman & Judge review, 2000; Williams et al., 2006)	Positive (Heneman & Judge review, 2000)	
Pay-for-performance perception		Strong positive (Heneman, Greenberger & Strasser, 1998; Williams et al., 2006)		
Procedural justice	Positive especially with pay-focused measures (Williams et al., 2006); Positive (Heneman & Judge, 2000).	Positive especially with pay-focused measures (Williams et al., 2006); positive for pay raise satisfaction Folger & Konowsky (1989); Strong positive (Moisio et al., 2012).	Strong positive (Moisio et al., 2012).	

Note. Yellow color signifies the antecedents used in this study.

### 3.1.2 Performance and co-operation as outcomes

Studies on pay systems and performance outcomes can be divided roughly into two types and levels of approach: studies where the unit of analysis is an organization and studies where the unit of analysis is an individual or a group. In econometrically oriented studies that use company as a measurement unit, a clear connection between ROP and a company's higher productivity is found (e.g., Snellman, Uusitalo, & Vartiainen, 2003). In organizational psychology oriented studies that use individual as a measurement unit, a clear link has been established between ROP and performance at the individual level, such as the quantity of output (see meta-analyses by Condly et al., 2003; Garbers & Konradt, 2014; Jenkins et al., 1998; Locke et al., 1980; Stajkovic & Luthans, 1997) and quality of output (see meta-analysis by Condly et al., 2003; Garbers & Konradt, 2014).

Next, I briefly review literature on results-oriented pay system outcomes, first, on the organizational performance both on organizational and individual level, and then on co-operation. The findings are summarized in Table 3. The psychological processes that influence the relationship between incentive systems and performance are discussed separately in chapter 3.3.

#### *Results-oriented pay effect on organizational performance*

According to meta-analyses, monetary incentives have a substantial influence on performance (Condly et al., 2003; Garbers & Konradt, 2014; Gerhart & Rynes, 2003; Gerhart et al., 2009; Jenkins et al., 1998; Locke et al., 1980; Stajkovic & Luthans, 1997). Gerhart and Rynes (2003) even state in the same spirit as Locke et al. (1980) that "In general, these studies suggest that the incentive effects of pay-for-performance schemes can be substantial, perhaps larger than the effects of any other single type of motivational system" (p. 116). For example, the median performance improvement for individual piece-rate pay was 30 % and for individual bonus plans the performance improvement was even higher ranging from 10 to 60 % (Locke et al., 1980).

However, all ROP systems do not necessarily have positive effect on performance. Heneman et al. (2000) summarized findings on diverse variable pay plans and estimated that roughly two out of three plans resulted in increased organizational performance. The benefits of variable pay plans included for example increased productivity, better quality, lower costs, lower absenteeism and turnover, and more favorable employee attitudes. For example, a meta-analysis by Guzzo, Jette, and Kazell (1985) found that in addition to higher performance quantity and quality, financial incentives were also related to less withdrawal (e.g., turnover and absenteeism) and disruption (e.g., strikes). In a study of 40 Finnish results-oriented pay systems, only some of the systems had positive perceived effects such as increased willingness to invest extra effort in work (Nurmela et al., 1999). There has been discussion also on what kinds of performance effects different types of ROP systems have. For example, a meta-analysis by Jenkins et al. (1998) found individual incentives to enhance individual performance quantity but not performance quality, but later meta-analysis by Garbers

and Konradt (2014) found individual incentives and team incentives to also enhance performance quality.

Critics argue that especially individual incentives or higher pay dispersion may actually lead to decreasing satisfaction and individual work performance (Pfeffer & Langton, 1993). The effects are argued to be especially detrimental when pay dispersion is not perceived to be caused by accepted criteria such as performance or work experience (ibid.). Different schools of researchers disagree whether or not pay is a strong motivator of performance and whether it is more effective to reward group performance, individual performance, or a combination of the two (Gerhart & Rynes, 2003). The literature on how incentive system structures are connected to performance is reviewed in chapter 3.4.

In summary, the results-oriented pay systems tend to have positive effects in general. However, all results-oriented pay systems do not show these positive effects and different kinds of ROP systems seem to have differing effects. There is still relatively little knowledge on why certain types of incentive systems are effective and under what conditions they are effective (Garbers & Konradt, 2014; Heneman, 2000; Shaw & Gupta, 2015) and this study aims at adding to this knowledge.

#### *Results-oriented pay effect on co-operation*

A specific interest in my work is given to possible co-operation effects of ROP systems because there are some critical views on negative co-operation effects of individual incentives (Pfeffer & Langton, 1993) and positive co-operation effects of group incentive plans (e.g., Bamberger & Levi, 2009; Lawler 1987 in Petty et al. 1992;). We found previously that Finnish ROP systems had in some cases even negative perceived effects on co-operation between individuals, groups, and units (e.g., Nurmela et al., 1999).

Deutsch's (1949) theory of co-operation and competition states that co-operation is promoted in a goal-interdependence situation. Group-based incentive systems promote common goals by a tendency of rewarding all employees of the group when one employee is rewarded. While this should foster co-operation, individual incentive systems, on the other hand, can produce conflicting goals between individuals in the work place and hinder co-operation.

Studies on group-based incentives' effects find in general moderate support for positive co-operation effects. Hatcher and Ross (1991) study using Deutsch's theory showed a positive change in both employee perceptions of teamwork and objective measures of product quality when an individual piece-work system was changed into an organization-wide gainsharing system in a manufacturing company. Their measure of perceived teamwork reflected essential aspects of co-operative behavior as it included items like co-operation between departments and helping of other employees.

Another study found implementation of a group incentive plan in an electric utility company to have positive co-operation effects (Petty et al., 1992). The incentive system was piloted in one division of 618 employees and a control divi-

sion without incentives was selected. The pilot system rewarded employees collectively for division level results (sales, expense reduction, and absenteeism reduction). Special attention was given to system communication and employee participation in creating ways to achieve the organizational goals. Better operational results were achieved in the unit where the incentive system was piloted. The management and the staff perceived positive changes in the co-operative behaviors due to the incentive system. However, the clerical and union employees did not perceive the change.

Long (2000) found in their study of 108 Canadian organizations that the CEOs perceived company-wide profit sharing to have positive co-operation effects within the firm. There were four moderating factors explaining the relationship between profit sharing and co-operation effects. Firm size had a positive relationship with co-operation effects meaning that co-operation effects were better in larger organizations. The co-operation effects were higher in primary or manufacturing sector organizations than in service sector organizations. The proportion of unionized employees was positively connected with better co-operation effects which seems to contradict Petty et al. (1992) finding of unionized employees not finding the changes positive. However, the union was critical towards the pay system in Petty et al.'s study, which must have influenced union members' perceptions. Finally, co-operation effects were higher when the organization used several methods to communicate the profit sharing system to employees (Long, 2000). In a panel study (Heywood, Jirjahn & Tsertsvadze, 2005), German non-supervisory employees working in organizations that used profit-sharing stated that they get along with their colleagues better than the employees working in organizations that did not use profit-sharing. Supervisory employees' perceptions of getting along with colleagues did not differ in profit-sharing organizations. Getting along with colleagues was interpreted as an indicator of co-operation. In a study of 40 Finnish ROP systems, the effects on co-operation were relatively modest (Nurmela et al., 1999). However, the management perceived ROP effect on co-operation in a slightly more positive way than the employees in general on a scale from -2 = deteriorates a lot, 0 = no effect, +2 = improves a lot (mean upper management = 0.7; mean management = 0.5; mean employees = 0.3) (Ibid.).

A study on incentive structures and co-operation found team-based incentive systems to enhance perceived co-operation in German organizations (Berger, Herbertz & Sliwka, 2011). They did not however find any connection between individual incentives or organization level incentives and co-operation. They studied compensation structures and employee perceptions in 305 German organizations. The compensation structures were divided into three types of performance based pay: individual, team, and organizational performance based pay. Beersma et al. (2003) found in their laboratory behavior simulation experiment that group-based incentives produced greater accuracy of the tasks (achieving accuracy benefited from co-operation between the study subjects) and individual based incentives resulted in higher speed of completing tasks. In other words, group-based incentives can be seen as detrimental for individual performance (speed) and individual incentives can be seen as detrimental to

performance that requires co-operation (accuracy). Kato, Kauhanen, and Kujansuu (2013) found employees to spend less time helping other departments when individual incentives were introduced in a warehouse. Bamberger and Levi (2009) found in their laboratory experiment that team-based incentives allocated equally to participants produced more helping behavior within the team than team-based incentives allocated considering individual contribution (equity based). Wageman (1995) found in her study of service technicians that group performance and helping behavior were lowest when there was a combination of group and individual incentives. The combination incentives produced poorer results than pure individual incentives or pure group incentives. Barnes, Hollenbeck, Jundt, DeRue, and Harmon (2011) laboratory behavior simulation experiment shows similarly that combinations of individual and team based incentives produced less co-operational behavior in students than purely team based incentives. These studies imply that combining individual performance based incentives to group based incentives reduce co-operation.

In general, group-based incentives have been found to produce moderate positive co-operation effects (Bamberger & Levi, 2009; Berger et al., 2011; Hatcher & Ross, 1991; Heywood et al., 2005; Long, 2000; Petty et al., 1992). Even when the general findings show a positive relationship between group-based incentives and co-operation, there were interesting exceptions. The co-operation effects were not always found for all employee groups: clerical and union employees (Petty et al., 1992), and supervisory employees (Heywood et al., 2005). The co-operation effects were found only for some types of group-based incentives: team-based incentives had positive co-operation effects but organization-level incentives did not (Berger et al., 2011). There are very few studies on the cooperation effects of individual incentives. Berger et al. (2011) did not find any relationship between individual incentives and co-operation and Wageman (1995) found detrimental co-operation effects of individual incentives when they were combined with group based incentives. Kato, Kauhanen, and Kujansuu (2013) found implementing individual incentives to reduce helping between groups. Laboratory experiments of Beersma et al. (2003) found individual incentives to have poorer effects in performance that needed co-operation and laboratory experiments of Barnes et al. (2011) reinforced Wageman (1995) showing a combination of individual and group incentives to have a poorer effect on co-operation than group incentives.

In conclusion, the empirical findings suggest that ROP systems can indeed have strong performance enhancing effects. However, positive effects are not automatic and we need to learn what makes different kinds of ROP systems effective, and in which contexts. Studies on ROP effects on co-operation are scarce, but there is some support for the group-based systems' positive co-operation effects. Despite the discussion of potential detrimental co-operation effects of individual incentives, the impact of individual level ROP systems on co-operation has remained scarcely studied.

**Table 3.** Factors affecting ROP impact on organizational performance and co-operation

Factors affecting	Organizational performance	Co-operation
Presence of a ROP system	Positive relationship with organizational productivity in Finland (e.g., Snellman, Uusitalo, & Vartiainen, 2003). Positive relationship with performance at individual level in the US (e.g., Jenkins et al., 1998; Locke et al., 1980; Stajkovic & Luthans, 1997). 2/3 systems connected with higher organizational performance such as increased productivity, better quality, lower costs, lower absenteeism and turnover in the US (Heneman et al., 2000). Only some of the ROP systems had positive perceived effects on organizational effectiveness in Finland (Nurmela et al., 1999).	Positive for profit-sharing systems in Canada (Long, 2000). Only some of the ROP systems had positive perceived effects on co-operation, some had even negative effects in Finland (Nurmela et al., 1999).
<b>Pay program characteristics and the context</b>		
Actual bonus level	Bonus size had positive relationship with perceived improved quality, improved labor productivity, cost reduction, and improved production process in Canadian and US gain sharing organizations (Kim, 1996). Non-linear relationship with productivity, both small and large bonuses may have a decreasing effect (Kim, 1996). Bonuses as low as 3 % of annual earning have a positive effect on individual performance, the effect does not increase when bonuses increase (Dickinson, 2005).	
Individual bonuses	Positive effect on performance (see meta-analyses by Guzzo et al., 1985; Stajkovic & Luthans, 1997; Jenkins et al., 1998). In an industry setting where the tasks of the individuals were very independent (long-distance trucking), the performance was best when individual incentives were used (Shaw, Gupta & Delery, 2002).	No connection in Germany (Berger et al., 2011). Less time spent helping other departments (Kato et al., 2013).
Group based bonuses	Small group incentives had even markedly superior effect on performance compared to individual incentives (Condly et al., 2003). Team based bonuses had better results on self-reported project and individual performance for R&D employees than individual or large group bonuses (Gomez-Mejia & Balkin, 1989).	Moderate positive relationship with co-operation when changing individual incentives to group incentives (Hatcher & Ross, 1991) and when implementing group incentives (Petty et al., 1992). Positive for team-based incentives in Germany (Berger, Herbertz & Sliwka, 2011).
Collective organization wide bonuses	Considering profit sharing systems, the larger the firm the less productivity improvement (Kaufman, 1992).	No connection in Germany (Berger, Herbertz & Sliwka, 2011). Firm size was positively connected to co-operation effects of profit-sharing suggesting that profit sharing leads to enhanced co-operation when the organization size grows (Long, 2000).
Combination of group and individual bonuses	Team-based rewards that were allocated equitably (taking into account individual input) had higher performance effect than team-based rewards allocated equally (Garbers & Konradt, 2014).	Detrimental effects, that were worse than pure individual incentives or pure group incentives (Wageman, 1995). Poorer effects than pure group incentives (Barnes et al., 2011).
<b>The processes</b>		
Knowledge / understanding of the pay plan / communication about the pay plan	Positive association between pay knowledge (including incentive knowledge) and organizational effectiveness (e.g., retention and organizational commitment) (Mulvey et al., 2002). Knowledge of profit sharing plan has positive association with perceived organizational effectiveness e.g., economic efficiency and quality in Finnish companies (Sweins et al, 2009).	Communication moderates the relationship between profit sharing plan and co-operation outcomes in Canada (Long, 2000). Knowledge of profit sharing plan has positive association with the perceived co-operation and organizational climate in Finnish companies (Sweins et al. 2009).



Procedural justice	ROP related procedural justice was strongly positively associated with ROP effectiveness including satisfaction, perceived organizational effectiveness and perceived co-operation (Nurmela et al., 1999).	Base pay system related procedural justice had an impact on self-rated organizational citizenship behavior (Folger, 1993).
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Note. Yellow signifies that the elements are used in this study.

### 3.2 Contextual theories explaining formation of pay systems and pay outcomes

Different types of pay systems may produce different outcomes and have impact on variable levels of outcomes. For example, group bonuses can enhance co-operation while individual bonuses can hinder it in the workplace. How do organizations decide what types of pay systems to use? First, I explain how from the institutional theoretic point of view organizations build their pay systems. The institutional theory explains for example, why the ROP systems in the Finnish public and the private sector are different from one another in the size of bonuses offered to employees. Second, I discuss pay system choices from the contingency theory point of view that expects organizations to align their pay systems to, for example, organizational strategy. According to the contingency theory organizational effectiveness results greatly from how well organizational structures are aligned to contingencies such as organizational strategy (Donaldson, 2001). Third, I discuss the configuration theory explaining performance in organizations and apply it to explain pay system outcomes. Although I am not reviewing resource-based view of the firm separately, the strategic nature of the incentive systems can be argued further with it stating that sustained competitive advantage can be achieved with help of resources that are valuable, rare, inimitable, and non-substitutable (e.g., Barney, 1991; Delery & Shaw, 2001; Shaw, Park & Kim, 2013). Moreover, the ways of organizing valuable resources are of essence in achieving sustained competitive advantage. For example, new resource configurations are created by utilizing dynamic capabilities in organizations when, for example, markets change (Eisenhardt & Martin, 2000). Incentive systems as well as other human resource management practices can be seen as means of improving competitive advantage gained with human resources (Delery & Shaw, 2001). Contingency theoretical view underlining the importance of the fit between incentives and business strategy can also be seen important from the resource-based view of the firm, because developing unique alignments with incentive systems can be difficult to imitate and thus creates competitive advantage (Gerhart, 2000).

The consequences of different pay system properties or characteristics on pay satisfaction and organizational performance are discussed later in chapter 3.4 after discussing the individual level theories explaining pay system outcomes.

#### 3.2.1 Institutional theory

The reward systems vary often by institutional factors such as a nation or a sector of working life (Corby, Palmer, & Lindop, 2009; Van het Kaar & Grünell, 2001; Vernon, Anderson, Baeten & Neu, 2007). The institutional theory views

organizations as social and cultural systems and organizations seeking legitimacy (Suchman, 1995). Thus, organizational structures and processes tend to become isomorphic<sup>1</sup>, that is similar with the accepted norms of particular types of organizations (DiMaggio & Powell, 1983). For example, performance-based pay systems may be used extensively within one industry sector and very seldom within another sector.

Eisenhardt (1988) derived hypotheses both from institutional theory and agency theory in studying the use of either performance-based pay or fixed pay in a setting of retail specialty stores in San Francisco Bay area and found support for both theories. Institutional factors, the age of the store and the segment of the industry explained the use of performance-based pay or fixed pay. There was a recent trend away from commissions and the newer stores used less performance-based pay. Shoe stores did not follow this trend but had kept commissions as the typical compensation system. Chizema (2010) used institutional theory in explaining why American style executive pay systems were adopted in some German firms and not in some others. He found that older organizations adopted stock-options later than organizations lacking extensive history. The reasoning is that tradition brings with it the desire to maintain status quo. Part of the reason was that employees were strongly against management stock-options in traditional organizations. Also family-owned companies were less likely to adopt new stock-option practices. Firms that were already connected with international markets (American stock exchanges) were quicker in the adoption of stock-options.

Institutional factors have an impact on how reward systems are administered, for example, whether employees have voice on reward systems (Corby et al., 2009; Hakonen, Salimäki, & Hulkko, 2005; Vernon et al., 2007). For example, employees working in Finnish public-sector organizations tend to have voice more frequently on results-oriented pay system decisions than the employees working in the private sector organizations (Hakonen et al., 2005).

According to institutional theory there are forces that mold organizations within, for example, a sector or area to resemble one another. DiMaggio and Powell (1983) described three institutional “pressures” that affect adaptation processes. When the pressure to adapt comes from governmental regulations or laws, it is called coercive institutional pressure, e.g., how labor relations are regulated in different countries or different sectors within a country. For instance, collective agreements may necessitate organizations to use performance based pay or even hinder the use of variable pay. In the case of the data used in this study, the collective agreements play a major role in determining the use and structure of the ROP systems especially in the public-sector. When cultural expectations are affecting, the pressure is called normative. The results of this kind of pressure might be seen for instance in the collective nature of public-sector systems – perhaps the working culture there, and even the Finnish culture, favors collectivity. And when adaptation stems from desire to look like other or-

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<sup>1</sup> Isomorphic is “being of identical or similar form, shape, or structure” (Merriam-Webster dictionary)

ganizations, mimetic institutional pressures are at work. The ROP systems studied here seem to resemble one another according to the sector beyond the requirements that stem from collective agreements. For instance, the manufacturing bonuses are tied very closely to production quantity, quality and productivity, and many of the service sector systems seem to rely on balanced scorecard type of measurements.

It can be concluded that institutional factors (e.g., public or private sector) in Finland influence at least the prevalence of ROP, the history of ROP usage, the size of bonuses, the level of measuring performance, and the differentiation between different employee groups.

### 3.2.2 Contingency theory

Contingency theory states that organizational effectiveness depends on the fit between the characteristics of an organization, such as its structure, and contingencies that reflect the situation of the organization, such as organizational strategy. "Contingency theory of organizations is a major theoretical lens used to view organizations" (Donaldson 2001, p. 1). It has been a major part of organizational science background since 1960's, and it is behind many thoughts taught today in business schools (Ibid.).

Contingency theory has become one of the dominant paradigms in Human Resource Management (HRM). According to Gomez-Mejia and Balkin (1992), the evidence from several research projects suggests that the contributions of HRM to firm performance depend on the fit between HRM strategies and internal and external contingencies to the organization. Therefore, different environmental conditions, organizational strategies, and firm characteristics require different HRM practices. Reward systems in general can be perceived as a component of an organization's HRM practices. According to Cox (2000), managing pay systems is one of the most controversial and hotly debated areas of human resource management, and contingency theory approaches have dominated this debate over the past few decades.

Studies on the fit between competitive strategy and reward strategy state that a reward strategy should be in line with the corporate and business unit strategies to have a positive influence on organizational performance (e.g., Gomez-Mejia & Balkin, 1992; Huselid, 1995; Lawler, 1996; Montemayor, 1996). Gomez-Mejia and Balkin (1992) suggest that "the contribution of the compensation system to firm performance improves as: 1. the fit between compensation strategies, corporate strategies and strategic business unit (SBU) strategies increases. 2. The congruency between the pay system, organizational characteristics, and the environment increases" (p. 118). Balkin and Gomez-Mejia (1987) found that different reward mixes were contingent for firms with differing strategies and contingency produced higher self-reported pay system effects. For example, pay policies emphasizing incentives were connected with higher outcomes in high-tech firms than non-high-tech firms. Montemayor (1996) found that high-performing firms with differing business strategies, that is cost leadership, differentiation, and innovation tactics, had also systematically differing pay policies.

Firms that deviated from this implied contingency had significantly lower reported performance than the firms that had the contingency. In practice, there is some evidence that congruency thinking guides decisions regarding the compensation systems. Kim (2005) found that the forms and structures of gainsharing plans used in Canada and USA did follow the congruency hypotheses regarding the influence of labor-intensity and the plan goals. That is, the type of the gainsharing plan used corresponded to the goals of the plan and the organizational characteristics.

There is also some evidence that the effects of reward systems may vary in magnitude by sector of working life which could imply contingency effects. For example, the effects of organizational behavior modification on task performance were found considerably larger in manufacturing than in service organizations in a meta-analysis of 19 studies (Stajkovic & Luthans, 1997). A meta-analysis of intervention programs on worker productivity found the effect size to be largest in governmental sector (Guzzo et al., 1985).

### **3.2.3 Configuration theory**

Configurational approach differs from contingency theorists' approach and universalistic approach of best practice in its concern with "how the pattern of multiple independent variables is related to a dependent variable rather than with how individual independent variables are related to the dependent variable" (Delery & Doty, 1996, p. 804). In other words, configurational theory views organizational structures and management systems to be "best understood in terms of overall patterns rather than in terms of analyses or narrowly drawn sets of organizational properties" (Meyer et al., 1993, p. 1181). Configurational theories assume "equifinality", i.e., that several patterns may lead to same outcomes (Meyer et al., 1993). The patterns of different human resources activities and methods are of interest in strategic human resources management studies employing configurational theories (Delery & Doty, 1996). There, the thinking grows closer to contingency theory in assuming that a good horizontal fit between diverse HR practices and vertical fit between HR practices and organizational characteristics lead to ideal configurations and thus better organizational performance (Delery & Doty, 1996). Third type of fit could be found in internal alignment of a type of HR practice such as pay strategy (Gerhart & Rynes, 2003). Typically configurational studies aim at finding typologies.

Fiss (2007) points out that the empirical evidence on configurations' effect on performance is mixed and suggests that one of the reasons can be the linear methods used to study configurations. The configurational theory stresses non-linearity and equifinality, that is, that the same outcomes can be reached with different configurations. However, the empirical research has mainly utilized linear methods such as linear regression that "treats variables as competing in explaining variation in outcomes rather than showing how variables combine to create outcomes" (Fiss, 2007, p. 1181). Fiss also criticizes an alternative use of cluster analysis to form configurations in its inability to discern which charac-

teristics are of importance and which are not in producing the performance outcomes. My interest is in looking at characteristics of a ROP system and finding configurations, i.e., typologies concerning it.

### **3.3 Individual level theories explaining pay outcomes**

The way individuals at work experience their pay system is at the core of my model explaining how ROP outcomes are generated. By experiencing I mean how individuals perceive the ROP system itself and how well they know the system, how they perceive the ROP system in relation to the organizational context, and how fairly they perceive they are treated concerning the ROP system. I see these individual experiences and perceptions leading to ROP satisfaction and to actions and behaviors that can be indirectly detected with respondents' evaluations of how ROP affects organizational performance and co-operation.

Thus, I first review major process theories of work motivation to illuminate the role of motivation in behavior at work and the role of incentives in motivational processes. Second, I summarize how the valence or importance attributed to the pay system influences pay outcomes. Third, I present knowledge of ROP systems' role in creating ROP outcomes. The importance of knowledge is first deducted from the process theories of work motivation presented and, second, empirical evidence of knowledge of pay system effects is presented. Fourth, I give a brief review of the role of procedural fairness theory in pay related situations and empirical evidence on it. Fifth, I wish to apply contingency theoretical view into individual level. I propose that for the fit between an incentive system and an organization to produce positive outcomes, the individual must perceive the fit. When an individual perceives a good fit between the ROP system and organizational goals, he / she may perceive the ROP system as "good" and alter his / her behavior according to ROP goals.

#### **3.3.1 Motivation theories**

The central question for industrial and organizational psychologists has been since the 60's "Why do some people perform better on work tasks than others?" (Locke & Latham, 1990, p. 1). Motivation theories in general give partial answers to this question and describe what activates behavior, what directs behavior, what sustains behavior, and what reactions individuals have to the outcomes of their behavior (Lawler, 1994). Motivation can be accordingly defined as "the set of processes that arouse, direct, and maintain human behavior toward attaining some goal" (Greenberg & Baron, 2000, p. 130). Latham and Pinder (2005) site Miner's view of organizational behavior theories' validity and usefulness in the beginning of their review of work motivation theory and research: "If one wishes to create a highly valid theory, which is also constructed with the purpose of enhanced usefulness in practice in mind, it would be best to look to motivation theories . . . for an appropriate model" (p. 259). Because my interest is in understanding behavior in the context of organizations applying incentive systems, I also wish to start my pursuit from motivation theories.

In organizational settings, motivation is a central concept explaining how individuals choose particular actions in preference to other actions, and why they continue with the chosen action. Motivation as such is a complex subject and diverse theories explain the motivational processes in different ways. There are many factors influencing motivation, for example, individual needs and expectations at work. Especially interesting to this study is to understand the role of rewarding in employee motivation. According to Bartol and Locke (2000) there are two major challenges due to the complexity of the relationship between money and motivation. First, the dynamic nature of organizations which makes it hard to predict, for example, how long a certain incentive system would be perceived as valuable by the employees. Second challenge rises from the individually and over time altering views of what is fair. If we look at the empirical evidence, several meta-analyses have documented that monetary incentives do have a significant impact on performance (Garbers & Konradt, 2014; Guzzo et al., 1985; Jenkins et al., 1998; Locke et al., 1980; Stajkovic & Luthans, 1997). However, according to Rynes, Gerhart and Minette (2004), employees tend to underestimate the importance of pay in their own behavior. By this they mean that when asked, people often do not recognize money as the number one motivator for themselves. Despite this, studies show significant relationships between money and, e.g., work performance. Studies on the relationship between pay and motivation using attitudinal measures tend to get weaker relationships than studies using behavioral measures (Rynes et al., 2004).

There are many parallel or competing theories explaining the nature of motivation and all of the theories have their critics. I find, as many others have written, that many of the theories have value for understanding motivation in work settings. And in many cases, the role of incentives at work is one of the essential elements. Usually work motivation is studied by trying to understand internal cognitive processes of an individual. These cognitive theories of motivation are often further divided into content theories and process theories (e.g., Huczynski & Buchanan, 2001; Mullins, 2007).

The content theories of motivation “focus on the goals to which we aspire” and reveal the contents of these goals (Huczynski & Buchanan, 2001, p. 240). Content theories of motivation attempt to explain what specific things motivate an individual at work, what the individual’s needs are, and how they can be satisfied (Mullins, 2007). Needs are seen in Maslow’s hierarchy of needs model as the motives driving our behavior. Well known content theories include Maslow’s hierarchy of needs model, Herzberg’s two-factor theory, and McClelland’s achievement motivation theory. I will not review the content theories here, because my focus is in the process of motivation in the context of results-oriented pay at work.

The process theories of motivation are concerned with how behavior is initiated, directed, and sustained and concentrate on identifying what are the relationships between various variables that form motivation (Mullins, 2007). “Unlike content theories, process theories give an individual a cognitive decision-making role in selecting goals and the means by which to pursue them”

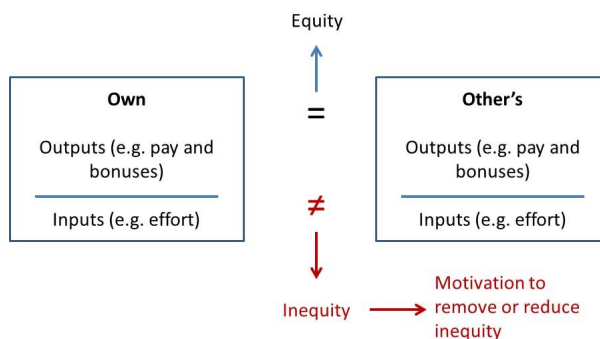
(Huczynski & Buchanan, 2001, p. 246). Major process theories of motivation include equity theory (Adams, 1963), expectancy theory (Vroom, 1964; Porter & Lawler, 1968), and goal-setting theory (Locke, 1968). Next, I shortly review these three theories because of their close relationship to the rationale behind incentive systems at work. Incentives are seen as having valence, or being worth the effort needed in pursuing goals (expectancy theory, goal-setting theory). Incentives are also seen as part of the input / outcome comparison which guides individual behavior (equity theory, goal-setting theory).

In addition, I will briefly discuss self-determination theory (Deci & Ryan, 1985), which is often interpreted to be strongly critical towards the role of financial incentives for (intrinsic) motivation. Self-determination theory includes elements of both content and process theories of motivation.

### *Equity theory*

Equity theory (Adams, 1963) focuses on how fairly people feel they are treated in comparison with the treatment of other people in a given context and situation and how that influences their motivation. The theory is based on Festinger's (1957) theory of cognitive dissonance. The cognitive dissonance theory assumes that individuals are sensitive to inconsistencies between beliefs and actions, and when they recognize inconsistency it will produce cognitive dissonance that individuals will resolve by changing their actions or beliefs.

According to equity theory, people compare the ratio of their own inputs and the outcomes of the task with the input / outcome ratio of other people. Inputs include effort and skills and outputs include praise from the supervisor and pay. If the comparison of one's treatment with other people's treatment regarding pay setting is seen as unfair, the person feels inequity (Figure 6). The feeling of inequity, according to the theory, causes unpleasant tension, which motivates the person to try to reduce or remove inequity. The inputs in work setting include, for example, a person's education, experience, skill, age, social status, and naturally the effort he or she expends on the job (Adams, 1963). The outcomes received by an individual in the exchange include, for example, pay, benefits, and intrinsic rewards as perceived by an individual.



**Figure 6.** The equity model

The general idea is that the amount of perceived inequity determines the level of tension, and the level of tension determines the strength of motivation to reduce the tension. Adams (1963) identifies eight types of possible behavior in reducing inequity. First, a person may try to increase their input, e.g., amount of work hours or the quality of their work if they are low compared to other's input and own output. Second, a person may decrease their inputs if they are high compared to other's input and own outcome. Third and fourth, a person may attempt to change the work outcomes such as the amount of pay received either by trying to increase or decrease his / her output. Fifth, a person may try to find a better situation, for example, by changing position within the organization or leaving the organization altogether. Sixth, a person may try to cognitively change either their inputs or outcomes to achieve balance. They might, for example, distort their perception of how much effort they have put to their work. Seventh, a person may try to influence on others by generating actual changes in the inputs or outcomes of others, or by cognitively distorting the inputs or outcomes of others, or by trying to make other people change their field. Eighth, a person may change the reference group with whom they compare their input / outcome ratio to a more equitable group. If, for example, a person has compared his or her input / outcome ratio with a colleague in the same team, and has found the comparison unfavorable, the person can start comparing with a colleague from another team with more similar input / outcome ratio.

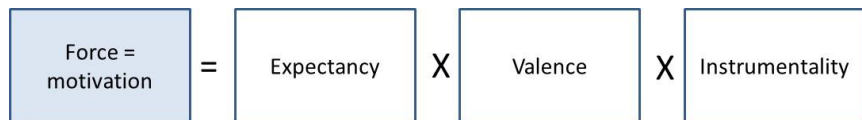
Equity theory thus explains that pay outcomes are produced via perception of input / outcome equity. Feeling inequity of pay is closely linked to the concept of pay satisfaction discussed earlier. Equity theory (Adams, 1963) and later discrepancy theory (Lawler, 1971) suggest that the primary determinant of pay (level) satisfaction is the comparison between the pay one feels one should receive and the pay one receives. Miceli and Lane (1991) note that this comparison is affected by the amount of adequate knowledge employees have. Discrepancy in pay received and the feeling of what is the pay one should receive leads to an effort to balance the discrepancy. An individual may try to do this by altering either their input (e.g., work less efficiently) or outcomes (e.g., negotiate better pay). Equity theory has gained strong empirical support, pay inequity has an effect both in individual attitudes and behaviors (see e.g., Ambrose and Kulik, 1999 for a review).

Because one of the ROP outcomes I study is ROP satisfaction and the measure includes questions about how satisfied informants are with how their own input affects their bonuses, I quite straight forwardly expect equity perceptions to be closely related to ROP satisfaction and I do not include equity perceptions as separate antecedents in the model. However, I measure perceived fairness of ROP procedures (procedural justice) that is theoretically closely linked with equity theory. I discuss this in the chapter on procedural fairness. Furthermore, I expect that especially inequity perceptions would reflect to perceived fairness of ROP procedures and lead to less favorably perceived ROP outcomes on organizational effectiveness and co-operation (H4 in Chapter 4). I also expect knowledge of ROP system to have a role in strengthening all of the ROP outcomes measured (H2 in Chapter 4).



### *Expectancy theory*

Expectancy theory assumes that individuals are influenced by the expected results of their actions. Expectancy theory is a generic theory and can, as such, not be attached to a single author. Vroom (1964) was the first to apply expectancy theory for work motivation (Mullins, 2007). His VIE model contains three key variables: Valence, Instrumentality, and Expectance. The theory argues that the strength of an individual's motivation to act in a particular way is affected by the perceived value of the potential outcome such as an incentive (valence), the belief that one's efforts will influence one's performance (expectancy), and beliefs regarding the likelihood of being rewarded according to one's performance (instrumentality) (Figure 7).



**Figure 7.** The VIE model (Vroom, 1964)

**Valence** refers to individual's affective orientation toward an outcome; it describes the anticipated satisfaction from the outcome such as a bonus. Vroom (1964) distinguishes between this anticipated satisfaction (valence) and the actual satisfaction the outcome produces (value). He also distinguishes between first level outcomes (effort leads to higher productivity) and second level outcomes (higher productivity leads to praise from superior or higher bonuses). I use the perceived importance of the ROP system as an operationalization of valence in this study and I expect that the valence of outcomes (bonuses) is reflected in the overall assessment of ROP importance because the respondents have prior experience of the bonuses paid via the ROP system.

**Instrumentality** refers to this two-level structure of outcomes: what is the extent to which first level outcomes lead to second level outcomes (e.g., higher productivity to higher bonuses).

**Expectancy** refers to “a momentary belief concerning the likelihood that a particular act will be followed by a particular outcome” (Vroom, 1964, p. 17). The expectancies can be described in terms of their strength in a way where subjective certainty of the act being followed by the outcome is the maximal strength (1) and subjective certainty of this not happening is the minimal (zero) strength. The strength of expectancy can vary between zero and one. In real life settings the acquiring of a desired outcome includes almost always risks caused, for example, by the actions of other people at work.

In this study, the knowledge of the ROP system includes items that reflect both the expectancy and the instrumentality aspects of the VIE model.

According to the model, the combination of valence and expectancy determine an individual's motivation for a given behavior. This is called the “motivational force” and can be expressed as an equation. In the equation, motivation is the

sum of the products of the valences of all outcomes times the strength of expectancies. Thus, if either valence or expectancy is zero, the motivation is zero. If the law is applied to predicting results-oriented pay effectiveness, we could expect good outcomes when employees perceive the outcomes valent, and have high expectancies of their actions leading to the outcomes. Furthermore, if the outcomes do not have valence to employees such that they do not feel that the performance goals or incentives attached to the goals would produce satisfaction, the employees would have zero motivation in pursuing the goals. Similarly, if the likelihood of their actions leading to reaching the performance goals and thus the incentives is perceived by the employees as zero, their motivation to pursue the goals would be zero even if the outcomes would have great valence.

Porter and Lawler (1968) developed Vroom's expectancy theory into a more comprehensive motivation theory. They pointed out that the motivational force or the effort expended does not lead directly to performance. The relationship is mediated by individual abilities and traits as well as by the individual's role perceptions, i.e., how they see their work and the role they should adopt. They also introduce rewards, or more specifically the perception of the equity of rewards, as an intervening variable between performance and satisfaction. Lawler (1973) further divided expectancy into two: first, the probability of a given amount of effort leading to an intended level of performance and, second, the probability of a given level of performance leading to the rewards. Thus, the effort will result from multiplying the two types of expectancy and the valence. Taking our example of predicting results-oriented pay effectiveness, we now have three variables that all have to be above zero to result in some effort. Examples of zero motivation would thus result from a) probability of effort leading to performance goal being zero, probability of incentives being administered when performance goals are achieved being zero, or the valence of incentives being zero.

Expectancy theory has gained support in empirical studies over the last 5 decades. Meta-analyses by Van Eerde and Thierry (1996) of 77 studies on expectancy theory that were conducted mainly in the 70s and 80s were critical of the suitability of the multiplicative VIE model in explaining attitudinal (intention and preference) and behavioral (performance, effort, and choice) outcomes. Multiplicative models did not explain the outcomes better than the elements alone as main effects. Another key finding was that attitudinal outcomes were more strongly related to the VIE models and elements of the model than behavioral outcomes. Correspondingly, Ambrose and Kulik (1999) reviewed 10 studies from the 90s using expectancy theory and concluded the research "suggests a simple main effect model may provide a better fit for the relationship between variables than the traditional multiplicative models" (p. 240). Ambrose and Kulik (1999) further suggest that the most interesting use of expectancy theory is to combine it with other theories, for example, equity, goal-setting, and decision making theories.

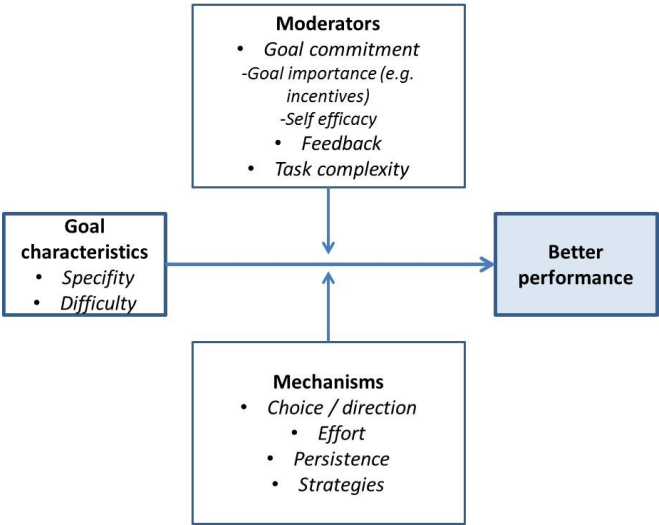
I aspire to include the concept of valence in my model explaining ROP outcomes. I measure the overall perceived importance of the ROP system to an individual and claim it has a role in affecting ROP outcomes (H1 in Chapter 4). Even though the perceived importance of the system is not the same as the valence of outcomes (bonuses), I argue that the respondents' assessment of overall ROP importance reflects also the valence of outcomes because the respondents have prior experience of bonuses paid via the ROP system. I argue that if the bonuses do not have valence for the respondent, the ROP system should be insignificant for them as well. If the perceived importance (valence) is low, the ROP system should have only very vague outcomes. The ROP system aims by nature at rewarding performance. Consistent with expectancy theory assumptions, I expect that the ROP system has higher outcomes when individuals know the system well and are thus able to make presumptions of expectancies (H2 in Chapter 4). My measurement of ROP knowledge has an element of expectancy in it, while I ask the respondents whether they know what they need to do to influence their bonuses and what the bonus will be if all performance targets are met. I also expect that ROP systems measuring performance at individual level would have higher outcomes especially on ROP satisfaction. Also the measure of ROP satisfaction has an evaluation of the expectancy fulfilled in it; I asked the respondents whether they were satisfied with the extent to which their own input had an effect on their bonus.

### *Goal-setting theory*

The goal-setting theory answers to the fundamental question of why some individuals perform better in a work task than others by focusing on the different goals of individuals (Locke & Latham, 1990). According to goal-setting theory, conscious goals or intentions guide the behavior of an individual (Locke, 1968; Locke & Latham, 1990). The theory does not, however, assume that all behavior is under conscious control. Goals can be set by an individual or, e.g., a supervisor at work. The goal-setting theory recognizes the importance of perceived valence of outcomes, as explained in expectancy theory. According to goal-setting theory, the perceived valence or value leads to experienced emotions and desires, and people strive to achieve goals to satisfy their desires. Goals then direct behaviors and performance that lead to consequences or feedback.

There are two goal characteristics that have an impact on performance effects (Figure 8). First of these is the difficulty of the goal. According to the goal-setting theory, a more challenging goal should lead to better performance as long as it is not too difficult for an individual. Second, people with specific goals should perform better than people with vague goals. Moreover, the goals that are specific and difficult such that they provide a challenging dead-line and quality requirements, should lead to better performance than challenging but more vague "do your best" goals. The linear relationship between goal difficulty and performance has gained empirical support as well as specific and difficult goals leading to better performance (Locke & Latham, 1990). The mechanisms with which goals affect performance include that they direct attention and reward, they energize the person to work for the goal, they affect persistence, and

they lead to arousal and / or use of relevant knowledge and strategies in attaining the goal (Locke & Latham, 2002). Furthermore, the theory acknowledges three major moderating factors for the relationship between goals and performance (Locke & Latham, 2002). Goal commitment has a role in predicting performance as a moderator between goal – performance relationship. Goal commitment in turn is facilitated by two main factors: factors that make goal attainment important to the person and the belief of one’s capability of attaining the goal (self-efficacy). Factors that have an influence on how important goal attainment is to the person include outcomes such as incentives (Locke & Latham, 2002). The incentives strengthen goal commitment if the incentives are large enough (valence) and the goals are not perceived to be impossible. Lee, Locke, and Phan (1997) add that bonuses may lower motivation if they are attached to goals that are perceived as impossible. Feedback is another moderator for the relationship between goals and performance. One should have knowledge of performance results while pursuing the goals. According to Locke and Latham (1990, 173), goals and feedback are interlinked; neither is very effective without the other. A third moderator is task complexity, the goal – performance relationship is weaker when tasks are complex (Locke & Latham, 2002).



**Figure 8.** Goal-setting theory (modified from Locke & Latham, 2002, 714)

Goal-setting theory has been empirically tested most often with individual level goals, but the studies using group goals have found comparable results (Ambrose & Kulik, 1999; Locke & Latham, 1990). This implies that goal-setting theory could be expected to be applicable to understanding motivational effects of results-oriented pay systems whether they reward for individual, group, or organizational level goal achievement. However, as Locke and Latham (1990) point out, there should be more contingencies and complexities in the case of group or organizational level goals than individual goals. In real-life settings, as

in the cases of results-oriented pay systems, there are multiple goals for performance at the same time. Majority of the goal-setting empirical studies are conducted in one-goal settings. However, as Locke and Latham (1990) point out, also the studies in real-life settings with multiple goals have supported the goal-setting theory: the performance generally improved in all goal areas.

I see results-oriented pay system as consisting of a set of performance goals to be pursued and rewarded for. In essence, the goals usually are and they should be specific so that the bonuses can be tied to goal attainment. I do not measure the perception of goal difficulty but assume that it has been one of the guiding principles behind the design of the ROP systems that are studied. The goal-setting theory is reflected in my study in the perceived importance of ROP system (that should have an effect on goal commitment which in turn should enhance performance effects) and in the knowledge of the ROP system (reflecting feedback). (H1 and H2 in Chapter 4.) Individuals need knowledge of the goals from the start, if the goals should be pursued, and what they can do to reach those goals. Furthermore, I also see the perception of ROP and organizational goals fit to reflect a form of goal acceptance or goal commitment (H3 in Chapter 4).

### *Self-determination theory*

Self-determination theory in the context of incentives is often mentioned because it implies that extrinsic incentives may be even detrimental for intrinsic motivation (e.g., Gerhart & Fang, 2015). This claim has been widely publicized for business leaders and HR professionals particularly with Daniel Pink's best-selling book "Drive: The surprising truth about what motivates us" (2009). This ongoing debate among academics and practitioners made me include some of the background here.

Self-determination theory (SDT) acknowledges both the process theories' general views on goal oriented behavior and the content theories' views on the importance of need fulfillment. Self-determination theory, in contrast with the other process theories of work motivation described earlier, differentiates between diverse goals individuals are pursuing (Deci & Ryan, 2000). SDT further differentiates between different regulatory processes through which the goals are pursued and make predictions concerning different goals and different processes. According to SDT, it is critical, how innate psychological needs - autonomy, relatedness, and competence - are satisfied in the process. Self-determination theory (Deci and Ryan 1985, 2000; Gagné & Deci, 2005) distinguishes between intrinsic and extrinsic motivation. Intrinsic motivation describes doing an activity for its own sake. An individual finds the activity inherently interesting and satisfying. This is the situation often, for instance, with hobbies. Extrinsic motivation refers to people doing things for instrumental reasons such as getting a bonus. There are several levels of external motivation depending on how much autonomy vs. external control an activity has. Self-determination theory (SDT) is a general theory of motivation consisting of mini-theories of which cognitive evaluation theory (CET) has been used in pay system research (Deci & Ryan, 1985). CET was developed to explain effects of external events on intrinsic motivation (ibid. 9).

The role of rewarding in context of intrinsic or autonomous motivation is still a somewhat controversial issue (e.g., Deci & Ryan, 1985; Gerhart & Fang, 2015). Even though intrinsic motivation is innate, it may be relatively easily decreased or absent in work settings. CET proposes that self-determination and feelings of competence are the fundamental issues in the processes of intrinsic motivation. Intrinsic motivation is based in the needs to be self-determined and competent. First, according to Deci and Ryan (1985), events that lead to more external perceived locus of causality, such as monetary incentives, undermine intrinsic motivation. Likewise, events that lead to an internal perceived locus of causality facilitate self-determination and enhance intrinsic motivation. (Ibid.) Second, events that support perceived competence of a person enhance intrinsic motivation and events diminishing perceived competence decrease intrinsic motivation (ibid.). Third, the significance of an event to the motivation of an individual is dependent on how an individual interprets the event. The events may be experienced as informational (enhancing intrinsic motivation), controlling (decreasing intrinsic motivation), or amotivating. The interpretation is affected, e.g., by the person's sensitivities and background (ibid.). Deci and Ryan (2000) point out that autonomous motivation (including intrinsic motivation and the more autonomous aspects of external motivation) can be promoted through contexts that satisfy psychological needs of competence, autonomy, and relatedness. In practice, this could be achieved by giving employees freedom to choose their goals and how to attain them, supporting competence development, and good community. The role of extrinsic incentives such as results-oriented pay in the context of autonomous motivation is seen problematic. In the worst case, incentives create a feeling of being controlled and thus decrease motivation. However, the impact of performance contingent incentives depends on whether they are administered in control or competence signaling way (Deci, Koestner & Ryan, 2001). Furthermore, researchers within SDT view have proposed models for compensation system characteristics' impact on motivation and call for more research on compensation system effects on how the needs of autonomy, competence, and relatedness are satisfied (Gagné & Forest, 2008).

Several compensation researchers have criticized SDT view on compensation. Rynes, Gerhart and Parks (2005) summarized that "evidence regarding CET's presumption of a negative relationship between rewards and intrinsic interest is still a matter of debate, with support for the theory being mixed at best" (p. 576). Critique points out that SDT was not developed for use in organizational context (e.g., Gerhart & Fang, 2014). Instead, a vast majority of research from CET point of view has been made in laboratory conditions greatly differing from real-life work settings in, for example, the age of the subjects (children), amount of rewards, and type of tasks (Rynes et al., 2005). In organizational context pay and money is always present. Lately, Cerasoli, Nicklin, and Ford (2014) found in their meta-analysis that incentives actually boost the impact of intrinsic motivation to performance and call for more research of antecedents and moderators of these relationships. Fang and Gerhart (2012) found support for pay for individual performance programs' positive effect on employee intrinsic interest.

There are also earlier studies supporting the view that incentives are rather useful than harmful for intrinsic motivation (e.g., Eisenberger & Aselage, 2000; Eisenberger & Cameron, 1996; Eisenberger, Pierce, & Cameron, 1999). Eisenberger and Cameron (1996) concluded that rather than detrimental, the extrinsic rewards had positive effect on intrinsic interest. The relationship with extrinsic rewards and intrinsic motivation was positive if the rewards were connected to high task performance (Eisenberger et al., 1999). Later Eisenberger and Aselage (2009) conducted two field studies and one laboratory study on rewarding high performance and found it having an effect on perceived pressure to perform and further leading to increased intrinsic interest and creativity. Balkin, Roussel, and Werner (2015) proposed conditions where performance-contingent pay has autonomy supporting rather than decreasing possibilities in facilitating extra-role creativity. The conditions included the pay being decided ex-post (after performance), using rather generalized performance outcomes as criteria than specific ones, the possibility to choose among elements of pay, and using rather low-intensity than high-intensity incentives.

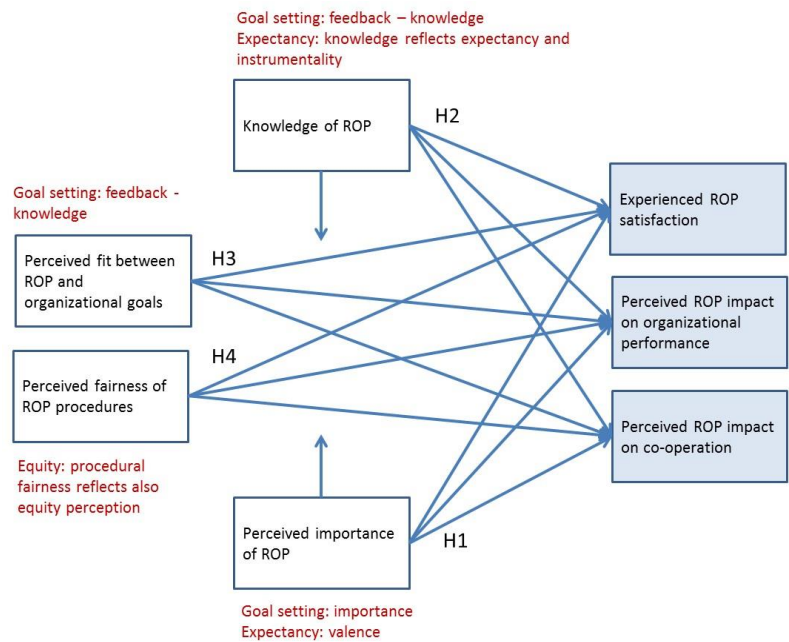
I see results-oriented pay systems in work context as potentially enhancing motivation, be it intrinsic or extrinsic. Fairly implemented systems that are well known by the employees should, in my opinion, be able to be informational and enhance autonomy. Being able to influence one's pay could also reflect autonomy. I have not incorporated self-determination theory into my model of ROP effectiveness. I still wished to discuss the theory especially because it is often seen as a strong opponent of monetary incentives and I hope to have made clear why I do not see such a conflict.

#### *Summary of motivation theories in the context of understanding ROP outcomes*

In summary, I chose to discuss work motivation theories focused on explaining how motivation is generated in individuals to give potential explanations for why and under what conditions ROP systems are effective. By effective, I mean ROP systems that have positive effects on pay satisfaction and performance on individual and organizational levels. Over all, I concur with Bartol and Locke (2000) in concluding that the motivation theories can be seen as complementary rather than competing. Figure 9 shows where the model used in this study incorporates some of the propositions of the motivation theories presented here.

The selected theories all emphasize cognitive processes of an individual. Locke and Latham (1990) write that “although cognition and motivation can be separated by abstraction for the purpose of scientific study, in reality they are virtually never separate” (p. 10). They point out that knowledge translates into action by the process where all knowledge or beliefs are appraised automatically subconsciously or consciously. I have adopted this cognitive view of motivational processes. Thus, I see knowledge of results-oriented pay systems as an essential element in creating positive ROP outcomes (H2 in Chapter 4) and discuss it more in Chapter 3.3.3. By the knowledge, I mean that an individual knows essentially what kind of actions and results are rewarded, what are the potential

incentives, how he or she can pursue the goals, and how he or she has succeeded. The perceived fit between organizational goals and ROP may also reflect some of the important knowledge employees have on the system. Further, the perceived fit between organizational goals and ROP might reflect goal acceptance or goal commitment that should contribute to better performance (H3 in Chapter 4).



**Figure 9.** How motivation theories presented relate to the model in this study

Second, expectancy theory and goal-setting theory stress the importance of perceived valence of outcomes such as incentives for the motivational process. The incentive or the incentive system should be seen as attractive or somewhat meaningful to be motivating. I think that this aspect cannot be avoided when trying to understand how results-oriented pay system outcomes emerge. Thus, I have incorporated a perception of ROP importance to the model (H1 in Chapter 4). We can also expect that actual size of bonuses should reflect some of the valence of the ROP system and have an effect on ROP satisfaction and organizational outcomes. This is also included in the model.

Third, equity theory and later discrepancy theory stress the perceived equity of inputs and outcomes such as incentives as essential in guiding behavior or bringing satisfaction or dissatisfaction. I see the importance of equity perceptions especially in how ROP satisfaction and perceived ROP effects on co-operation are emerged. I do not, however, measure equity perceptions. I expect equity perceptions to be presented in actual ROP satisfaction and ROP satisfaction to be affected by perceived procedural fairness. Furthermore, I expect that perceived procedural fairness reflects the equity perception and has an effect on organizational performance and co-operation. (H4 in Chapter 4.)



Last, I discussed self-determination theory as an opponent for results-oriented pay as a motivator. I concluded that I would expect results-oriented pay, given that it is used in a fair and informative manner, to be a potential motivator also from the viewpoint of SDT.

### **3.3.2 Importance of a pay system**

An individual has to hold potential incentive valuable or interesting to be motivated to pursue it. This is the underlying assumption in expectancy theory (Vroom, 1964) and goal-setting theory (Locke, 1968; Locke & Latham, 2002) described in chapter 3.3.1.

Meta-analyses of expectancy theory by Van Eerde and Thierry (1996) and Ambrose and Kulik (1999) support that the valence of rewards has a direct relationship with attitudes and performance. Both state that the main effects of each model component (valence, instrumentality, and expectancy) seem to be adequate in explaining motivation rather than the multiplicative VIE model.

The valence or importance can have many operationalizations (e.g., Van Eerde & Thierry, 1996). Reflection theory (Thierry, 1998) distinguishes between different types of meaning pay can have for an individual; 1. It can have motivational properties when it is means for achieving important goals, 2. It can communicate relative position by acting as feedback of individual's performance, 3. It can reflect control, the position of the individual in the organization, and 4. It can have spending meaning allowing the individual to buy something of value to him or her. Hakonen (2012) found that monetary meaning (spending) mediated the relationship between, for example, the amount of bonuses and individual performance in the context of Finnish results-oriented pay systems. She also found that symbolic meaning given to the ROP was stronger in explaining the performance outcomes as the monetary meaning. Salimäki et al. (2009) found that instrumental meanings of base pay partly mediated the relationship between goal-setting and pay satisfaction in a context of Finnish health care organization. Symbolic meaning mediated the goal-setting – pay satisfaction relationship fully. The valence of pay had a role in predicting pay satisfaction (Salimäki et al., 2009) and valence of results-oriented pay had a role in predicting individual performance (Hakonen, 2012) in the Finnish context. Some recent studies utilizing expectancy theory have used valence as a moderator between rewards and performance (Malik, Butt, & Choi, 2015). Malik et al. (2015) found importance of extrinsic rewards to moderate the relationship between extrinsic rewards and creative performance so that those who perceived their rewards important had a positive relationship between rewards and performance and those who perceived the rewards as unimportant had actually a negative relationship between rewards and performance.

Results-oriented pay system and the bonuses paid should thus be important to the recipient for ROP to have a positive effect on pay satisfaction and organizational performance, and further on co-operation as co-operation can be required to achieve collective performance goals and the ROP systems should thus

have an effect on co-operation as well (H1 in Chapter 4). I measure the importance ascribed to the ROP system by the respondents and not the valence or importance of the bonuses as such. However, I argue that the valence of bonuses is reflected in the importance of the ROP system because the respondents have prior experience of the bonuses paid via the ROP system. Furthermore, I hypothesize that importance of ROP moderates the relationship between ROP fit and all three outcomes as well as fairness of ROP procedures and all three outcomes (H5a and H5b in Chapter 4).

### 3.3.3 Knowledge of pay systems

The meanings and consequences of employees' pay system knowledge have not been studied very widely, even though they are obviously important in determining pay attitudes and outcomes. By knowledge of pay I mean the amount and quality of perceived knowledge an individual has concerning the amount of pay, basis of pay, and processes of pay setting.

Major work motivation theories addressed in chapter 3.3.1 contain theoretical reasoning concerning knowledge and its role in creating behavior. Expectancy theory (Vroom, 1964) argues that the strength of an individual's motivation to act in a particular way is affected by the assessed value of the potential outcome such as a reward (valence), the belief that one's efforts will influence one's performance (expectancy), and beliefs regarding the likelihood of being rewarded according to one's performance (instrumentality). One could argue that knowledge of a potential incentive, the relationship between one's own effort and the performance level achieved, and the relationship between performance levels achieved and incentives are reflecting both expectancy and instrumentality and thus imperative for an individual to make decisions on, e.g., putting extra effort into work. Equity theory (Adams, 1963) and discrepancy theory (Lawler, 1971) suggest that the primary determinant of pay (level) satisfaction is the comparison between the pay one feels one should receive and the pay one receives. Miceli and Lane (1991) note that this comparison is affected by the amount of adequate knowledge employees have. Goal-setting theory (Locke & Latham, 1990) argues that individuals need to have knowledge of their performance results: Goals direct performance more reliably when feedback is present.

Empirical literature on pay system knowledge is still sparse, but some very interesting results have emerged. Miceli and Lane (1991) suggested knowledge of pay rates to be an antecedent of pay level satisfaction. Later, Heneman and Judge (2000) wrote:

A consistent emerging theme (in pay satisfaction research) was that communication with employees about the nature of the (pay) program, or of program changes, enhanced pay satisfaction. Such communication likely increases employees' knowledge and understanding of the program and their subsequent evaluation of its fairness. (p. 76)

A study of a base pay system in one Finnish municipal health care organization demonstrated that "managers can contribute to employee pay satisfaction via a

goal-setting process that informs employees about the functions of the pay system and use the system to give feedback on the job” (Salimäki et al., 2009, p. 161). According to Mulvey et al. study (2002), knowledge of pay turned out to be one of the best indicators of pay satisfaction and operational and personnel well-being outcomes (e.g., retention and organizational commitment). In their study of more than 6,000 employees and managers in 26 organizations, pay knowledge and performance management knowledge were positively associated with organizational effectiveness and strongly positively associated with pay satisfaction. Moisio et al. (2012) study in 20 Finnish organizations found pay knowledge to be positively related to both pay level and pay system administration satisfaction and the knowledge of performance and performance-pay link to be positively related to development and co-operation climate in the organization. Studies on Finnish profit sharing systems also emphasize the importance of pay knowledge in explaining pay satisfaction, perceived organizational effectiveness (Sweins & Kalmi, 2008; Sweins et al., 2009), and perceived effects on organizational climate and co-operation (Sweins et al., 2009). Similarly, studies of performance appraisal systems found knowledge of the system positively related to system satisfaction (Levy & Williams, 1998), organizational citizenship behavior (Haworth & Levy, 2001), and perception of appraisal or appraisal system procedural fairness (Erdogan, Kraimer, & Liden, 2001; Levy & Williams, 1998).

Furthermore, knowledge of pay may have differing performance effects in the contexts of different types of ROP. Some indications for this can be found in the study of McHugh, Cletcher-Gershenfeld, and Bridge (2005) of employee stock ownership plans’ structure and processes in relationship to perceived performance effects. Among other findings they found that information sharing (which should lead to better knowledge) was especially beneficial for performance effects in low equity possession ESOPs (low share of employees participate the plan and there are low possibilities to have influence in decision making). Low equity possession ESOPs had significantly lower performance effects than high equity possession ESOPs when there was only little information sharing. When more information was shared, low equity possession ESOPs had comparable performance outcomes to high equity possession ESOPs.

Employees in supervisory roles are often found to have more positive attitudes towards, for instance, pay systems (e.g., Nurmela et al., 1999). A study of performance appraisal systems found that knowledge of the appraisal system mediated the relationship between a supervisory vs. non-supervisory position and appraisal reactions (Williams & Levy, 2000). This indicates that it is not the level of the job, but the amount of knowledge employees have that influences reactions towards a performance appraisal system or reward system.

Knowledge of pay may not automatically lead to positive outcomes if the pay system itself contains elements perceived as unfair. Martin and Lee (1992) expected and found that lower paid employees who had been aware of the pay system when they were hired were less unsatisfied than those who did not have the knowledge at that time. However, when their current pay knowledge was

studied, it was found that having knowledge of the pay system was negatively connected with pay satisfaction and pay fairness. The better employees understood the inequity of their pay, the less satisfied they were. A laboratory experiment by Burchett and Willoughby (2004) of three different pay systems shows a parallel effect. The productivity of subjects in the lowest paying system was significantly lower than in the two other groups when the subjects were aware of the other pay systems. Similarly, the productivity of subjects in the highest paid group was highest when they knew about the other pay systems. When the subjects did not know that other systems existed, the average productivity was the same in the three groups.

Results-oriented pay systems create many challenges for organizational information sharing. The criteria used for paying bonuses should be contingent with organizational goals, and this link should also be known by individual employees. Furthermore, it is necessary for employees to understand the performance criteria, the processes used in performance evaluation, and the links between performance evaluation and pay. I hypothesize that knowledge of ROP is positively connected with ROP satisfaction (Moisio et al., 2012; Mulvey et al., 2002; Sweins & Kalmi, 2008; Sweins et al., 2009), and perceived effects on organizational performance (Mulvey et al., 2002; Sweins et al., 2009) and co-operation (Sweins et al. 2009). (H2 in Chapter 4.) Furthermore, I hypothesize that knowledge of ROP moderates the relationships between perceived fairness of ROP and the three ROP outcomes so that when there is high knowledge, fairness has stronger positive relationship to the outcomes than when there is low knowledge (in accordance with Martin & Lee, 1992; Burchett & Willoughby, 2004). (H6b in Chapter 4.) I also hypothesize that knowledge of ROP moderates the relationship between perceived fit and ROP outcomes (H6a in Chapter 4).

### **3.3.4 Procedural fairness of pay systems**

The management needs to put considerable amount of effort and reasoning to make incentive systems to function in a desired way. Targets must be set, the strategy link of ROP must be considered, pay administration has to be sorted out, the system has to be communicated to each member of the organization, feedback must be produced regularly, and the bonuses must be paid. These pay system administration procedures create both the basis for employees' knowledge of the pay system and impact their perceptions of the fairness of the system. The perceived fairness of a pay system itself and pay administration processes explains outcomes such as pay satisfaction and organizational commitment (e.g., Folger & Konovsky, 1989; Williams et al. 2006), and work effort (Howard, 1999). Despite the vast amount of research on pay satisfaction and another vast amount of research on justice, not so many have studied the two concepts together. Williams et al. (2006) found just 11 studies including both.

Justice concepts have been applied to studying various organizational procedures such as performance appraisal (e.g., Cropanzano, Prehar, & Chen, 2002) or pay setting (e.g., Folger & Konovsky, 1989; Miceli & Lane, 1991; Till & Karren, 2010). The findings on justice perceptions' connections with both positive and

negative outcomes are robust. Recent meta-analysis by Colquitt et al. (2013) shows that justice perceptions seem to have equally strong relationships with attitudinal and performance outcomes whether justice refers to entities such as supervisors or specific events such as pay raise decisions. The relationships between justice perceptions and task performance as well as organizational citizenship behaviors are moderate and positive (ibid.).

Justice can be defined as “the perceived adherence to rules that reflect appropriateness in decision contexts” (Colquitt & Zipay, 2015, p. 76). In the following I will use both words fairness and justice interchangeably. Organizational justice literature distinguishes three types of justice: distributive justice (Adams, 1963), procedural justice (Leventhal, 1980; Thibaut & Walker, 1975), and interactional justice (e.g., Bies & Moag, 1986).

Distributive justice refers to the relative distribution of outcomes such as rewards. Employees evaluate whether the ratio between their inputs and rewards achieved is fair compared to others. Distributive justice is closely tied with the equity theory (Adams, 1963) and it was thus reviewed in Chapter 3.3.1.

Because I am interested in this work in how fair employees perceive the ROP procedures, I review procedural and interactional justice literature a little closer. Procedural justice focuses on the fairness of decision-making procedures in an organization. Procedural justice is about how fair the formal procedures of decision-making are (Thibaut & Walker, 1975). Leventhal (1980) formulated procedural rules that are commonly used when evaluating whether procedures are fair or not. He distinguished six rules which allocative procedures must satisfy to be perceived as fair. Below, I give some examples of the content of the rules in the context of ROP systems (Table 4).

**Table 4.** Leventhal (1980) rules of fair procedures and examples in the context of results-oriented pay (ROP) systems

Leventhal (1980) rules	Examples in the context of ROP systems
Consistency	The rules of bonus allocation must remain the same for all the employees subject to the system.
Bias suppression	Personal self-interest or existing preconceptions should not affect the processes of ROP, e.g., a person should not make decisions on his / her own bonus payment.
Accuracy	All ROP allocation decisions should be made referring to accurate information, e.g., no measurement error.
Correctability	Procedures that ensure possible mistakes are corrected must be created. For example, mistakes in the performance measurement.
Representativeness	All individuals or sub-groups subject to the decisions should be heard, e.g., when performance targets are set.
Ethicality	No pressuring or lying should be present when decisions of bonuses are made.

Interactional justice refers to the quality of interpersonal interaction between individuals (e.g., Bies & Moag, 1986; Cropanzano et al., 2002). People are interested in how they are treated in interpersonal relationships when decisions are made. Interactional justice is proposed to have at least two components: interpersonal sensitivity and informational aspect (e.g., Colquitt, Conlon, & Wesson, 2001). A respectful and sincere manner of interaction reflects interpersonal sen-

sitivity. The informational aspect includes assessment of whether the communication is truthful and open. Researchers are not unanimous on whether procedural justice and interactional justice are separate concepts or belong together (e.g., Bies & Moag, 1986; Cropanzano et al., 2002). I choose to view the two as parts of the same phenomenon concurring with Colquitt et al. (2001) view of “process fairness” including procedural fairness, interpersonal fairness, and the like. Or as Brockner, Wiesenfeld, and Diekmann (2009) who describe process fairness referring to “people’s perceptions of how fairly they are treated in the course of interacting with another party” (p. 183).

I study procedural and interactional justice perceptions in the use of results-oriented pay systems. In my view, procedural and interactional justices belong to the same broad category, and I use them to define the fairness of ROP processes in general.

#### *Process fairness and pay satisfaction*

There are differing views on whether pay fairness is an antecedent, correlate, or consequence of pay satisfaction (Miceli & Lane, 1991). Either or, the findings suggest that procedural fairness has a positive relationship with pay satisfaction (e.g., Moiso et al., 2012; Till & Karren, 2010; Williams et al. 2006). Williams et al. (2006) treat the two concepts as correlates while finding a meaningful relationship between the two. Although Miceli and Lane (1991) also consider the two concepts to correspond, they propose procedures perceived as fair to be antecedents of pay satisfaction. I concur with Miceli and Lane (1991) and place procedural and interactional fairness, or process fairness as antecedents of pay satisfaction (H4 in Chapter 4).

#### *Process fairness and performance*

The relationship between procedural justice and performance has been the least clear of all studied relationships between justice concepts and outcomes (Colquitt et al., 2001). However, in their meta-analysis, procedural justice was more capable of predicting performance than distributive justice. In a meta-analysis by Cohen-Charash and Spector (2001), work performance was also related to procedural justice (but not to distributive or interactional justice) especially in field studies. Work performance has been measured, for example, as performance ratings, performance measures, and effort exerted. Colquitt, Noe and Jackson (2002) found a link between team-level procedural justice climate and team performance rated by leaders in a large manufacturing firm, and Ehrhart (2004) found a link between procedural justice climate and unit-level organizational citizenship behavior. If individual and team work performance is improved in justice conditions, one could also expect to find positive relationship between perceived procedural fairness of ROP procedures and organization level performance (H4 in Chapter 4). Lipponen and Wisse (2010) found a link between procedural (and distributive) justice perception and department level external performance evaluation in a university setting. Very few of the studies have concentrated directly on pay system related procedural justice. Folger (1993) found pay system related procedural justice (most recent pay raise)

to contribute to manufacturing plant employees' self-rated organizational citizenship behavior. Organizational citizenship behavior and extra-role behavior certainly both include the element of co-operation between individuals. Procedural justice has been found to influence both of these (e.g., Blader & Tyler, 2009; Colquitt et al., 2001) and thus the positive link between fair ROP processes and co-operation effects can also be expected in this study (H4 in Chapter 4).

*Findings on what influences the relationship between procedural justice and performance*

To my best knowledge there are only a few studies that have addressed knowledge of the processes as intervening mechanism between procedural justice perceptions and favorable outcomes. Haworth and Levy (2001) found organizational citizenship behavior to be influenced by an interaction between procedural justice perception and perceived performance appraisal system knowledge in their study of working undergraduates. They found altruistic organizational citizenship behavior, helping others, to be more influenced by procedural justice when the respondents knew the performance appraisal system well. Furthermore, they found a three-way interaction with procedural justice, knowledge of performance appraisal system, and belief about OCB to be beneficial (instrumentality belief) to their total measure of OCB. The procedural justice – knowledge of performance appraisal system interaction was strong only for those with belief that OCB is beneficial.

Goal-setting, communication, and performance evaluation are a focal part of implementing results-oriented pay system underlining the importance of procedural justice. Based on earlier literature, I hypothesize that perceived process justice in ROP usage (perceived fairness of ROP procedures) will contribute to employees' satisfaction with ROP (in line with Folger & Konowsky, 1989; Heneman & Judge, 2000; Miceli & Lane, 1991; Williams et al., 2006). Further I hypothesize that perceived fairness of ROP procedures will contribute to employees' perceptions on the impact ROP has on organizational performance in line with studies on procedural justice and performance link (Colquitt et al., 2001; Lipponen & Wisse, 2010) and studies on pay system related procedural justice and perceived organizational performance link (Nurmela et al., 1999) and co-operation (in line with Folger, 1993; Nurmela et al., 1999). (H4 in Chapter 4.) Furthermore, I propose that the knowledge of the ROP system moderates the relationship between perceived fairness of ROP procedures and the three outcomes studied here (H6b in Chapter 4). I suggest that the interaction shows high ROP knowledge to increase the effect of perceived fairness of ROP system on the three outcomes. This would be in line with Haworth and Levy (2001) findings described earlier on procedural justice and OCB findings. Furthermore, I suggest valence given to ROP system, i.e., the perceived importance of the ROP system, to moderate the relationship between perceived fairness of ROP procedures and the three outcomes studied here (H5b in Chapter 4). I argue that when the respondents ascribe substantial importance to the ROP system it makes also fairness of ROP processes more crucial to the respondent. I propose

that the higher the perceived importance of ROP (valence) the more impact perceived fairness of ROP procedures has on the three outcomes.

### 3.3.5 Perception of pay system contingency

Contingency or strategic fit is usually studied across organizations using an organization as the unit of analysis as described in chapter 3.2.2. Gerhart and Rynes (2003) stated that:

although strategy is typically conceptualized as a macro field, what actually happens in an organization (i.e., strategy execution) depends on a great number of decisions made by individuals at the micro level, as well as their ability to execute those decisions. (p. 230)

According to Gerhart and Rynes (2003) “there is essentially no research to show that pay strategy influences business performance by changing employee perceptions or behaviors” (p. 254). This type of research is still rare - Mitra, Gupta, and Shaw (2011) propose that compensation researchers should utilize the strategic view more in their theory building. Following this line of thought of the importance of strategic alignment perceptions, there is some evidence that the employees who perceive their own job tasks to be aligned with organizational strategic priorities have higher work engagement (Biggs, Brough, & Barbour, 2014). Biggs et al. (2014) argue that strategic alignment is expected to e.g., “satisfy basic psychological needs that are cited as precursors of work engagement, such as the need for meaning (Kahn, 1990) and the need for competence (Ryan & Deci, 2000)” (p. 303). Perceiving fit between ROP system and organizational goals could provide such meaning when employees (unconsciously) ask themselves as Kahn (1990) wrote “How meaningful is it for me to bring myself into this performance?” (p. 703). And as work engagement is connected to positive work attitudes such as job satisfaction (e.g., Christian, Garza, & Slaughter, 2011) we might expect to find a positive link also between ROP satisfaction and perceived strategic alignment (H3 in Chapter 4). We could also look at the option that there is no relationship between the fit perception and satisfaction and ask ourselves if it is plausible that perceiving poor fit between ROP and organizational goals would have no effect on ROP satisfaction. I argue that it is unlikely because perceiving poor fit between ROP system and organizational goals would undermine the sense and meaning of the ROP system and this should reflect in dissatisfaction with the system.

Furthermore, there are some research where the strategic alignment perception is studied in the context of actual pay systems. There is some evidence that good perceived fit between pay system and organizational strategy is connected to positive organizational outcomes when these are evaluated by the managers responsible of compensation (Hakonen et al., 2005; Mitra et al., 2011). Strategic consistency of the pay plan (skill-based, market-based, and job-based) with organization’s climate / culture was found essential to pay plan over-all success as evaluated by compensation managers of 214 facilities (Mitra et al., 2011). Further, strategic consistency moderated the relationship between workforce productivity and pay plan success (Mitra et al., 2011). In Finland, Hakonen et



al. (2005) studied how the persons who are responsible of rewarding view the state of reward practices in their organizations. They found that perceived fit between reward systems and organizational strategies was connected to perceived reward system impact on the success of the organization. Furthermore, two qualitative studies have found links between lack of fit and perceiving the incentive systems meaningless (Hakonen, Maaniemi, & Hakanen, 2011) and perceiving performance-based pay as unfair (Maaniemi, 2013). Hakonen et al. (2011) studied why Finnish municipal employees perceived their ROP systems as meaningful, meaningless or of having negative meaning by interviewing 89 employees. Lack of compatibility between ROP and work or work environment was one reason for perceiving the ROP meaningless. This reflects a lack of perceived fit between ROP and one's work or work environment. Maaniemi (2013) found that a conflict (or lack of fit) between intended pay system and realized pay system is one reason for perceptions of unfairness when she interviewed 48 employees and 24 supervisors in three Finnish governmental sector organizations. For example, a pay system where performance appraisal results should determine the exact amount of merit pay was perceived as unfair when in practice there was not enough budget to give the raises that should be given if the performance appraisals were done correctly (Maaniemi, 2013).

I propose that utilizing results-oriented pay is one embodiment of pay strategy at the organizational level. This in turn has to be perceived by individuals in the organization. Furthermore, an individual perceives the ROP to fit with the organizational goals to a differing degree (contingency perception). The perception of fit between the ROP system and organizational goals is proposed to be a factor influencing individual decision-making and, more specifically, ROP satisfaction (in line with Biggs et al., 2014) and the perception of organizational effectiveness (in line with Hakonen et al., 2005; Mitra et al., 2011) and co-operation (assuming that reaching the collective performance goals needs co-operation). (H3 in Chapter 4.) Perception of fit can be seen as one cognitive element giving reason or meaning to a results-oriented pay system. The relationship between perceived ROP fit with organizational goals and the three outcomes is further hypothesized to be modified by ROP knowledge (H6a in Chapter 4) and perceived ROP importance (H5a in Chapter 4).

### **3.4 Pay system structure explaining pay outcomes**

The size and criteria of the potential bonus may influence how the individual perceives the incentive system and how (s)he behaves. Theoretically, these pay system characteristics can have an effect on pay outcomes via the contextual theories' lens or via the individual level theories' lens. First, the effects of pay structure on pay outcomes may be generated via contingency effects, that is, some structural choices fit the organization, its strategy, or other HR systems better than others, and the fit contributes to better performance of the organization. Furthermore, looking at an internal alignment, the structural choices or characteristics may form configurations of ROP system characteristics that gen-

erate better performance than some other combinations of characteristics. Second, the effects of pay structures on pay outcomes can be explained with the individual level theories, especially the motivation theories.

Relevant structural factors of pay systems discussed in the literature include, for instance, the closeness or remoteness of the criteria used as bases of incentives, the size of the bonuses, and the frequency of payments. Next, earlier findings on individual and group based bonuses' outcomes are presented. Second, studies on bonus size, frequency of payments, and age of the plan are discussed. Third, target groups for bonuses and the type of work where bonuses are applied are discussed.

### **3.4.1 Individual vs. group based bonuses**

Perhaps the prevalent view on individual vs. group incentives favors individual incentives as having higher performance effects (e.g., Gerhart et al., 2009). In a motivating incentive system, according to this view, individuals must be able to affect the results through their behavior to reach the goals. This "influenceability" is referred to as the "line of sight" (Lawler, 1990, 14). The "line of sight" refers to the extent to which an employee feels he/she can influence results and hence his / her pay (Lawler, 1990). Good line of sight consists of, for example, "understanding how specific behaviors generate performance, how performance is measured in the incentive plan, and how the incentive plan provides different levels of reward for different levels of performance" (Heneman, Ledford, & Gresham, 2000, p. 209). That is, the tighter the link between performance and reward, the greater is the influence on employee performance (Lawler, 1990). The idea is based on expectancy theory of motivation (Vroom, 1964). According to the "line of sight" argument, variable pay systems rewarding for individual achievement should be more motivating than the ones rewarding for unit profitability. And, correspondingly, the unit performance rewards should be more motivating than company-level rewards (Heneman et al., 2000). Blinder (1990, p. 5) calls the challenge produced by the increasing group size "the 1/n problem" where the n refers to the number of employees. An individual employee in a large organization gains very little if his efforts raise company profits. This may lead to shirking. The larger the n the worse is the potential problem.

#### *Performance outcomes*

More is known about individual incentives' outcomes than group incentives' outcomes (Garbers & Konradt, 2014; Gerhart et al., 2009; Honeywell & Dickinson, 1997). There is substantial evidence for individual incentive systems having an effect on performance (see meta-analyses by Garbers & Konradt, 2014; Guzzo et al., 1985; Jenkins et al., 1998; Stajkovic & Luthans, 1997). Jenkins et al.'s (1998) meta-analysis of 39 studies concerning individual incentives – performance relationship found an estimated effect size of .34 to performance quantity (Jenkins et al. 1998). No significant effect was found on performance quality back then, but later Condly et al. (2003) and Garbers and Konradt (2014) have

established that the effect sizes have actually been larger for the quantitative performance measures than the qualitative ones.

There is some building evidence that group-based incentives have had even higher performance effects than individual incentives as in meta-analysis by Garbers and Konradt (2014). Some experimental studies both in laboratory and field settings have found small group bonuses to have comparable effects on productivity and satisfaction as the effects achieved with individual bonuses (see for review Honeywell-Johnson & Dickinson, 1999). A meta-analysis of 45 studies on incentives – performance relationship both in laboratory and field settings found small group incentives to have even markedly superior effect on performance compared to individual incentives (Condly et al., 2003). The overall average effect of all monetary incentive systems was 27 % gain in performance (effect size 0.79). In the case of small group incentives it was as high as 48 %, and in the case of individual incentives the gain was 19%. It should be noted though that the analysis included only 9 studies on small group incentives compared to 55 studies on individual incentives.

Interestingly, there are contradictory findings of individual and group-based incentives' outcomes in the Finnish context. Kato and Kauhanen (2013) found that group-based incentives were connected to higher productivity of a large sample of Finnish firms than individual incentives. However, studies relying on employees' perceptions of outcomes have found group-based incentives inferior to individual based incentives when it comes to overall effectiveness of the incentive system including satisfaction with the system and perception of the system effects (Nurmela et al., 1999) and individual performance (Hakonen, 2012). Note that the systems studied were not pure individual or group-based incentive systems but they rewarded mainly for a combination of performance: e.g., company, unit, and individual performance.

#### *Co-operation outcomes*

Potential handicaps with individual incentives include at least decrease in co-operation (e.g., Gerhart et al., 2009; Pfeffer & Langton, 1993). And conversely, group incentives may be more effective in minimizing these negative side-effects, encouraging co-operation, and gaining employee acceptance (Lawler 1987 in Petty et al. 1992). Some studies have found empirical evidence for positive perceived teamwork effects when changing from individual incentives to group incentives (Hatcher & Ross, 1991), for positive co-operation effects when implementing a group incentive system (Petty et al., 1992), and negative effect on helping between groups when changing from group to individual incentives (Kato et al., 2013). Co-operation outcomes were discussed in chapter 3.1.2.

#### *Group size*

Regarding the size of the group that is rewarded, there is some evidence that the effectiveness of a group based variable pay system decreases when the group-size increases (Garbers & Konradt, 2014), especially when studying larger groups than teams (e.g., Kaufman, 1992; Marriott, 1949 in Vroom, 1964). Marriott (1949) studied employee output in two factories when group bonuses and

group piece-work plans were used in groups varying from under 10 to over 50 employees. He found individual performance to decrease as group size increases. The findings were consistent with the exception of groups over 50 employees where performance increased slightly compared to groups consisting of 40 to 49 employees. In Kaufman's (1992) study on profit-sharing systems, there was a significant negative firm-size effect: the larger the firm the less productivity improvement. Doubling the number of employees covered by a gain-sharing plan, from 206 to 412, was associated with a reduction of almost 50 % in the expected productivity gain. Lawler (1990) claims that because the relationship between performance and pay is harder to see in larger organizations, the most successful gain-sharing plans cover less than 500 employees. Kim (1996) studied the factors influencing gain-sharing outcomes. Managers perceived the systems covering less than 100 employees having more impact on quality improvement than the systems covering more than 100 employees. However, the findings on profit sharing effects and organizational size (group size) are not consistent (Long, 2000). Long found firm size to have very little impact on profit sharing effects and suggested that the primary route of profit sharing effects might not lead through individual effort but perhaps some other mechanism (ibid.). Firm size was actually positively connected to co-operation effects of profit-sharing suggesting that profit sharing leads to enhanced co-operation when the organization size grows (ibid.). Another question rising from above mentioned studies is: what is a big group and what is a small group in the context of results-oriented pay system. Where should we draw the line, in a meaningful way, when studying group size - ROP effectiveness relationship?

### *Work context*

The effectiveness of individual or group based incentives may also be dependent on the work setting. Gomez-Mejia and Balkin (1989) studied 175 R&D workers and found team-based bonuses to have better outcomes compared to individual bonuses or more collective profit-sharing systems. Team-based bonuses had significant positive effect on pay satisfaction, withdrawal cognition, and self-reported individual and project performance. R&D work is in many cases very dependent on co-operation between individuals and groups. Wageman (1995) found in her study of technicians that group performance was best when rewards were contingent with the independency or interdependency of the work setting. Independent work combined with individual incentives and interdependent work combined with group incentives both produced good performance outcomes. Shaw et al. (2002) found that in an industry setting where the tasks of the individuals were very independent, the performance was best when individual incentives were used (long-distance trucking).

Most empirical research on pay for performance systems has studied either pure individual performance based systems or group performance based systems (Kuvaas, 2006). However, many organizations implement a combination of different performance measurement level systems (Gerhart & Rynes, 2003; Gerhart et al., 2009). Combining different performance measurement levels is the dominant way of results-oriented pay systems in Finland (Confederation of

Finnish Industries 2011; Nurmela et al., 1999). Performance is measured typically at two to three levels, for example, organization, unit, and individual level. Because of the complexity of real-life performance based pay systems, Gerhart et al. (2009) call for research that considers performance based pay systems as holistic entities including several levels of measurement. My work aims at taking results-oriented pay systems as entities into close examination.

How bonuses are divided within a group may also have a role in determining pay system effectiveness. Meta-analysis by Garbers & Konradt (2014) found equitably divided (related to performance) team-based bonus to have higher performance effects than bonuses divided equally. Meta-analysis by Condly et al. (2003) did not find differences between the effects of systems paying for highest performers only or all who achieved a given performance level. In the Finnish context, the results-oriented bonuses are typically divided when a certain performance level is achieved. Paying for highest performers only (competition based) is not frequently used. However, the amount of bonuses may be tied to an equal maximum amount of Euros, a maximum percentage of annual pay, or a mixture of the two bases (e.g., maximum of 2000 euros, maximum of 8 % of annual pay, or some combination).

In summary, according to previous research, we can assume that individual bonuses and group bonuses may have different outcomes or processes of affecting performance. In the case of group bonuses, the size of the group should be noted because larger group size should theoretically lead to less positive incentive system outcomes. Furthermore, it would seem reasonable to take into account what kind of a performance measurement level mix there is and what is the intensity of measurements close to an employee (the line of sight argument). I also suggest that it should be noted whether the bonuses are tied to a certain equal maximum amount of Euros or related to individual pay-levels. We could also expect that the individual bonuses compared to group bonuses have a stronger positive effect on pay satisfaction and perceived organizational performance but a weaker effect or even negative effect on perceived co-operation. And finally, it seems reasonable to expect that the effects of individual or group based bonuses may change in diverse work contexts. For example, group based bonuses may be better suitable in work contexts where co-operation is vitally important in achieving results (i.e., interdependent work).

### **3.4.2 Size of bonuses, frequency of payment, and age of the plan**

#### *Size of bonuses*

The use of higher rather than lower wages can be theoretically rationalized from various angles, for example, efficiency theory, expectancy theory, goal-setting theory, and agency theory. Common to these approaches is that higher wages or bonuses are expected to have positive consequences from the organization's point of view. Efficiency theory points to two major theoretical arguments: incentive effect and sorting effect (Gerhart & Rynes, 2003). First, an incentive effect assumes that higher bonuses create higher effort among employees. This is

in line with a fundamental argument of agency theory: incentive intensity is positively connected to employee contributions to performance (Zenger & Marshall, 2000). From expectancy theory and goal-setting theory point of view, higher bonuses have more value (valence) to an employee than lower bonuses and this affects positively the motivation of an employee (Locke & Latham, 1990; Vroom, 1964). The second assumption of efficiency wage theory is a sorting effect – higher bonuses attract appropriate employees to the organization. Organizations also tend to pay certain jobs (e.g., IT-specialists) above-market (Corby et al., 2009). Resource dependence theory states that more is paid to individuals holding jobs that are strategically critical to the organization (Pfeffer & Davis-Blake, 1992).

The amount of pay is positively related to pay satisfaction of an individual. There is consistent empirical evidence that the relationship is positive but modest (Gerhart & Rynes, 2003; Williams et al., 2006). This suggests that also the amount of bonuses received by an individual should be positively related to his or her satisfaction with the bonuses.

How much is enough for pay satisfaction or motivation effects? According to Heneman et al. (2000) “convention suggests that bonus opportunities must represent 5 to 10 percent of base pay to be motivating” (p. 221). The importance of the size of bonuses or pay increases has also been studied with psychophysical approach (e.g., Mitra, Gupta & Jenkins, 1997; Worley, Bowen & Lawler, 1992). Worley et al. (1992) found the relationship between bonus size informed as a percentage added to salary and the attractiveness of bonuses to be curvilinear in a sample of 639 sales personnel. That is, the attractiveness of larger bonus percentages was seen continuously more attractive but at a decreasing rate. The study covered bonus percentages of 2%, 5%, 10% 15%, and 20%. Mitra et al. (1997) studied what would be the size of a pay raise that would be noticed with positive perceptual and attitudinal reactions in a sample of 192 students. They ended up with a figure of about 7 % pay increase to evoke the reactions hoped for. Mitra, Tenhiälä, and Shaw (2015) found the threshold for motivating pay increase to be about 8 % among Finnish university employees (effort and affective reactions).

The evidence on the relationship between pay level and performance is more controversial (Gerhart & Rynes, 2003). Possibly, as Gerhart and Rynes (2003) argue, the performance effects could be found best via sorting effect – who are the employees that are attracted to the organization and what is their capacity to perform. And, as they write, “there are several reasons to believe that the decisions of organization regarding how to pay are in some sense more strategic and more important to performance outcomes than decisions about how much to pay” (p. 115). Gerhart and Fang (2014) also point out that even though it is likely that the performance effects are more substantive when incentive-intensity (bonus size) grows, it also increases the risks for unintended consequences. Furthermore, the relationship between bonus size and performance may be

nonlinear. Kim (1996) hypothesizes that too small bonuses have inefficient motivating effect but too large payouts may lead to damaging consequences because of employees, for example, focusing only on bonus targets.

Unfortunately, major meta-analyses on the relationship between incentives and performance have not been able to include variables on incentive size in their analysis (Condly et al., 2003, Garbers & Konradt, 2014; Jenkins et al. 1998). Kim (1996) studied 269 establishments using gainsharing in the United States and Canada by surveying managers responsible for reward systems and included average bonus sizes in the study. As gainsharing systems reward for group performance, the average size of bonuses (percentage to employees' normal wage) within a gainsharing system is an appropriate measure. He found bonus payment size to be positively related to all outcome variables in organizational level: perceived improved quality, improved labor productivity, cost reduction, and improved production process. Furthermore, he analyzed whether the relationship might be nonlinear by squaring the bonus payment. He found a significant nonlinear relationship between bonus payments squared and improved productivity and cost reduction suggesting that both small and large bonuses may have a decreasing effect on the outcomes. Alyce Dickinson and her group conducted four studies on what kind of impact the percentage of individual incentives out of total earnings has on individual performance (see for review Dickinson, 2005). The studies were conducted both in laboratory and field settings. The studies indicated bonuses even as low as 3 % of total earnings having a substantial effect on individual performance. Controversially, the effect did not seem to increase when the proportion of bonuses was increased.

#### *Frequency of payment*

Several authors point out the potential importance of the timing between the reward and the performance. However, Conroy and Gupta (2015) note that the frequency of incentive payments has received little attention in compensation studies. Close timing may help make the relationship between performance and reward clear and credible (Lawler, 1990) and frequent bonus payments may repeatedly remind employees of the goals and rewards attached to them (Kim, 1996). What is a close timing depends greatly on what kind of performances are rewarded and what is an appropriate time to measure those performances. According to Lawler, a typical gainsharing plan pays bonuses on a monthly basis. Kim (1996) found the more frequent gainsharing payments (monthly or more often vs. quarterly or less often) were positively related to the amount of bonuses paid which should also reflect better achievement of targets. However, the more frequent payments were negatively related to cost reduction and not significantly related to other outcomes studied (quality, labor productivity, and production process). Kim's findings give a mixed message of the relationship between payment frequency and pay system outcomes. Conroy and Gupta (2015) suggest that payment frequency interacts especially with incentive intensity (bonus size) in generating pay system outcomes.

*Age of the incentive plan*

The age of the incentive plan may have a role in creating system effectiveness. A brand new plan may not be very well known or it may contain some structural flaws. Thus, a positive learning effect could be expected. On the other hand, there may be some kind of 'honey-moon effect' regarding the new ROP systems; employees just feel good about having a possibility to get bonuses or to have their work results noticed (Hawthorne effect). Older ROP systems may be better known among employees and most of their flaws may have been corrected. On the other hand, if the system is so stabilized that it is perceived merely as an automat for bonuses, many of the positive outcomes are surely lost. Older bonus systems may also have already achieved the initially planned positive effects and there is not so much room left for improvement in the same areas of performance (Kim, 1996). The empirical evidence concerning the age of bonus plan and outcomes has been mixed, e.g., Kim (1996) found the age of the plan positively associated with the improvement of the production process and the amount of bonuses paid but negatively associated with labor productivity and cost reduction. Klein and Hall (1988) found the age of the employee stock ownership plan to be positively associated with employee satisfaction with the plan. Long (2000) found the age of the profit sharing plan positively associated with the CEO's perceptions of the plan's impact on stock value. Long did not, however, find the age of the plan to have other significant relationships with perceived outcomes. McHugh et al. (2005) study on management perceptions of employee stock ownership plans' impact on company performance did not find significant relationship between the age of the plan and the perceived plan impact.

As a summary, theoretically there is a reason to assume that the size of potential bonuses has an effect on outcomes. However, there are conflicting findings on whether this is the case and whether the relationship is linear. There are also some reasons to assume that the frequency of bonus payments may have a role in creating positive pay outcomes, mainly because the more frequent bonuses would also be paid closer to the actual time of performance. The age of the bonus plan should be noted as a potential factor influencing bonus system outcomes, even though the empirical findings have been conflicting.

**3.4.3 Context of the ROP - the type of work**

Condly et al. (2003) found in their meta-analysis the performance gains to be somewhat greater for incentive systems implemented in manual work environment (30 % gain) in contrast to cognitive work environment (20 % gain). There are relatively few studies on incentives in today's knowledge work setting (Kuvaas, 2006). Jenkins et al. (1998) classified the task type a bit differently into intrinsic and extrinsic tasks, extrinsic being described as boring or unappealing tasks. In their meta-analysis, the task type did not moderate the relationship between financial individual incentives and performance. Furthermore, it seems important to study the type of incentive system and work setting together. That is, whether different types of ROP systems have different effects within diverse work types. Kuvaas (2006) studied the impact of bonus pay plan



characteristics among highly educated knowledge workers in two units of a Norwegian multinational company. Two pay plans were studied, one with purely collective reward criteria and the other with additional individual level reward criteria. An important characteristic of the work was that it was not possible to set very clear cut performance targets for the employees. The pay plan and achieved bonus were not found to have an effect on self-reported performance or commitment of the employees. However, the employees under the collective bonus plan perceived the plan fairer.

Emans (2007, 55) defined pay policy characteristics to be essential if they have an impact on experienced Employee-Organization-Relationship (EOR). EOR constitutes the whole of exchanges of contributions that take place between an organization and its workforce (Tsui, Pearce, Porter, & Tripoli, 1997). The four main essential pay policy factors according to Emans are: 1. Pay strategy and vision, 2. pay systems, 3. pay processes and procedures, and 4. workforce categorization. Emans states that it is the combination of these characteristics that results in experienced balance of inputs and outputs. For this discussion, the area of workforce categorization gives a new angle. By workforce categorization Emans means different pay systems that are applied for different employee groups such as blue collar employees or salaried employees, core and flex personnel, or different levels of management. As this is often the case in the Finnish ROP systems, the workforce categorization should be regarded.

As a summary, there are conflicting findings on whether bonus systems have diverse effects depending on the work environment the system is used in. It may also be of importance whether the system is implemented for the entire personnel, for specific employee groups in production or service, or for specific “key” employee groups.

### **3.5 Summary of key theoretical questions and empirical gaps**

In summary, there are still several open questions concerning ROP effectiveness in organizations. Most importantly, it is not clear that ROP systems have universally positive effects on organizational performance (Gerhart et al., 2009; Heneman, 2000; Nurmela et al., 1999; Pfeffer & Langton, 1993). What kind of effects do different types of ROP systems have and how are the effects created? Both research on specific types of reward systems and research on the processes of effectiveness (often referred to as the black box) are called for (Garbers & Konradt, 2014; Gerhart et al., 2009; Heneman, 2000; Shaw & Gupta, 2015). My study aims at contributing to both areas.

Understanding both the organizational context and ROP structural differences and individual level psychological processes seem essential in order to explain how and under what conditions ROP systems can have positive effects on pay satisfaction, organizational performance, and co-operation. Long (2000) utilized a broad variation of characteristics of profit sharing systems, and theories of behavior to understand profit-sharing effects. He recommends that “any theoretical framework that tries to capture the full effects of profit sharing needs

to be comprehensive and multifaceted” (p. 497). I have worked with my research in the same spirit. I wish to capture something essential in understanding ROP effectiveness and hope to be able to avoid the worst pitfalls of comprehensiveness.

### **3.5.1 ROP system structures creating ROP outcomes**

First, my study concentrates specifically on incentive system variation used in the Finnish context, the ROP systems, and further distinguishes diverse types of ROP systems thus contributing to the need of research on specific types of reward systems instead of research on reward systems in general. The aim is to study ROP systems as meaningful configurations (holistic entities) as suggested by Gerhart et al. (2009). That is, I study the effects of a bundle of structural elements that make typical Finnish ROP systems instead of studying the effects of each structural ROP system characteristic at a time. The perceived impact of the different types of ROP on organizational performance and co-operation as well as ROP satisfaction are studied. Part of the contribution of this study is that these three types of ROP outcomes are studied simultaneously. Co-operation effects are seen as potential pitfalls of individual incentives (e.g., Pfeffer & Langton, 1993). This study shows how the perceived ROP effect on co-operation differs among diverse types of ROP.

I reviewed findings on how pay system characteristics are connected to pay system outcomes in chapter 3.4. Motivation theories have a lot to say about whether individual bonuses are more motivating and thus effective than group-based bonuses and under what conditions. Furthermore, the size of the group should be negatively correlated to the outcomes. However, the empirical findings are conflicting.

The size of potential bonuses should also theoretically have a role in determining the outcomes. Basically, the higher the bonuses, the more motivating they should be. Again, the empirical findings are conflicting. Some find a positive curvilinear relationship between bonus size and the attractiveness of the bonus (Worley et al., 1992), some find a nonlinear relationship between bonus size and organizational performance implying decreasing effects with both small and large bonuses (Kim, 1996).

Other system characteristics potentially having a role in determining pay system outcomes reviewed were the age of the bonus plan, the method of bonus allocation, the frequency of payment, the bonus criteria used, and the target group of bonuses. Because many of the variable pay systems are combinations of e.g., diverse levels of measurement, Gerhart et al. (2009) suggest that it would be useful to study this kind of pay plans as holistic entities rather than studying only one aspect. I recognize the potential effect of ROP system characteristics in creating ROP outcomes and study them in my work. My approach is to cluster ROP characteristics in a meaningful way into configurations (Meyer et al., 1993) to better figure out what are the different types of ROP systems as wholes rather than comparing one characteristic to another. Configurational approach asserts “that the parts of a social entity take their meaning from the whole and cannot

be understood in isolation” (Meyer et al. 1993, p. 1178). According to Short, Payne, and Ketchen (2008), configurational research is still rarely used in studying human resource management systems and the approach could make a contribution to the field.

### **3.5.2 The psychological mechanisms creating ROP outcomes**

Second, my study aims at contributing to the research of psychological mechanisms explaining under what conditions the ROP systems generate positive outcomes, i.e., contributing to the understanding of the “black box”. According to Rynes et al. (2005), one of the most frequent calls in the strategic human resource management literature has been for research that will help illuminate the “black box” between various HR practices and organizational outcomes such as profits. In this study, the intervening processes between pay policies and outcomes are the perceived fairness of ROP procedures, the perceived importance of ROP system, the perceived fit between ROP and organizational goals, and the perceived knowledge of the ROP system. The role of the actual ROP system type in the creation of the outcomes is also studied.

Within the “black-box” area are the explanations of pay system outcomes given by motivation theories. Looking at the motivation theories, the most obvious conflict in earlier findings is between self-determination theorists’ and e.g., expectancy theorists’ views on how monetary incentives affect individual work motivation. According to self-determination theory, the monetary incentives can be detrimental to intrinsic motivation. However, as Deci et al. (2001) imply, the rewards can support intrinsic motivation even from SDT point of view if they are administered in competence and self-determination enhancing way. I expect in my work, that if ROP systems are used in a way that is perceived as fair and contingent as well as if the system is seen as important and individuals have knowledge of it, the systems can enhance motivation and thus produce positive performance outcomes.

I suggest in the spirit of earlier literature that the fairness of ROP procedures as such is beneficial for ROP satisfaction and perceived ROP outcomes on organizational performance and co-operation. The link between procedural justice and performance is the least studied (Colquitt et al., 2001), especially on the level of organizational performance. This thesis contributes to the relatively little studies link between procedural justice and perceived organizational performance. I also suggest that the valence of the ROP system, operationalized as the perceived importance of the system, and knowledge of the system moderate the relationship between perceived fairness of ROP procedures and ROP outcomes.

Derived from motivation theories is the role of ROP knowledge that I aspire to clarify with my work. Earlier findings on pay knowledge stress its role in creating positive pay outcomes (Moisio et al., 2012; Mulvey et al., 2002; Sweins & Kalmi, 2008; Sweins et al., 2009). The literature on pay knowledge has been sparse and thus more research on the subject is needed. There is no single best model found in literature about whether pay knowledge as such is linearly con-

nected to pay satisfaction (Mulvey et al., 2002) or if pay knowledge has an independent effect on organizational performance instead of being mediated by pay satisfaction (Sweins et al., 2009). I suggest a model where pay knowledge moderates the relationship between, e.g., perceived fairness and pay satisfaction. Thus, I take into consideration that plain knowledge does not necessarily lead to good outcomes if for example, the pay system is perceived as unfair (e.g., Burchett & Willoughby, 2004; Martin & Lee, 1992).

Contingency between pay systems and, for example, organizational strategy has been studied as leading to better organizational performance (e.g., Gomez-Mejia & Balkin, 1992). However, as Gerhart and Rynes (2000) point out, there is a lack of research showing that pay strategy would influence organizational performance by changing employee perceptions or behavior. Thus, I incorporated the perception of fit between ROP system and organizational goals as a variable potentially influencing ROP satisfaction and perceived organizational performance. I did not find earlier studies to address the relationship between perceived fit and pay satisfaction. I also suggest that the relationship between perceived fit between ROP and organizational goals and ROP outcomes is moderated by 1) the perceived importance of the ROP system and 2) the knowledge of the ROP system. This is to underline further my assumption drawn from expectancy theory and goal-setting theory that an effective ROP system needs to be known and needs to be valuable for the individual.

### **3.5.3 Methodological considerations**

The relationships between pay and diverse outcomes are suggested to be studied with multiple levels of analysis, for example, looking at outcomes both on individual and group level (Rynes & Gerhart, 2000). Also single rater approach should be replaced with multiple assessments and multiple measures should be used. In this thesis, the information concerning the ROP system structure is gathered from the actual pay system documents of the organizations. Individual employee perceptions of the systems are then analyzed in the context of the system's structure.

Rynes and Gerhart (2000) call for more field research because the complexity of compensation is not easily studied with experimental designs. Also, the significance of contextual factors such as national cultures should be recognized in the research. This is where the rich data from Finnish ROP systems has an added value as it reflects clearly a different culture than the US working life that has been most extensively researched. Gerhart and Rynes (2003) also point out that compensation researchers should give more attention to the practical significance of the results. The aim in this thesis is to make the practical implications of the findings as visible as possible.

## 4. Research questions and hypotheses

The aim of my thesis is to build a model for understanding how results-oriented pay (ROP) systems' outcomes on ROP satisfaction and perceived organizational performance and co-operation are generated. Furthermore, I test the theoretical model on the data from 35 Finnish ROP systems. Finally, I aim to enhance understanding of how the ROP outcomes are generated in the context of different ROP types and assume that the processes may be differing from one another. There are two general research questions and specific hypotheses related to them.

**Research question 1:** How do the four antecedents - employees' knowledge of ROP and the importance they ascribe to it, together with their perceptions of fairness of ROP procedures and fit between ROP and organizational goals - influence the three important ROP outcomes (i.e., perceived satisfaction together with perceived effect on organizational performance and co-operation)? My hypothesis derived from literature is that all four independent variables have an independent role in predicting all three ROP outcomes. I assume that the relationship between the independent variables and each of the outcome variables is positive, i.e., that perceived importance of ROP, the knowledge of ROP, perceived fit between ROP and organizational goals, and perceived fairness of ROP procedures each contribute positively to the outcomes. Furthermore, I assume that the levels of perceived importance of ROP and knowledge of ROP moderate the relationships between the other two independent variables and the outcomes.

Even though I expect the relationships to be positive with all three outcomes studied, there are particularly strong reasons to expect some of the independent – dependent variable relationships to be found. I present these and summarize the theoretical grounds for all of the hypotheses in the following.

I expect the perceived fairness of ROP procedures and the knowledge of ROP to have a significant role in explaining satisfaction with the ROP system. The existing literature stresses pay fairness perceptions as antecedents of pay satisfaction (e.g., Williams et al., 2006). Furthermore, because the equity and discrepancy theories (Adams, 1963; Lawler, 1971) are the ones most used in understanding pay satisfaction, I argue that knowledge of the pay system is needed to evaluate, for example, the equity of the pay.

What comes to the perceived ROP effect on organizational performance, I expect the perceived importance of ROP and the perceived fit to have a strong explanatory role. For a pay system to affect performance on organizational level, it should first affect the behavior of individuals, i.e., have a motivational effect. I argue that the perceived importance is a way to grasp some of the valence of the possible incentives. According to expectancy theory (Vroom, 1964) and goal-setting theory (Locke & Latham, 1990) the potential reward needs to be seen valuable for an individual to pursue the reward (this among other requirements). I also expect the perceived fit between the ROP and organizational goals to be important in explaining the performance outcomes. According to contingency theory (e.g., Gomez-Mejia and Balkin, 1992), the alignment between reward strategy and corporate strategy leads to better organizational performance. Furthermore, I argue that the fit must be perceived by individuals for the possible performance effects to materialize.

I argue that the perceived fit between ROP and organizational goals and the perceived fairness of ROP procedures are strong explanatory variables in how ROP influences perceived co-operation. The literature on incentives' influence on co-operation effects deals mainly with pay system structure's impact on co-operation, i.e., individual bonuses decreasing co-operation (Pfeffer & Langton, 1993) or group bonuses enhancing co-operation (e.g., Petty et al., 1992). I argue that in addition to structural choices, the perceived fit between ROP and organizational goals should predict co-operation because there should be less fit perceived in cases where the ROP conflicts with common goals. Furthermore, the perceived fairness of ROP procedures should have a strong role in predicting co-operation effects. If all employees of an organization are treated fairly in the context of a pay system, there should not be negative effects for co-operation.

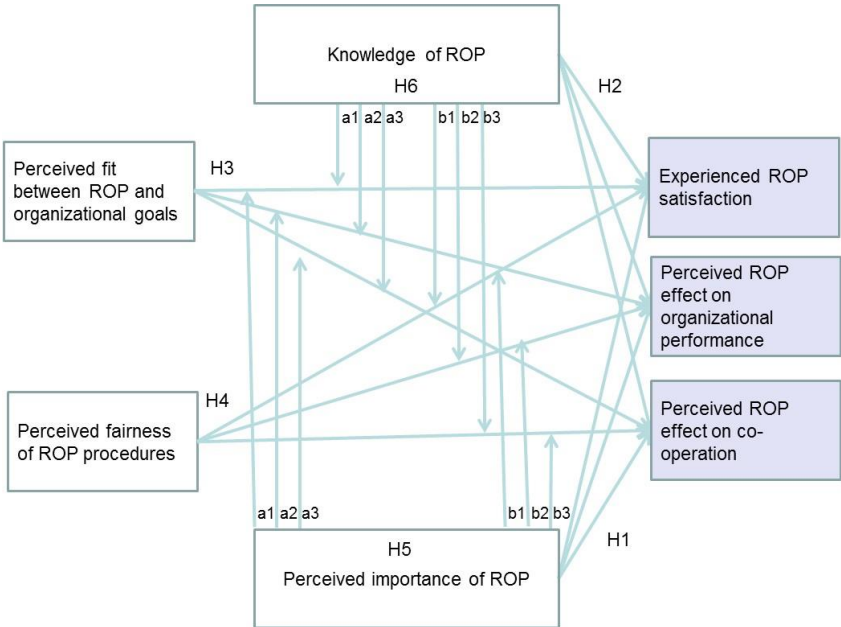


Figure 10. Hypotheses in the theoretical model

The hypotheses are described below in more detail by the independent variables and the hypotheses are also marked in Figure 10. Hypotheses H1-H4 concern the positive main effects of each four of the independent variables. Hypotheses H5 and H6 clarify the moderation role of ROP knowledge and perceived importance of ROP in explaining ROP outcomes.

Expectancy theory (Vroom, 1964) and goal setting theory (Locke, 1968; Locke & Latham, 2002) claim that individuals have to hold the potential incentives valuable to be motivated to pursue them. I argue that this concept of valence is reflected in how important individuals perceive their ROP system to be to them in general. Valence of rewards has had direct relationship with work attitudes and performance (e.g., Ambrose & Kulik, 1990; Van Eerde & Thierry, 1996). Results-oriented pay system and the bonuses paid should thus be important to the recipient for ROP to have a positive effect on pay satisfaction and organizational performance. Further, the ROP systems studied have at least some collective performance outcome measures as bonus criteria and thus co-operation is required to achieve the collective performance goals. ROP systems perceived as important should thus have more effect on co-operation than ROP systems perceived as less important.

**H1** *Perceived importance of ROP* is positively related to perceived ROP outcomes.

Major work motivation theories explain individual's motivation to act in a way that brings forward the importance of individuals having knowledge of e.g., their potential incentives. These include expectancy theory (Vroom, 1964), goal setting theory (Locke, 1968; Locke & Latham, 2002), and equity theory (Adams, 1963). As described in Chapter 3.3.3, knowledge of e.g., the incentives, performance goals, and their connection with one's performance is needed to make decisions of how to act (expectancy theory). Individuals need also knowledge of their performance outcomes, this contributes to the goals directing performance (goal setting theory). Further, individuals need knowledge of incentive systems to make comparisons between the bonuses one receives and feels that one should receive (equity theory). These comparisons lead most notably to satisfaction with the incentives. Basing my hypotheses (H2) on these theories and empirical evidence, I hypothesize that knowledge of ROP is positively connected with ROP satisfaction (Moisio et al., 2012; Mulvey et al., 2002; Sweins & Kalmi, 2008; Sweins et al., 2009), and perceived effects on organizational performance (Mulvey et al., 2002; Sweins et al., 2009) and co-operation (Sweins et al. 2009).

**H2** *ROP knowledge* is positively related to perceived ROP outcomes.

According to contingency theory (e.g., Gomez-Mejia and Balkin, 1992), the alignment between reward strategy and corporate strategy leads to better organizational performance. I propose that utilizing results-oriented pay is one embodiment of reward strategy at the organizational level. This in turn has to be perceived by individuals in the organization. Furthermore, an individual perceives the ROP to fit with the organizational goals to a differing degree (contin-

gency perception). The perception of fit between the ROP system and organizational goals is proposed to be a factor influencing individual decision-making and, more specifically, ROP satisfaction (in line with Biggs et al., 2014). Biggs et al. (2014) argue that strategic alignment between individual's own job tasks and organizational priorities is expected to e.g., satisfy basic psychological needs that are precursors of work engagement, such as the need for meaning. Perceiving fit between ROP and organizational goals could provide such meaning and thus contribute to ROP satisfaction. I also see the perception of ROP and organizational goals fit to reflect a form of goal acceptance or goal commitment that according to goal-setting theory (Locke & Latham, 2002) should contribute to better performance. The perception of fit is proposed to contribute to the perception of organizational effectiveness (in line with Hakonen et al., 2005; Mitra et al., 2011) and co-operation (assuming that reaching the collective performance goals needs co-operation).

**H3** *Perceived fit between ROP and organizational goals* is positively related to perceived ROP outcomes

Using results-oriented pay systems requires procedures for e.g., setting goals, evaluating performance, and giving feedback. Based on earlier literature, I hypothesize that perceived fairness of ROP procedures will contribute to employees' satisfaction with ROP (in line with Folger & Konowsky, 1989; Heneman & Judge, 2000; Miceli & Lane, 1991; Williams et al., 2006). Further I hypothesize that perceived fairness of ROP procedures will contribute to employees' perceptions on the impact ROP has on organizational performance in line with studies on procedural justice and performance link (Colquitt et al., 2001; Lipponen & Wisse, 2010) and studies on pay system related procedural justice and perceived organizational performance link (Nurmela et al., 1999) and co-operation (in line with Folger, 1993; Nurmela et al., 1999).

**H4** *Perceived fairness of ROP procedures* is positively related to perceived ROP outcomes

Valence of the incentives is an important driver of the motivational force of the individual to take actions (Vroom, 1964) and I argue that the perceived importance of ROP reflects the valence of the incentives to the individual. Theoretically, valence motivates individuals to act and lack of valence does not. For example, individuals are motivated to take actions that lead to getting incentives that they value. If they do not value the incentives, they are not motivated to take those actions but can, for example, concentrate on completely other tasks. I hypothesize that because of the theoretical strength of the importance of ROP systems in motivating individuals, the importance of the ROP system will, in addition to its' main effect, moderate the relationship between the perceived fit between the ROP and organizational goals and the three perceived outcomes (H5a) and the relationship between the perceived fairness of ROP procedures and the three perceived outcomes. That is, that theoretically one could argue that even if the ROP system was perceived contingent with organizational goals and the procedures of using the ROP were perceived fair, individuals should not be satisfied with their ROP and perceive the other outcomes as positive if they



did not value the ROP system important. For example, I expect that the relationship between the perceived fit between the ROP and organizational goals and perceived organizational performance is positive and stronger when the individuals perceive their ROP system important than what the relationship would be if the ROP system was perceived unimportant (H5a2).

**H5** *Perceived importance of ROP moderates* the relationship between a) perceived fit between ROP and perceived ROP outcomes and b) perceived fairness of ROP procedures and perceived outcomes.

**H5a** The perceived importance of ROP moderates the relationships between

1. the perceived fit between the ROP and organizational goals and ROP satisfaction.
2. the perceived fit between the ROP and organizational goals and perceived ROP effect on organizational performance
3. the perceived fit between the ROP and organizational goals and perceived ROP effect on co-operation

**H5b** The perceived importance of ROP moderates the relationships between

1. the perceived fairness of ROP procedures and ROP satisfaction.
2. the perceived fairness of ROP procedures and perceived ROP effect on organizational performance
3. the perceived fairness of ROP procedures and perceived ROP effect on co-operation

As described, major work motivation theories explain individual's motivation to act in a way that brings forward the importance of individuals having knowledge of e.g., their potential incentives. Having poor knowledge of the ROP system may lead to misguided judgement and actions. However, good knowledge of the ROP system may not be sufficient in bringing positive outcomes if, for example, the ROP system is perceived as not fitting the organizational goals or the ROP procedures as unfair.

Individuals need knowledge of the ROP system to assess the fit between ROP and organizational goals. I hypothesize that knowledge of ROP moderates the relationship between perceived fit and ROP outcomes (H6a) so that when there is high knowledge, perceived fit has stronger positive relationship to the outcomes than when there is low knowledge.

I hypothesize that knowledge of ROP moderates the relationships between perceived fairness of ROP and the three ROP outcomes (H6b) in a following way. When there is high knowledge, fairness has stronger positive relationship to ROP satisfaction than when there is low knowledge, assuming that the ROP system is perceived as fair to start with (in accordance with Martin & Lee, 1992). Similarly, when there is high knowledge, the relationship between perceived fairness of ROP procedures and organizational performance is stronger, again assuming that the ROP system is perceived as fair to start with (in accordance

with Burchett & Willoughby, 2004). Finally, when there is high knowledge, fairness has stronger positive relationship to perceived co-operation effects than when there is low knowledge (in accordance with Martin & Lee, 1992).

**H6** *The knowledge of ROP moderates the relationship between a) perceived fit between ROP and perceived ROP outcomes and b) perceived fairness of ROP procedures and perceived outcomes.*

**H6a** The knowledge of ROP moderates the relationships between

1. the perceived fit between the ROP and organizational goals and ROP satisfaction.
2. the perceived fit between the ROP and organizational goals and perceived ROP effect on organizational performance
3. the perceived fit between the ROP and organizational goals and perceived ROP effect on co-operation

**H6b** The knowledge of ROP moderates the relationships between

1. the perceived fairness of ROP procedures and ROP satisfaction.
2. the perceived fairness of ROP procedures and perceived ROP effect on organizational performance
3. the perceived fairness of ROP procedures and perceived ROP effect on co-operation

**Research question 2:** How do the four antecedents (employees' knowledge of ROP and the importance they ascribe to it, together with their perceptions of fairness of ROP procedures and fit between ROP and organizational goals) influence the three important ROP outcomes (i.e., perceived satisfaction together with perceived effect on organizational performance and co-operation) **in the context of diverse ROP systems**? What are the diverse ROP types like and how does the theoretical model fit the sub-datasets formed by ROP types?

- What would be a theoretically and empirically meaningful classification of 35 diverse ROP systems in the context of Finnish working life?
- How the theoretical model fits the sub datasets? How do the roles of independent variables vary in explaining the outcome variables in the context of different types of ROP systems?

My aim is to contribute especially to the area of why and how different types of reward systems have positive outcomes by answering these research questions. First, the ROP systems are studied in the context of the Finnish working life. They are formed by the context and perceived by individuals raised in the context. Second, the results-oriented pay systems are further categorized into different types of ROP systems by their characteristics, which gives a possibility to study the effects and the mechanisms of effects in diverse types of ROP systems within the Finnish context.

## 5. Data and Methods

### 5.1 Data

The data used in this study were gathered during 2003-2007 as a part of the Research Program of Rewarding at Aalto School of Science. The data of the study (N=1778) were collected with a questionnaire from 18 organizations operating in Finland. In addition, documentations of the ROP systems were used. In the sample, there were altogether 35 different results-oriented pay systems studied.

#### 5.1.1 Data collection procedure

The data were gathered as part of results-oriented pay system audit performed in each of the 18 participating organizations. The organizations were interested in finding out how well their ROP systems functioned at the moment of audit and how they could further develop the pay system. Six organizations were studied in 2003 in “Developing Results-Oriented Pay in Finland 2000-2003” –project funded by National Productivity Program (Kansallinen tuottavuusohjelma). Four of the organizations participated in a longer research projects where the systems studied were first developed. In these cases, the audit was a part of that action research project and served as feedback of the development project. It should be noted that these four were local government sector organizations. The project where the work was done, “the Learning Network of Rewarding”, was funded by Workplace Development Program, TYKES. The other (14) organizations participated only in the individual audits. These organizations often wished to participate in the audit because they desired to develop their ROP system. The timing of each of these audits was determined by the need of the organization. Each audit process lasted from one to two months.

The audit was performed with an audit tool developed in the Research Program of Rewarding 2000-2003 with funding from National Productivity Program (Kansallinen Tuottavuusohjelma). The audit tool was designed both to help participating organizations to identify development needs of their ROP systems and to produce theoretically justified data for research purposes. The main research interest was to find out more about the mechanisms behind ROP effectiveness in different environments. In addition to this study, a PhD thesis by Anu Hakonen (2012) is published using data gathered in the audits. The audit

tool consists of ROP documentation made by the participating organization, an employee survey and supplementary interviews carried out by the researchers, grading of the ROP by the researchers with help of comparison data, and feedback report and presentation to the organization. The employee survey contained 190 items plus approximately 13 customized items. The topics included were: background information of the respondent, valence and expectancy of rewards from good work, grading of total rewards and development needs in total rewards, goals of ROP, knowledge of ROP, ROP satisfaction, ROP distributive and procedural fairness, supervisors as ROP users, the meaning of ROP, perceived ROP effects, and perceived organizational success. There were always two researchers involved in each of the audits to ensure consistency and reliability. Additional one to five more researchers were involved in the grading process. I will explicate my role in method development and data gathering in chapter 5.2.

The questionnaires were administered either electronically or as printed versions depending on the availability of personal computers for employees. The unit of analysis was an individual employee who responded to the survey. The study was cross-sectional and each respondent has answered the questionnaire only once.

All of the ROP systems included in the study had paid out at least some bonuses the year before data collection. This was an important selection criterion for the study, because I would have expected that a total failure to pay bonuses would influence ROP perceptions in a strongly negative manner. There were twelve local government sector ( $n = 591$ ), twelve private service sector ( $n = 700$ ), and eleven private manufacturing sector ( $n = 487$ ) ROP systems. The amount of respondents per system varied from 12 to 171 respondents. Fifteen of the ROP systems rewarded among other criteria for individual performance ( $n = 720$ ), eleven systems for group or unit performance (group size  $< 50$  employees,  $n = 610$ ), and nine systems for unit or company performance (group size  $> 50$  employees,  $n = 447$ ).

Of the respondents, 41.5 % were male and 58.5 % female. Respondents worked mainly in permanent positions (93.3 %). The respondents had been working in their current organizations on average for 13 years. The age distribution of the respondents was as follows: 2.9 % of respondents were under 25 years of age, 21.0 % were 25 to 34 years old, 29.1 % were 35 to 44 years old, 31.7 % were 45 to 54 years old, and 15.3 % were 55 or over.

The mean monthly base pay of respondents was 2,647 Euros. The mean base pay of private sector respondents was 2,888 Euros, which corresponds roughly to mean private sector wages (2,700 Euros in 2007, Confederation of Finnish Industries). The mean base pay of local government sector respondents was 2,183 Euros, which is somewhat less than in that sector in general (2,573 Euros in 2007, Local government employers KT). The difference between our data and the local government sector in general is mainly due to the health care sector with lower wages being dominant in our data.

The maximum bonus achieved was on average 4.62 % of annual pay. Maximum bonuses in the local government sector organizations corresponded typically to two weeks' salary, and achieved bonuses were on average 2.3 % of annual pay. This corresponds to the average bonuses achieved in the Finnish local government sector between 2003 and 2006 (2.2–3.2 % of annual pay, Local government employers KT). Private sector maximum bonuses varied between one months' salary to several months' salary, and achieved bonuses were on average 5.4 % of annual pay in the service sector and 6.2 % in manufacturing. This corresponds to the average bonuses achieved in Finnish private sector organizations between 2003 and 2007 (4.9–6.0 % of annual pay, Confederation of Finnish Industries).

The 35 ROP systems studied are described in more detail in appendix A: there I first introduce the 12 local government sector ROP systems from five different organizations. Then I describe the 12 private service sector ROP systems from eight organizations and finally, the 11 private industry sector ROP systems from four organizations. The organizational context – the sector, type of work, and organization size – is introduced. Then the main characteristics of each system are described: target group of the system, age of the ROP system, the levels of measurement, the size of maximum bonuses, the allocation principles of the bonuses, and payment frequency. In addition, examples of bonus criteria are described for each system.

## **5.2 The contribution of the author in data collection and analysis**

I took actively part in data collection of 19 of the 35 ROP systems studied. These ROP systems were used in 10 of the 18 organizations studied. Data collection included collecting documents of the ROP systems, conducting the survey, interviewing management and personnel, and giving feedback of the study results to the organizations. Conducting a study in an individual organization lasted from four to eight weeks. Our research procedure required that there were always two active researchers collecting data in each of the organizations studied. I collected data in all 11 manufacturing sector ROP systems, 6/12 of service sector systems and 2/12 of local government sector systems. I collected data in only two local government sector workplaces because of the division of labor within our research group – there were two other researchers who concentrated on local government sector ROP systems. I had throughout my work the possibility to ask the other researchers to clarify, for instance, the system documentation when needed. I also contacted some of the organizations during data processing for this thesis to verify whether my understanding of their system documentation was correct. Additionally, I had a role in grading all but one of the 35 systems. Our research procedure included a grading meeting as a final analytical step before feedback to the organization. In the meeting, the researchers who had collected the data presented the case to a larger group of typically four to eight researchers. The grading group discussed various elements of the ROP system and rated its strengths and weaknesses. I acted as the chairperson of the grading group. The other researchers who were involved with data collection

and grading group meetings were: Anu Hakonen, Niilo Hakonen, Anu Kolari, Johanna Maaniemi, Elina Moisio, Minna Nylander, Tomi Rantamäki, Aino Tenhiälä (Salimäki), Christina Sweins, and Anna Ylikorkala (Palva).

The scales used in this study were originally selected and developed as a co-operative effort of our research group. I had an active role throughout the development work from 1998 to 2003. The researchers contributing to the development work were: Anu Hakonen, Marko Hakonen, Niilo Hakonen, Anu Kolari, Kirsi Luoma (Nurmela), Tomi Rantamäki, Aino Tenhiälä (Salimäki), Christina Sweins, Anna Ylikorkala (Palva), and professor Matti Vartiainen. From the larger dataset collected in our research group, I selected the data to be used in this study, and built the dataset for this purpose. After this, I conducted all the analyses for this study.

### 5.3 Measures in survey data

Next, I present the four independent and the three dependent (outcome) measures used in the study and the control variables. The measures were first studied with factor analysis separately for independent and dependent measures.

#### 5.3.1 Independent measures

First, all the items intended to be used for independent measures were analyzed with exploratory factor analysis (principal components analysis with varimax rotation). For the independent measures the exploratory factor analysis was not sufficient, because it did not distinguish the theoretically based component of perceived fit between ROP and organizational goals from the other three theoretically based components. Thus, confirmatory factor analysis with AMOS was used, and the four-factor solution fit the data reasonably well and better than one-factor, two-factor, or three-factor solutions that were also tested. To be able to use modification indices and improve the fit of the model, I used regression imputation for the missing values in the data (Byrne, 2001). The final model was achieved with allowing chosen error terms to covary with each other and thus improving the fit of the model. Model fit was assessed by means of four fit indices: the incremental fit index (IFI), Comparative fit index (CFI) that takes sample size into account, normed fit index (NFI) that does not take sample size into account, and the root mean square error of approximation (RMSEA). Four-factor model fit indices were:  $\chi^2(138) = 647.6$ ;  $\chi^2/df = 4.70$  indicating a reasonable fit when under 5 or depending on the source even under 2 - note that the relatively big sample size makes it difficult to achieve very good fit with this index; IFI = .98 indicating good fit when close to 1; CFI = .98 indicating good fit when over .95; NFI = .97 indicating good fit when over .95; RMSEA = .046 indicating good fit when under .05. Fit indices for the other models tested are found in appendix B.

*ROP importance* was measured with two items ( $\alpha = .85$ ). I used a 5-point scale ranging from 1 = strongly disagree to 5 = strongly agree. The items were:

“To me, the ROP system is important” and “In my opinion, the ROP system could as well be terminated”. The items were composed to reflect the overall valence or importance given to the system.

I measured *results-oriented pay knowledge* with five items that were selected and composed to reflect results-oriented pay characteristics ( $\alpha = .75$ ). The first four items were selected from Mulvey et al. (2002) and the fifth item was added by our research group. A 5-point Likert scale ranging from 1 = strongly disagree to 5 = strongly agree was used. The items were:

- “I understand the measures used to determine my bonus(es);”
- “I know the value of my total bonus opportunity, assuming performance expectations are met (modified);”
- “I know what I need to do to influence my bonus; “
- “I know the size of my bonus before it is paid (modified); “and
- “I know when the bonuses are paid.”

I measured *perceived fit between the results-oriented pay system and organizational goals* with a single item: “In my opinion the ROP system fits well with current organizational goals.” I used a 5-point scale ranging from 1 = strongly disagree to 5 = strongly agree. The item was selected because organizational goals are typically included to some extent as results-oriented pay indicators. Also, the link between ROP and the goals can be perceived by individual employees. The scope of the goals was not further specified (whether they were e.g., short-term or long-term goals) so that the respondents would be free to assess ROP fit with organizational goals as they perceive them in different types of organizations.

*Perceived fairness of ROP procedures* was measured with an 11-item scale ( $\alpha = .96$ ). Moorman’s (1991) scales for procedural justice including formal procedures and interactional justice were used as inspiration to address directly ROP processes and, in particular, management behavior in ROP-related decision-making. Seven of the items are based on Leventhal’s (1980) rules of procedural justice (consistency, bias suppression, accuracy, correctability, representativeness, and ethicality). Three items describe interactional justice based especially on Bies and Moag (1986) view of interpersonal justice. Furthermore, one item reflects the overall fairness of management in ROP related decisions. I used a 5-point scale ranging from 1 = strongly disagree to 5 = strongly agree. I asked respondents to evaluate how much they agreed with the following statements: “When decisions concerning ROP are made, our management...

- “holds consistently on to procedures agreed upon” (consistency);
- “does not favor anyone” (bias suppression);
- “does not strive vested interest” (bias suppression);
- “takes everybody’s views into account” (representativeness);
- “bases decisions on exact information” (accuracy);

- “gives an opportunity to correct faulty decisions” (correctability);
- “does not lie or hide information” (ethicality);
- “acts in a fair manner” (overall procedural fairness);
- “treats employees with respect” (interactional);
- “respects the rights of all employees” (interactional); and
- “is genuinely interested in employee views” (interactional).

### 5.3.2 Control measures

I controlled for factors on the individual and organizational level that, based on earlier research, are likely to impact employees' satisfaction with ROP systems and affect organizational performance.

At the individual level, I controlled for gender, age, tenure, managerial position, pay, and amount of bonuses received by a respondent. Because I comprehend that the sense-making, experiencing, and behavior happens at the individual level, I also wish to take into account those individual characteristics that may have an influence on their ROP perceptions. I use the individual level control variables in all of the comprehensive tests of the model (correlation analysis, and regression analysis). Gender has in many studies been a factor partly explaining pay satisfaction - women tend to be slightly more contented with their pay than men (Williams et al., 2006). Managerial position tends to be associated with more favorable perceptions of, e.g., pay fairness (Nurmela et al., 1999) and pay satisfaction (Williams et al., 2006). Gender and managerial position were coded into dummy variables. According to recent meta-analysis (Williams et al., 2006), organizational tenure is weakly negatively correlated to pay satisfaction. Actual pay tends to have moderate correlation with pay satisfaction (Williams et al., 2006). The basic underlying assumption is that larger bonuses create more satisfaction with ROP systems and action to fulfill their goals. Bonus achieved was measured as a percentage of annual pay. The base pay level is included in the analysis because it might have an effect on how big a role extra bonuses have for a person.

I controlled for the 18 organizations, because I see the organization as the entity where ROP system structures are chosen and shaped and where the ROP systems are implemented in a more or less successful ways. Organizations differ from one another in several crucial ways: for example, each organization has its' own history in ROP usage and solution of ROP, its own type of personnel and operations, and organizational success. Furthermore, there are altogether 35 different ROP systems studied. I controlled for the systems for the same reasons as I did for the organizations. In many cases the ROP systems studied within a same large organization are actually used in different parts of the organization. For instance, ROP systems studied in one of the local government organizations range from a large technical sector organization ROP to a small health care unit ROP. The ROP systems are also based on thoroughly different criteria for bonuses. Thus, the employees in these organizations experience ROP from the unit



point of view perhaps much more than from the whole municipality point of view. The influence of organizations and ROP systems on ROP outcomes are studied in separate analyses of variance.

Sector (local government, private industry, and private service) was controlled for with separate analyses of variance because the ROP systems vary greatly according to the sector. Public-sector organizations tend to have low maximum bonuses, and bonuses are paid mainly for achieving operational goals. ROP is also a relatively new practice in the local government sector, and a certain amount of “honeymoon effect” may be present. On the other hand, ROP has especially long tradition in manufacturing, and this may also reflect into ROP perceptions.

Furthermore, the ROP system level characteristics - such as whether they reward for individual or group performance - were included in a correspondence analysis used in clustering diverse types of ROP systems. The characteristics studied have been found to have an influence in pay outcomes in previous studies. The ROP system level characteristics included are presented in chapter 5.3.4.

### 5.3.3 Outcome measures

Results-oriented pay system outcomes are divided here into three: satisfaction with the system, the perceived ROP effect on organizational performance, and the perceived ROP effect on co-operation. Principal components analysis was used to study the factor structure because I focused on finding the minimum number of factors needed to account for the maximum portion of the total variance represented in the original set of variables (Hair et. al., 2014). Orthogonal varimax rotation was used to achieve simpler and more interpretable factor solution. Oblique oblimin rotation would have given the same results but with more cross-loadings. Thus, I selected the orthogonal varimax rotation. For the outcome measures, the resulting three-factor structure was very well defined (all significant loadings were greater than .50). The factor loadings are presented in Appendix C.

The measure of *results-oriented pay satisfaction* comprises of six items describing satisfaction with the bonuses actually received and with the pay system structure ( $\alpha = .91$ ). The scale was adapted from the work of Sturman and Short (2000) on lump-sum bonus satisfaction. They had four items that we modified, and then we added two more items to match the context of Finnish ROP systems. Sturman and Short intended the lump-sum bonus satisfaction to be a part of a widely used pay satisfaction questionnaire by Heneman and Schwab (1985). Lump-sum bonuses are cash payments to employees that are not added to employees' base pay (Milkovich & Newman, 2005). Thus, lump-sum bonuses are comparable to the results-oriented pay systems studied. A 5-point scale ranging from 1 = strongly disagree to 5 = strongly agree was used (in contrast to the original 1 = very dissatisfied to 5 = very satisfied).

The six items were:

- “I am satisfied with my most recent bonus” (Sturman & Short, 2000);
- “I am satisfied with the bonuses I have received lately” (ibid., modified);
- “I am satisfied with the bases determining my bonus” (ibid., modified);
- “I am satisfied with the influence that others have on my bonus” (ibid.);
- “I am satisfied with the indicators used in the results-oriented pay system” (self-constructed) ; and
- “I am satisfied with the extent to which my own input has an effect on my bonus.” (self-constructed)

The other two outcome measures, the perceived ROP effect on organizational performance and the perceived ROP effect on co-operation, aim at grasping employee perceptions of how the results-oriented pay systems specifically influenced various aspects of organizational performance and the quality of co-operation within the organization. It is common in the literature to use perceptions of performance to reflect actual performance and the subjective and objective measures of company performance are positively associated (Wall et al., 2004). It can be argued as Pransky et al. (2006) that especially in highly complex jobs self-reports and objective measures of performance may in fact measure different aspects of work performance. Because the performance may be hard to conceptualize and thus measure objectively, the perceptions of performance may even give a more accurate level of performance. Perceived organizational performance effects of financial participation have been studied by asking HR managers or corresponding managers to evaluate the impact of financial participation in four EU countries including Finland (Kalmi, Pendleton, & Poutsma, 2005), asking Canadian CEOs to evaluate profit sharing impact (Long, 2000), asking US management representatives to evaluate employee stock ownership plan's impact on organizational performance (McHugh et al., 2005), and by asking employees to evaluate profit sharing impact in Britain (Poole & Jenkins, 1990) and in Finland (Vartiainen & Sweins, 2002).

I chose to measure perceived effects for three main reasons. First, my data did not allow longitudinal approach and thus it was not possible to objectively measure ROP outcomes as a change happening from before ROP implementation or development to post implementation. Second, given the different nature of business in the diverse sectors studied, the objective performance measures would have been very hard to process matching with one another. Third, even if I had longitudinal data on organizational performance, I would still have the challenge of discerning which part of the variance would be due to results-oriented pay system and what would be the impact of other HR interventions, changes in the organization's context etc. Thus, I argue that asking employees quite straightforward to assess the effect of results-oriented pay system in their organization provides valuable insight into the challenge of causality. However, asking the same respondents to report both their own attitudes and perceptions

of the ROP system and the effects of the ROP system brings another challenge of common method variance with it (e.g., Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). That is that the respondents may tend to give similar answers to questions presented with a same method such as a questionnaire. It can also be asked whether the respondents are capable of evaluating the ROP effects as asked which affects the validity of the method, i.e., whether and to what extent the answers really reflect the effects of the ROP system. For example, it could be argued that the validity of answers could be better in the case of managerial employees because they are in a position with more knowledge of the success of the organization. However, I argue that the perceptions of employees in all levels of the organizations studied may give valuable information on how the organization performs in various areas of performance and various levels of the organization. Also, I stress that all of the organizations studied here provide the employees with regular information of their organization's success.

*Perceived effect of results-oriented pay on organizational performance* was measured with six items ( $\alpha = .86$ ). Three of the items were originally composed in an earlier study at Aalto School of Science (Nurmela et al., 1999). Three other items were composed in a later research project in which also a part of the data used in this study was collected (Developing Results-Oriented Pay in Finland 2000-2003 –project funded by National productivity program /Kansallinen tuottavuusohjelma). The three items from the Nurmela et al. (1999) study reflecting economic effects were also used in Aalto School of Science studies on Finnish profit sharing systems (Sweins, 2011; Sweins & Kalmi, 2008; Sweins et al., 2009; Vartiainen & Sweins, 2002). A 5-point scale was used: 1 = deteriorates a lot, 3 = does not have any effect, 5 = improves a lot. The scale resembles the scale used by Long (2000) when asking Canadian CEOs to evaluate the impact of profit sharing although he used a scale from -5 to +5 (-5 = extremely negative, 0 = no impact, +5 = extremely positive).

I asked respondents to evaluate the effect of results-oriented pay using the following dimensions:

- customer satisfaction (Nurmela et al., 1999),
- quality of service and products (ibid.),
- efficiency of operations (ibid.),
- business success (Developing results-oriented pay in Finland 2000-2003 –project),
- implementation of strategy (ibid.), and
- development of operations (ibid.).

*Perceived effect of results-oriented pay on co-operation* was measured with five items ( $\alpha = .88$ ). One of these, the effect on organizational climate had been used already in the Nurmela et al. (1999) study on results-oriented pay effects and Vartiainen and Sweins' (2002) study on profit sharing systems. The remaining four were composed in the Developing Results-Oriented Pay in Finland 2000-2003 –project. Long (2000) had asked the Canadian CEOs to assess

how the profit sharing systems affected co-operation within the company with a single question.

I asked the respondents to evaluate the effects of results-oriented pay on the following dimensions. Like before, a 5-point scale was used: 1 = deteriorates a lot, 3 = does not have any effect, 5 = improves a lot.

- co-operation between units,
- co-operation between groups and teams,
- co-operation between individuals,
- helping of coworkers, and
- organizational climate.

#### 5.3.4 Theory-based classification of ROP types

Deriving from earlier literature on institutional forces and on the influence of structural pay system choices on pay outcomes, I categorized the ROP systems by coding them by three institutional and contextual factors: Sector, target group, and work type of the target group (Table 5). Because the sector (especially local government and private sector division) defines some structural elements of ROPs used, I chose that for one starting point. Second, I observed whether the ROP system covered the personnel in total or some specific employee groups. If it covered only some specific groups, I further wanted to make a distinction whether the group represented the “basic” employee group such as blue collar employees or clerical employees or if the group comprised of employees in higher level such as salaried employees or management. Third, I coded the ROP systems according to the prevalent work type of the target group. Here the coding was somewhat more complex. I could make a distinction between production work, service work, and public service work in cases where all employees or the majority of employees were subject to the system. When specific employee groups were concerned, I could have differentiated between some kind of expert work (including salaried employees and sales) and management work, but because the groups would have become quite small, I decided to treat these as a one group.

**Table 5.** Coding of results-oriented pay (ROP) types by institutional and contextual factors

ROP institutional / contextual factors	Coding (number of ROP systems within each code)
1. Sector	1 = local government sector (n = 12) 2 = private service sector (n = 12) 3 = manufacturing (n = 11)
2. Target group for bonuses	1 = all employees (n = 15) 2 = special group (blue collar or clerical employees) (n = 7) 3 = special group (salaried employees, higher ranking employees, experts, sales or management) (n = 13)
3. Work type of the target group	1 = production (n = 5) 2 = service (n = 4) 3 = public service (n = 12) 4 = experts, salaried, higher ranking employees, sales, management (n = 14)

Next, I coded the ROP systems by their structural characteristics (Table 6). First, I chose as a categorizing element whether the ROP in question rewarded for individual or group performance. Then I further divided the systems paying for group performance into two depending on whether the group was consisting of less than 50 persons or more than 50 persons. The divisions based on group or organization size used in literature seemed not to suit my data. The studies on gainsharing had used relatively high numbers of employees from 100 to 500 as division points between large and small organizations (Kaufman, 1992; Kim, 1996; Lawler, 1990). And, on the other hand, studies on small group bonuses had focused on team-like small groups (Condly et al., 2003). Overall, it appears that the effects of team-based incentives on performance decrease as the size of the team grows (Garbers & Konradt, 2014). Because the data in this study contains very few team bonuses, I did not find team size to be suitable for categorizing this data. On the other end, the data contains very few systems rewarding for very large group results only (on the level of several hundreds of employees). I studied the data and reflected on my experiences at work and decided to select 50 employees to serve as a cutting point between small group and large group bonuses. The reasoning was as follows. First of all, when the group size was less than 50, the employees worked physically close to one another, i.e., in the same building. Working physically close would enhance the employee possibility to see what others are doing and how each of the employees is able to influence the goals in a better way than in physically distant work settings. Second, I considered the ROP systems rewarding for performance of more than 50 employees to reward large group performance. The group size varied from 94 to 395 employees. The employees of some of these systems worked physically distantly in several locations, and the employees in the remaining systems worked in a same location, e.g., manufacturing plant.

To further grasp some relevant features contributing to the line of sight argument, I coded the systems on how many levels of measurement were used. As an example, the entire bonus may depend on purely small group performance or the bonus may depend on the performance of both the organization and a small group. Next, I wanted to describe how big a share of the bonus was dependent on the performance measures closest to the employee. For instance, I divided the systems rewarding for individual performance into two: Systems consisting of 50 % or more individual performance measures, and systems consisting of less than 50 % of individual performance measures. With this, I wished to portray the intensity of line of sight to an employee.

Second, I categorized the ROP systems according to the maximum bonus size because the sheer possibility for bigger bonuses may have an effect on ROP satisfaction and perceived ROP effects. I divided the systems into four categories: 1) small bonuses that amount to a maximum of two weeks' pay (5%), 2) smallish bonuses that amount to a maximum between two week pay and one month's pay (more than 5 % but less than 8%), 3) intermediate bonuses that amount to about or more than one month's pay, and 4) high bonuses that amount to a maximum of more than two months' pay. Third, I categorized the systems into two by whether the maximum amount of bonuses is determined by equal sum of Euros

or the amount of individual base pay is observed in some way in determining maximum bonuses. Fourth, I coded the ROP systems by the frequency of payments into two groups – systems paying once a year and systems paying more often.

Fifth, I coded the systems according to their age. There were some fairly new systems in the study that had been in use for only one or two years and, on the other end, there were systems included in the study that had been in place for several years, even more than ten years.

**Table 6.** Coding of results-oriented pay (ROP) types by structural characteristics

ROP structural characteristics	Coding (number of ROP systems within each code)
1.a. Individual - group bonuses	1 = large group (> 50 employees) (n = 9) 2 = small group (< 50 employees) (n = 11) 3 = individual (n = 15)
1.b. Number or measurement levels	1 = 1 level (n = 14) 2 = 2 levels (n = 8) 3 = 3 or more measurement levels (n = 13)
1.c. Intensity of nearest measurement level bonuses	1 = 50% or more from individual targets (n = 11) 2 = less than 50% from individual targets (n = 4) 3 = 50% or more from small group targets (n = 10) 4 = less than 50% of small group targets (n = 1) 5 = large group targets (n = 9)
2. Size of bonuses (% of annual pay)	1 = <5 (n = 10) 2 = 5-8 (n = 5) 3 = 8-16 (n = 17) 4 = >16 (n = 3)
3. Distribution of bonuses (how the maximum bonus is determined)	1 = equal % of annual pay (or mixture between equal euros and equal %) (n = 24) 2 = equal euros (n = 11)
4. Frequency of payment	1 = annually (n = 26) 2 = more often (either twice a year, 4 times a year, or 12 times a year) (n = 9)
5. Age of ROP system	1 = 1-2 years (n = 5) 2 = more than 2 to 4 years (n = 12) 3 = more than 4 to 6 years (n = 3) 4 = more than 6 years (n = 15)

## 5.4 Analysis of data

The analysis of the data proceeded in the following way. First, the data was screened for possible typing errors by running descriptive analyses and searching for values outside the scales. Second, the data was tested for multivariate analysis premises (skewness, multicollinearity).

Next, the summated variables were formed. The summated variables were first analyzed with factor analysis (Principal components analysis PCA and Confirmatory factor analysis CFA), and scale reliability was measured (Cronbach's alpha). Then the summated variables were calculated as a mean of the values of variables included in each of the summated variables. The final step before starting the actual model analyses was to analyze the patterns of missing data (Chapter 5.4.1).

Next, multiple analytical steps were taken to answer the first research question on how the ROP satisfaction, perceived organizational performance, and

perceived co-operation are generated. The first step of analyzing the proposed relationships between variables was taken by analyzing the descriptive statistics and correlations between independent and dependent variables. The results from correlation analysis provided a possibility to test the proposed theoretical model including the moderation hypotheses (all four independent variables were positively correlated with all three outcome variables and all the independent variables correlated with one another positively). Then, an analysis of variance (ANOVA) for differences among 18 organizations and 35 ROP systems studied was performed to find out what part of variance in outcome variables is explained by the organization or ROP system studied. I further aggregated the data into organization level data ( $N = 18$ ) and ROP system level data ( $N = 35$ ) and performed correlation analyses between the independent and dependent variables to find out whether the theoretical relationships are found also in organization or ROP system-level data. Next, the theoretical model was tested with three separate multiple hierarchical regression analyses, one for each of the three outcome variables. The regression analyses are described in chapter 5.4.2.

My second research question on how the ROP outcomes originate in the context of different ROP systems required me first to analyze what kind of clusters of ROP systems can be found from the data. Thus, I performed a correspondence analysis (CA) on ROP level data to cluster the ROP system characteristics. The use of correspondence analysis is described in chapter 5.4.3. After forming three meaningful groups of different types of ROP systems, I performed the regression analyses individually with each of these three data-subsets.

In addition, I used my field experience in interpreting the findings as one of the methods. This is described in chapter 5.4.4.

#### **5.4.1 Missing data analysis**

I analyzed the extent and randomness of missing data with the SPSS Missing data package following the procedure recommended in Hair et al. (2010). I started with my data consisting of 1847 respondents. First, I identified respondents with more than 50 % of missing values in variables used in analyzing the model. There were 37 such respondents found. Second, I further identified 18 respondents with missing values in all of the three dependent variables. These 55 respondents were deleted from the file. Furthermore, 14 respondents from one company where the biggest bonuses were paid did not give the amount of their bonuses and were deleted from the file. This left 1778 respondents before analyzing missing values more thoroughly.

Next, I tabulated the valid and missing values per variable and per respondent. There are, as usual in surveys, quite many missing answers on specific variables in the data. The amount of missing values is low enough to be acceptable in the case of most variables used: in categorical variables (gender 0.6 % and managerial position 1.2 % missing), some other background variables (age 0.6 % and tenure 1.3 % missing), and all model variables (0.6 – 7.6 % missing). However,

more missing values are found in self-reported amount of bonuses (25.8 % missing) and self-reported monthly pay (11.7 % missing).

Moreover, the amount of missing data per respondent was tabulated. Earlier 55 respondents had been deleted because of excessive amounts of missing data. In the remaining data, there were 687 respondents with one to six missing values and 1105 complete cases.

Next, I compared the observations with and without missing data for four variables with more than 5 % of missing data on the other variables (t-tests). The analyses indicated that the missing data process had not been completely random. The respondents who did not give the amount of bonuses received ( $n = 462$ ) differed from the other respondents ( $n = 1330$ ) in some important aspects: they were more often in non-managerial positions, a larger share of them was female, and they were slightly older than the other respondents. Considering our model variables, they had less knowledge of ROP and they were less satisfied with their ROP. I can thus conclude that leaving the amount of bonus unanswered was not random. The respondents not giving their monthly pay were slightly older and had worked a little longer for the organization than those who responded. The respondents not assessing the fit between ROP and organizational goals had lower base pay, had worked a shorter time for the organization, and were less knowledgeable of the ROP than the other respondents. The respondents with missing value in the perceived fairness of ROP procedures had similarly lower base pay, were slightly younger, had worked a shorter time for the organization, were less knowledgeable of the ROP, and perceived the effects of ROP on organizational performance and co-operation a little lower than the other respondents. I checked also whether there were any significant differences concerning the other variables having less than 5 % of missing data. The respondents having missing data on ROP knowledge had lower base pay and lower amount of bonuses achieved than the other respondents. The same applies to those with missing data on ROP satisfaction added with them being younger and having worked a shorter time for the organization, being less knowledgeable of ROP, but perceiving the fairness of ROP procedures more positive than the other respondents. The respondents having missing data on perceived ROP effects on organizational performance had lower base pay, and their perceptions of ROP fit with organizational goals and effects on co-operation were lower than those of other respondents. The respondents with missing data on gender or managerial position perceived the fairness of ROP procedures more negative than the other respondents. Overall, I can conclude that the respondents with missing data were more critical towards specific aspects of ROP than the other respondents.

Finally, the overall test of the missing data for being missing completely at random, the Little's MCAR test, showed that the data is not missing completely at random ( $p < .001$ ). Because the amount of missing responses was substantial, and the respondents having the missing values differed from the other respondents, it was essential to consider this when analyzing the data and discussing the findings. The achieved bonus percentage correlated significantly, although not



very highly (Pearson correlation coefficients  $-.075 - .226$ ), with the model variables. I decided to try with replacing missing values of bonuses achieved, base pay, perceived fit, perceived fairness of ROP procedures, and knowledge of ROP with multiple imputation method to achieve closest possible estimations of data values. Imputation of missing data means that some values for a missing data point are substituted with a probable value. In multiple imputation, not only a single value, but multiple plausible values are given for each missing data point. I did not replace categorical data of gender, managerial position, or ordinal data of age groups. I also did not replace outcome variable values of ROP satisfaction, and perceived ROP effects. All of the variables where no imputation was used had quite low missing data proportions to start with.

However, after conducting the later mentioned regression analyses both with the imputed and original data, I decided to use the original data because the findings did not change substantially with the use of imputed data. Thus, the original data without imputed missing values is used in the following analyses.

#### **5.4.2 Hierarchical regression analyses**

Hierarchical regression analyses were used to test the proposed models of how ROP effects on satisfaction, organizational performance, and co-operation are born. Each of the three outcomes was regressed separately in three steps following the procedure described in Aiken and West (1991) for testing interactions and Dawson (2014) for testing moderation in management research. Step one included control variables and provides information on what is the impact of control variables in the variance of dependent variables. Step two included the four independent variables in addition to the control variables and shows the results of the main effects model. Proposed interactions were tested in step three where all four interaction terms were entered into the analysis.

#### **5.4.3 Correspondence analysis**

Correspondence analysis was used to explore the ROP system characteristics data for descriptive purpose, to find configurations of ROP system among the systems studied.

Correspondence analysis is a compositional technique that is used for dimension reduction and perceptual mapping (Hair et al., 2014, 519). It is a method of data analysis that presents tabular data graphically (Greenacre, 2007). It analyzes simple two-way and multi-way tables containing some measure of correspondence between rows and columns. It is a generalization of scatterplot, where data is represented as a set of points with two coordinate axes (Greenacre, 2007). The results provide information similar in nature with factor analysis, and allow one to explore the structure of categorical variables included in the table. Hair et al. (2010, p. 596) describe correspondence analysis having three distinguishing characteristics:

1. CA is a compositional technique, because the “perceptual produced map is based on the association between objects and a set of perceptual characteristics

or attributes specified by the researcher”. In my analysis, I defined which characteristics of ROP systems (objects) were involved in the analysis.

2. The most direct application is to portray correspondence of categories of variables, and the correspondence is used for developing the perceptual maps.
3. “The unique characteristics of CA lie in its abilities for representing rows and columns ... in a joint space”.

The unique possibility to study both the objects (ROP systems) and the attributes (ROP system characteristics) in the same dimensionality offered in CA was an important reason to use it in this research. The positions of the ROP systems in the perceptual map are thus not only relative to the other ROP systems but also relative to the ROP characteristics. The clear visualization of the results in perceptual maps provided by CA was useful for interpreting the findings. CA is also well suited for analyzing the underlying structure of data consisting of categorical variables with multiple categories as is the case with the ROP characteristics variables.

Multiple correspondence analysis has been used in various fields, for example to find typologies of work organizations (Eurofound, 2009), to study meaning structures of shareholder value in Austria (Meyer & Höllerer, 2010), and to analyze visual quality performance of image-processing components (Radun et al., 2010). I used multiple correspondence analysis (CA) to form a basis for forming meaningful ROP system clusters. I used ROP system as a unit of analysis in this stage of analytical procedure. That is that the number of the analysis was 35. I coded systems characteristics I had carefully chosen for each of the 35 ROP systems in to the table. Altogether 7 variables describing ROP system characteristics were used in the analysis. Examples of the characteristics include maximum amount of bonuses, the age of the ROP system, the level of performance measurement, and the intensity of the measurement level closest to the individual in the ROP system.

I used multiple correspondence analysis that is a form of CA where there are three or more categorical variables analyzed (Hair et al. 2014, 520). The analysis produced a perceptual map where all 35 ROP systems (objects) were mapped spatially by their similarity to other objects with regard to the dimensions (characteristics of the objects) of the perceptual map.

#### **5.4.4 Using field experience**

As already mentioned, I have participated not only in gathering the data and analyzing the findings in many of the organization studied, but also in interviewing managers and employees extensively about the ROP systems. I have also participated in many ROP system development projects both in private sector and public-sector organizations during my 14 years at Aalto School of Science and as a pay system consultant and specialist since 2010. This experience gives me an extensive first-hand knowledge on what kind of challenges organizations and individuals are facing when ROP systems are designed and implemented. The experience has had a fundamental impact on how I have read the

existing literature, how I have formulated my research questions and hypotheses, and how I interpret the findings.

## 6. Results

The results are discussed in two main sections. The first section answers the first research question of how the results-oriented pay outcomes on ROP satisfaction, perceived organizational performance, and perceived co-operation originate. The second part answers the second research question of how the results-oriented pay outcomes originate in the context of diverse ROP types.

In the first section, I start by presenting the descriptive results of the data analysis on the individual level data ( $N = 1778$ ) to find how the respondents perceived the ROP systems studied and how the independent variables, dependent variables, and control variables were related to one another. There, the levels of variables in the data are described and the correlations between the control variables, independent variables and dependent variables are presented. Then the differences in control, independent, and dependent variable means are studied in relation to categorical individual level control variables of gender, managerial position, and age.

Next, I study how much of the variation in independent variables and dependent variables is explained by the organization studied and the ROP system studied. I performed an analysis of variance (ANOVA) of the independent and dependent variables by these categorical variables. Then I aggregated the data into organization level data ( $n = 18$ ) and into ROP system level data ( $n = 35$ ). Furthermore, I calculated the boundaries of the highest and lowest quartiles of the organizations and of the ROP systems and compared the highest and lowest groups' means on independent and dependent variables. And last, I performed correlation analysis with both aggregated datasets to study the model variables' relationships with one another in the aggregated datasets.

I then follow with an analysis of the complete theoretical model of explaining ROP outcomes on individual level data ( $N = 1778$ ). The fit of the model is examined as well as all individual hypotheses on the relationships between independent and dependent variables. I performed hierarchical regression analyses on the model and present the results. Furthermore, interactions are studied with calculating and drawing partial regression lines.

I conclude the first part of results by summarizing the results concerning the research question 1:

*How do the four antecedents - employees' knowledge of ROP and the importance they ascribe to it, together with their perceptions of fairness of ROP procedures and fit between ROP and organizational goals - influence the three important ROP outcomes (i.e., perceived satisfaction together with perceived effect on organizational performance and co-operation)?*

In the second section, I concentrate on finding out how the outcomes are generated in the context of diverse types of ROP systems. Because the results of the first part indicated that aside from the independent variables, the variables describing the ROP system studied are significant in explaining the three dependent variables, the characteristics should be studied carefully. Thus, I then move back to the ROP system level and study the characteristics of the 35 ROP systems. I had earlier coded each of the 35 systems according to a variety of their theoretically and practically relevant characteristics. I wanted to find out if the 35 ROP systems studied would form some meaningful configurations or clusters according to system characteristics. I used multiple correspondence analyses to form a basis for creating meaningful ROP system clusters with the ROP system level data ( $n = 35$ ). I describe how each analysis was performed, what the results were, and what the resulting three clusters of ROP systems were like.

Finally, I analyzed each of the resulting three clusters of ROP systems separately. First, I examined the means of the independent and dependent variables in each of the three groups to find out how the respondents perceived the different types of ROP systems. Second, I performed the hierarchical regression analysis separately for each of the three dataset to find out how well the theoretical model explained ROP outcomes in the context of different kinds of ROP systems and what differences there were in the patterns of independent variable - dependent variable relationships in the context of different kinds of ROP systems.

In the end of the second section, I summarize the results concerning the research question 2:

*How do the four antecedents (employees' knowledge of ROP and the importance they ascribe to it, together with their perceptions of fairness of ROP procedures and fit between ROP and organizational goals) influence the three important ROP outcomes (i.e., perceived satisfaction together with perceived effect on organizational performance and co-operation) in the context of diverse ROP systems?*

## **6.1 Part 1: Generation of the results-oriented pay outcomes on ROP satisfaction, perceived organizational performance, and perceived co-operation**

This section of the results chapter is dedicated to finding answers to my first research question: How are results-oriented pay outcomes on ROP satisfaction, perceived organizational performance, and perceived co-operation generated? How does the theoretical model fit the data?

I answer the question by first studying the descriptive results of the total individual level data ( $N = 1778$ ) to find how the respondents perceived the ROP systems and how the independent variables, dependent variables, and control variables correlated with one another. Then I examine how much the perceptions, i.e., the experiences of the respondents, vary by the organization they belong to and by the specific ROP system they have. I also study whether the relationships between the independent, dependent, and control variables are found with aggregated data (ROP system level,  $N = 35$ ; Organization level,  $N = 18$ ). Following these, I analyze how the theoretical model presented fits the data in explaining ROP system outcomes on ROP satisfaction, perceived effect on organizational performance, and co-operation. Furthermore, I study the individual hypotheses concerning the relationships between independent and dependent variables. Finally, I conclude by summarizing the results for research question 1.

### 6.1.1 Central descriptive results

I studied the means and standard deviations of the independent, dependent variables, and scale control variables (Table 7) to uncover basic information on the respondents and how they perceived the ROP systems studied. Inter-correlations between variables were also examined. Then the differences in control, independent, and dependent variable means were studied in relation to categorical control variables of gender, managerial position, and age.

In the total data ( $N = 1778$ ), the means of the independent variables varied from perceived fairness of ROP procedures 3.19 to perceived ROP importance 4.15. Because the scales vary from 1 to 5, it seems fair to conclude that on average the respondents perceived the quality of the ROP systems in a moderate way. The respondents viewed their ROP systems as important (mean 4.15). They felt that they knew the ROP system characteristics moderately well (mean 3.42). They also perceived the fit between ROP and organizational goals moderate (mean 3.40). However, the procedures in using the ROP, such as the management basing ROP decisions on exact information or holding consistently on to procedures agreed upon, were perceived as more challenging (the perceived fairness of ROP procedures mean 3.19).

The mean level of ROP outcomes ranged from moderate ROP satisfaction (mean 2.93) and neutral perceived ROP effect on co-operation (mean 3.16) to relatively high perception of ROP effect on organizational performance (mean 3.67). The perceived ROP effect on both organizational performance and co-operation was measured on a scale where 1 = deteriorates a lot, 3 = does not have any effect, and 5 = improves a lot.

Looking at the general picture of the correlations, we see that all of the independent and dependent variables correlated positively and significantly with one another indicating linear relationships between the variables in the data and providing preliminary support for the main effects hypotheses H1 to H4. Of the control variables, the amount of the respondents' pay was positively correlated to the amount of bonuses received measured as a percentage of annual pay ( $r =$

.20). This implies that the respondents having higher base pay seem also to receive higher bonuses.

The amount of pay correlated also positively with the ROP knowledge ( $r = .22$ ) implying that the respondents with higher pay had more knowledge of their ROP systems than had the respondents with lower pay. Pay was also significantly but feebly positively correlated with organizational tenure of the respondents, the perceived importance of the ROP, the perceived fit between ROP and organizational goals, and the perceived fairness of ROP procedures. The amount of bonuses received was also positively correlated with many of the independent and dependent variables; the most distinguished correlations were to perceived importance of ROP and knowledge of ROP. This implies that the respondents who received higher bonuses in the past also perceived the importance and their knowledge of the ROP system higher. There was one exception, the correlation between the amount of bonuses and the perceived fairness was negative, but feeble ( $r = -.07$ ). This implies that the respondents who received higher bonuses viewed the fairness of ROP procedures weaker than did the respondents with lower bonuses.

Next, let us look at the correlations for the dependent variables one at the time. First, all of the independent variables were significantly correlated to the *ROP satisfaction*. The perceived fairness had the highest correlation to ROP satisfaction ( $r = .58$ ). The next-largest correlation was found with the perceived fit between ROP and organizational goals ( $r = .46$ ). Additionally, a significant correlation was found with the ROP knowledge ( $r = .39$ ). The fairer the ROP procedures, the better the perceived fit, and the more knowledge of ROP the more satisfied the respondents were with their ROP. Additionally, the amount of bonuses received by the respondents (as a % of annual pay) was feebly positively correlated with their ROP satisfaction.

The *perceived ROP effect on organizational performance* correlated also positively, but on the whole on a slightly lower level than ROP satisfaction with all of the independent variables. The highest correlation was found with the perceived fit between ROP and organizational goals ( $r = .48$ ). The second-highest correlation was with the perceived importance of ROP ( $r = .36$ ). The better the respondents assessed the fit between the ROP system and organizational goals to be, the higher they perceived the effect of ROP on organizational performance. In addition, the respondents who perceived the ROP system as more important, knew the system well, and perceived the ROP procedures as fair tended to perceive the effects of ROP system on organizational performance higher. Of the control variables, pay and the amount of bonuses received by the respondents were also significantly but feebly positively correlated with the ROP effect on organizational performance as perceived by the respondents.

The *perceived ROP effect on co-operation* correlated positively and significantly with all of the independent variables. The highest correlation was with the perceived fit between ROP and organizational goals ( $r = .40$ ) and it was somewhat lower than in the cases of the two other dependent variables. The

second-highest correlation was found in the perceived fairness of ROP procedures ( $r = .34$ ). This implies that the better the perceived fit between ROP and organizational goals and the more fair the ROP procedures, the higher is the effect on co-operation. Additionally, the respondents, who perceived the ROP system as more important and who also knew the system well, tended to perceive higher co-operation effects.



**Table 7.** Means, Standard deviations, and inter-correlations of the survey variables

	Mean	SD	N	1	2	3	4	5	6	7	8	9	10
1 Pay	2647,44	1238,90	1570	1									
2 Amount of ROP %	4,62	4,65	1324	0,20	** 1								
3 Organizational tenure	12,99	10,83	1754	0,07	** -0,03	1							
4 Perceived importance of ROP	4,15	1,07	1749	0,06	* 0,20	** 0,01	1						
5 Knowledge of ROP	3,42	0,89	1762	0,22	** 0,25	** 0,10	** 0,22	** 1					
6 Perceived fit between ROP and organizational goals	3,40	1,15	1643	0,06	* 0,13	** 0,00	0,53	** 0,31	** 1				
7 Perceived fairness of ROP procedures	3,19	0,95	1643	0,05	* -0,07	* -0,10	** 0,11	** 0,33	** 0,30	** 1			
8 ROP satisfaction	2,93	1,02	1733	-0,02	0,12	** -0,04	0,20	** 0,39	** 0,46	** 0,58	** 1		
9 Perceived ROP effect on organizational performance	3,67	0,59	1714	0,07	** 0,10	** 0,05	* 0,36	** 0,28	** 0,48	** 0,29	** 0,32	** 1	
10 Perceived ROP effect on co-operation	3,16	0,69	1710	-0,03	0,05	0,04	0,29	** 0,23	** 0,40	** 0,34	** 0,32	** 0,58	** 1

Note. ROP = results-oriented pay.

\*p < .05, two-tailed. \*\*p < .01, two-tailed.

Next, the differences in control, independent, and dependent variable means were studied in relation to categorical control variables of gender and managerial position (Table 8), as well as respondent age group.

The male respondents had on average 850 Euros higher pay and a 2.23 % higher average achieved bonus than the female respondents. This reflects the segregation of genders into different professions and thus different organizations among the organizations studied, for example, more females work in the health care and insurance sectors and more males work in the chemical and forest industries. On average, male respondents had worked slightly longer in the organization. Male respondents perceived the ROP system as more important, assessed their knowledge of the ROP system better, and perceived better fit between ROP and organizational goals than did female respondents. Female respondents, however, perceived the ROP procedures as more fair and were slightly more satisfied with their ROP system than were male respondents.

The comparison between the managerial and non-managerial respondents' means presented a uniform pattern. Managerial respondents' perceptions of all aspects of ROP measured by independent and dependent variables were more positive than were the non-managerial respondents' perceptions. The difference was largest in the ROP knowledge (managers' mean 3.81 vs. non-managers' mean 3.31). The base pay of the managerial respondents was, as should be expected, higher than the base pay of the non-managerial respondents. Also the bonuses achieved were slightly higher among managerial respondents. This reflects the practice where employees in higher organizational positions are often eligible for proportionally larger bonuses.

I performed an analysis of variance for the means of five age groups to see how they differ from one another in their background variables and in their perceptions of the ROP systems (1 = below 25 years, 2 = 25-34 years, 3 = 35-44 years, 4 = 45-54 years, 5 = 55 years or more). The results were not as informative as they were for gender and managerial positions and are therefore not presented as a table of results. Significant differences between age groups were found logically in the amount of base pay and organizational tenure. The base pay increased by age group until the 45 to 54 year olds, then it decreased for the oldest respondents. The mean organizational tenure increased by age group. The age groups had differences in the achieved bonuses, but the relationship was not linear. Knowledge of ROP varied also between age groups. The two younger groups considered themselves slightly less knowledgeable than the older groups. I further performed a t-test cutting the age-groups into less than 34 years old and 35 years or older respondents. The results verified that the younger group perceived their knowledge of ROP to be lower. No other significant differences between age groups were found.

**Table 8.** The comparison of means by respondent gender and managerial position (t-test)

Variable		Gender			Managerial position		
		Male	Female	sig.	Yes	No	sig.
Pay	N	658	906		360	1199	
	Mean	3138,31	2288,06	***	3652,16	2346,09	***
	SD	1330,92	1024,7		1634,11	880,34	
	95% CI	[3036.43, 3240.19]	[2221.25, 2354.88]		[3482.79, 3821.53]	[2296.21, 2395.97]	
Amount of ROP %	N	573	744		311	1003	
	Mean	5,88	3,65	***	5,12	4,48	*
	SD	5,23	3,89		4,56	4,68	
	95% CI	[5.45, 6.31]	[3.37, 3.93]		[4.61, 5.63]	[4.19, 4.77]	
Organizational tenure	N	720	1026		389	1348	
	Mean	13,63	12,51	*	13,05	12,98	
	SD	11,03	10,62		10,30	10,99	
	95% CI	[12.82, 14.44]	[11.86, 13.16]		[12.02, 14.07]	[12.39, 13.56]	
Perceived importance of ROP	N	725	1014		389	1339	
	Mean	4,29	4,06	***	4,31	4,10	***
	SD	0,97	1,12		0,97	1,09	
	95% CI	[4.22, 4.36]	[3.99, 4.13]		[4.21, 4.41]	[4.06, 4.16]	
Knowledge of ROP	N	729	1024		391	1351	
	Mean	3,50	3,36	***	3,81	3,31	***
	SD	0,88	0,90		0,80	0,88	
	95% CI	[3.44, 3.57]	[3.30, 3.41]		[3.72, 3.89]	[3.26, 3.35]	
Perceived fit between ROP and organizational goals	N	706	929		377	1248	
	Mean	3,48	3,34	*	3,64	3,34	***
	SD	1,14	1,14		1,13	1,14	
	95% CI	[3.40, 3.57]	[3.27, 3.41]		[3.53, 3.75]	[3.27, 3.40]	
Perceived fairness of ROP procedures	N	695	938		369	1253	
	Mean	3,14	3,24	*	3,38	3,15	***
	SD	0,95	0,95		0,89	0,96	
	95% CI	[3.07, 3.21]	[3.18, 3.30]		[3.29, 3.47]	[3.10, 3.20]	
ROP satisfaction	N	724	999		382	1330	
	Mean	2,82	3,01	***	3,09	2,89	***
	SD	0,98	1,04		0,97	1,03	
	95% CI	[2.75, 2.89]	[2.95, 3.08]		[2.99, 3.19]	[2.83, 2.94]	
Perceived ROP effect on organizational performance	N	716	988		384	1310	
	Mean	3,66	3,69		3,81	3,63	***
	SD	0,61	0,58		0,57	0,59	
	95% CI	[3.61, 3.70]	[3.65, 3.72]		[3.75, 3.87]	[3.60, 3.67]	
Perceived ROP effect on co-operation	N	714	986		384	1306	
	Mean	3,18	3,16		3,24	3,14	**
	SD	0,70	0,68		0,70	0,69	
	95% CI	[3.13, 3.23]	[3.11, 3.20]		[3.17, 3.31]	[3.10, 3.18]	

Note. ROP = results-oriented pay.

\*p < .05. \*\*p < .01. \*\*\*p < .001.

*Summary of descriptive results*

On average, the respondents perceived the ROP systems in a neutral to moderately positive way. Furthermore, the respondents held the ROP systems important as such, but the fairness of procedures that involved using the ROP were perceived as challenging. The respondents felt that they knew the ROP system moderately well and perceived the fit between ROP and organizational goals slightly positively. The respondents were not on average satisfied with the ROP system, but perceived the effect of ROP on organizational performance and co-operation to be positive. These findings are in line with Nurmela et al.'s (1999) study on ROP perceptions among Finnish employees in which employees were not in general satisfied with the systems but perceived some aspects of the system positively at the same time.

The correlations between independent and dependent variables were moderately high, suggesting linear relationships between the variables and providing preliminary support for all main effects hypotheses H1 to H4. That is, the outcomes were more positive the more important the respondents perceived the system, the better they knew the system, the fairer they perceived the ROP procedures, and the better they perceived the fit of the system. Overall, the correlations between independent variables and ROP satisfaction were slightly higher than with the other two dependent variables. The highest correlations with each of the dependent variables were:

**ROP satisfaction:** Perceived fairness of ROP procedures and perceived fit between ROP and organizational goals were the two most prominent independent variables correlated with ROP satisfaction. The role of fairness as an antecedent has also been emphasized in pay satisfaction studies (e.g., Williams et al., 2006). The correlation of perceived fit and ROP satisfaction was surprisingly high. One explanation could be that the respondents really must be able to see the rationale behind the ROP system to be satisfied with the system.

**Perceived ROP effect on organizational performance:** Perceived fit between ROP and organizational goals and perceived importance of ROP were the two independent variables that correlated highest with the perceived effect on organizational performance. Expectancy and goal-setting theories (Vroom, 1964; Locke & Latham, 1990) predict that part of the motivation of an individual stems from the valence of the potential reward, thus the finding on perceived importance of ROP supports the expectation. Furthermore, the findings also support my expectation of the perceived fit to be strongly correlated to the perceived effect on organizational performance (based on contingency theory, e.g., Gomez-Mejia & Balkin, 1992).

**Perceived ROP effect on co-operation:** As expected, the perceived fit between ROP and organizational goals and the perceived fairness of ROP procedures were the two independent variables that had the highest correlations with co-operation effects.

In addition to the independent variables, the dependent variables had also significant and meaningful relationships with some of the control variables suggesting that they should be included also in the following analyses. As expected

in the light of earlier literature (e.g., Williams et al., 2006), the actual bonuses achieved were found feebly positively correlated to pay satisfaction. Moreover, females and managers were more satisfied with their ROP than were males and non-managerial respondents, as was expected based on the meta-analyses by Williams et al. (2006). It should be noted though, that there are a number of organizations included in my study where the employees are predominantly female and other organizations where the employees are predominantly male. This may explain part of the differences between male and female respondents. It can be concluded that these earlier findings in studies on pay satisfaction are supported also in my study on ROP satisfaction. Additionally, the achieved amount of bonuses was also positively correlated with perceived ROP effect on organizational performance. Furthermore, the managerial respondents perceived all of the outcomes of ROP systems in a more positive way than the non-managerial respondents.

### **6.1.2 ROP perceptions differ in the 18 organizations and 35 ROP systems studied**

I expected the organization studied and the ROP system studied to account for a significant variance in both the independent and dependent variables of the model. I expected this because the actual ROP practices vary significantly between both the organizations and ROP systems.

The differences between ROP perceptions in different organizations could, for example, stem from the practices of how work results are monitored. For example, in some organizations the ROP systems are discussed very actively and the results followed even on a daily basis. This would probably lead to employees of the organization being knowledgeable of the system. On the other extreme would be an organization, in which the ROP is discussed only once or twice a year with all employees when the results are measured or when the yearly bonus plan is introduced. As a result, I would expect the employees' knowledge of ROP to be significantly lower. An additional reason for the variance between the organizations studied could be that the organizational cultures may influence on how employees view their pay systems in general. For example, many local government employees thought the idea of paying for results not a norm for their sector when the ROP systems were originally introduced because.

Furthermore, the ROP systems themselves vary according to their characteristics, such as what performance is rewarded and how large bonuses are paid. These differences may influence the ROP perceptions.

Both the organizations and the ROP systems studied did in fact differ from one another regarding all of the variables used in this study when I studied the means across the groups. Thus, I next examine how large a role both the organization and ROP system studied had on the variance of the independent and dependent variables.

I performed an analysis of variance (ANOVA) on the independent and dependent variables between the 18 organizations and the 35 ROP systems studied. In

all cases the variance between the organizations and between the ROP systems studied was a significant part of the variance of the independent and dependent variables (Table 9). The between groups variance shows how part of the variable variance is accounted for by the 18 organizations and 35 ROP systems studied. Within groups variance stands for how large part of the variable variance is accounted for by individual respondents.

The results of the analysis showed that the within groups variance was in all instances clearly the larger part of the variance. Specifically, individual differences in opinions formed the largest part of the variance (76 – 94 % of variance). This was expected because individuals are the ones experiencing the ROP system and receiving the bonuses they assess. However, 6 to 24 % of variance in independent and dependent variables was accounted for by the organization or the ROP system studied. The measurement error of summated variables was observed in calculating the percentage of variance explained by the organizations or the ROP systems studied (alpha \* total sum of squares give the total sum of squares without the measurement error).

**Table 9.** Variable variance explained between and within groups of 18 organizations and 35 results-oriented pay (ROP) systems (ANOVA)

Independent and dependent variables		18 Organizations			35 ROP systems		
		Sum of Squares	df	% of variance	Sum of Squares	df	% of variance
Perceived importance of ROP Cronbach alpha 0,85	Between Groups	329	17	19,39	357	34	21,05
	Within Groups	1665	1731		1637	1714	
	Total	1994	1748		1994	1748	
Knowledge of ROP Cronbach alpha 0,75	Between Groups	114	17	10,84	188	34	17,91
	Within Groups	1284	1744		1210	1727	
	Total	1398	1761		1398	1761	
Perceived fit between ROP and organizational goals	Between Groups	178	17	8,24	269	34	12,44
	Within Groups	1983	1625		1892	1608	
	Total	2161	1642		2161	1642	
Perceived fairness of ROP procedures Cronbach alpha 0,96	Between Groups	175	17	12,25	276	34	19,37
	Within Groups	1311	1625		1210	1608	
	Total	1486	1642		1486	1642	
ROP satisfaction Cronbach alpha 0,91	Between Groups	223	17	13,64	398	34	24,34
	Within Groups	1576	1715		1401	1698	
	Total	1799	1732		1799	1732	
Perceived ROP impact on organizational performance Cronbach alpha 0,86	Between Groups	38	17	7,32	53	34	10,31
	Within Groups	560	1696		545	1679	
	Total	598	1713		598	1713	
Perceived ROP impact on co-operation Cronbach alpha 0,88	Between Groups	45	17	6,24	89	34	12,37
	Within Groups	772	1692		728	1675	
	Total	817	1709		817	1709	

Notes. Measurement error is taken into account in calculation of % of variance explained between groups. All differences are significant ( $p < .001$ ).

**Organization studied** accounted for 6 to 14 % of variance in dependent variables, the largest proportion was explained for ROP satisfaction. In addition, the perceptions of independent variables varied according to the organization studied (8 to 19 %). Perceived importance of the ROP varied particularly according to the organization studied.

However, the **ROP systems studied** accounted for an even larger part of the variance in both the dependent (10 to 24 %) and independent variables (12 to 21 %). In fact, almost one quarter of the variance in ROP satisfaction was accounted for by the ROP system studied. Of the independent variables, particularly the perceived importance of ROP, the perceived fairness of ROP procedures, and the knowledge of ROP varied significantly between the different ROP systems that were studied.

The results relate closely with my field experiences from studying the ROP systems; each ROP was implemented in a local way, better or worse, thus also the personnel knowledge of the system varies accordingly. Also the perceived importance of the system seemed to differ considerably in the context of different ROP systems. And, naturally, if the theoretical assumption of all these factors having an impact on ROP satisfaction holds, the satisfaction should – as it does – also vary by organization and by the ROP system used.

Based on the knowledge that organizational differences and differences between diverse ROP systems studied had an important role in explaining variable variance, I next explore the differences more deeply by first comparing the top organizations on perceived ROP importance and knowledge of ROP to the bottom organizations. Second, I make the same kind of comparison with the top and the bottom ROP systems studied.

*Comparing the top 25 % organizations and the bottom 25 % organizations on ROP importance and ROP knowledge*

I categorized the organizations studied according to the perceived importance and the knowledge of ROP, because I expect these two variables to moderate the relationship between the other independent variables and the dependent variables. This was done with organizational level aggregated data ( $N = 18$ ). I first calculated the boundaries for top 25 % (four organizations) and bottom 25 % (four organizations) of organizations concerning the perceived importance of ROP and knowledge of ROP. (Top 25% importance  $> 4.44$ , bottom 25 % importance  $< 3.89$ ; top 25% ROP knowledge  $> 3.67$ , bottom 25 % ROP knowledge  $< 3.19$ ). Next, I compared the means of the top-group and the bottom-group concerning the other model variables (Table 10).

The top four organizations in perceived importance had more positive means for all other model variables except for perceived fairness of ROP procedures than did the bottom four organizations. Out of these, only some differences were statistically significant mostly due to very small sample size (four compared to four). Among the top four organizations there were: one small local government organization, one large industrial organization, one large service sector organization where sales and specialist organization was studied, and one service sector organization where management and specialist ROP was studied. Among the bottom four organizations there were: one local government health care organization, one local government educational organization, one service sector organization where sales ROP was studied, and one service sector insurance organization.

The top four organizations in ROP knowledge had more positive means in all of the independent and dependent variables. Only the difference in the knowledge of ROP itself was statistically significant. Of the top four organizations one was common with the top four organizations by perceived ROP importance: the large service sector organization where sales and specialist organization was studied. The other top four organizations included one service sector organization where management ROP was studied, one service sector insurance organization, and one electronic industry organization where salaried and higher ranking employees' ROP was studied. Looking at the bottom four organizations, two were common with the bottom four organizations by perceived ROP importance: one municipal health care organization and one service sector organization where sales ROP was studied. The other two were a service sector trade organization and a municipality.

**Table 10.** Comparison of aggregated means of top 25 % and bottom 25 % of 18 organizations

Variable	N	By perceived importance		By knowledge of ROP	
			Mean		Mean
Pay	lowest 25%	4	2858,23		2473,14
	highest 25%	4	2678,74		3358,28
Amount of ROP %	lowest 25%	4	6,02		5,84
	highest 25%	4	6,87		7,61
Perceived importance of ROP	lowest 25%	4	3,25	***	3,74
	highest 25%	4	4,58		4,35
Knowledge of ROP	lowest 25%	4	3,17	**	3,01
	highest 25%	4	3,60		3,80
Perceived fit between ROP and organizational goals	lowest 25%	4	2,88	*	3,23
	highest 25%	4	3,79		3,70
Perceived fairness of ROP procedures	lowest 25%	4	3,06		2,93
	highest 25%	4	3,04		3,18
ROP satisfaction	lowest 25%	4	2,57		2,63
	highest 25%	4	3,01		3,22
Perceived ROP effect on organizational performance	lowest 25%	4	3,43	*	3,53
	highest 25%	4	3,82		3,76
Perceived ROP effect on co-operation	lowest 25%	4	2,88		2,87
	highest 25%	4	3,37		3,06

Note. ROP = results-oriented pay.

(\*)  $p < .1$ . \* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

**Table 11.** Cross-tabulation of results-oriented pay (ROP) knowledge quartiles and perceived ROP importance quartiles of 18 organizations studied

ROP knowledge quartiles	ROP Importance quartiles			Total
	Lowest 25%	Middle 25%	Highest 25%	
Lowest 25%	2	2	0	4
Middle 50%	2	5	3	10
Highest 25%	0	3	1	4
Total	4	10	4	18



As can be concluded from Table 11 the means of the perceived ROP importance and the ROP knowledge had covariance. None of the top four organizations in perceived importance scored into bottom four in ROP knowledge. And none of the top four organizations in ROP knowledge scored into the bottom four in perceived importance.

In conclusion, the comparison of top and bottom organizations on ROP importance suggested a pattern where respondents in high ROP importance organizations perceived all ROP outcomes more positively than the respondents in low ROP importance organizations (although not all differences were statistically significant). Also the relationships with other independent variables were positive as expected except for one, the respondents of high and low ROP importance organizations perceived the fairness of ROP systems similarly.

*Comparing the top 25 % ROP systems and the bottom 25 % ROP systems on ROP importance and ROP knowledge*

After exploring the top and bottom organizations, I calculated the boundaries for top 25 % (eight systems) and bottom 25 % (nine systems) of ROP systems concerning the perceived importance of ROP and knowledge of ROP with the aggregated ROP level data (N = 35). (Top 25% importance > 4.55, bottom 25 % importance < 4.06; top 25% ROP knowledge > 3.61, bottom 25 % ROP knowledge < 3.20). Next, I compared the means of the top-group and the bottom-group concerning the model variables (Table 12).

The top nine ROP systems in perceived importance had more positive means for all other independent and dependent variables except for perceived fairness of ROP procedures than the bottom nine ROP systems. Out of these, statistically significant differences were found in ROP knowledge, perceived fit between ROP and organizational goals, perceived ROP effect on organizational performance, and perceived ROP effect on co-operation. It should also be noted that the percentage of achieved bonuses was higher in the top nine ROP systems – group. Among the top nine ROP systems studied there was a local government educational organization ROP, a local government technical sector organization ROP, service sector business to business office employees' ROP, and service sector insurance company individual level ROP. Furthermore, there were five industrial sector ROP systems: a production bonus for all employees of one unit, a production bonus for higher ranking employees of one unit, a production bonus for employees, a production bonus for salaried employees, and an individual-level ROP system for salaried employees. Among the bottom nine ROP systems, there were three local government health care organizations, two local government educational organizations, one service sector insurance organization individual-level ROP, a group-level ROP from an insurance organization, a forest industry ROP for blue-collar workers, and a service sales ROP system.

The top nine ROP systems in ROP knowledge had, like the top systems in perceived importance, more positive means in all other independent variables as well as in dependent variables. The differences in perceived ROP importance, perceived fit between ROP and organizational goals, ROP satisfaction, perceived effect of ROP on organizational performance, and perceived effect of ROP on

co-operation were also statistically significant. Of the top nine ROP systems four were common with the top nine ROP systems by perceived ROP importance: service sector business to business office employees' ROP, the service sector insurance company individual level ROP, the local government educational organization ROP, and the blue collar workers' ROP in an industrial organization. The other five were: an electronic industry salaried and higher ranking employees' ROP, a service sector management ROP, a service sector insurance ROP for all employees, a service sector publishing company unit ROP, and service sector business to business sales ROP. Looking at the bottom eight ROP systems, we find three of them being common with the bottom nine ROP systems by perceived ROP importance: the service sector sales ROP, the local government health care organization, and service sector insurance group-level ROP. The other five included another local government health care ROP, a service sector ROP for all employees, two local government technical sector ROP systems, and a service sector group-level ROP.

As Table 13 shows, the means of the perceived ROP importance and the ROP knowledge had covariance. Good knowledge and high importance seemed to exist at the same time. For example, none of the top nine important ROP systems were among those with lowest average ROP knowledge.

**Table 12.** Comparison of aggregated means of top 25 % and bottom 25 % of 35 results-oriented pay (ROP) systems

Variable	Quartiles	N	By perceived importance		By knowledge of ROP	
			Mean	N	Mean	
Pay	lowest 25%	9	2683,74	8	2458,57	
	highest 25%	9	2951,52	9	3097,06	
Amount of ROP %	lowest 25%	9	3,72	(*)	8	4,11
	highest 25%	9	7,68		9	7,59
Perceived importance of ROP	lowest 25%	9	3,58	***	8	3,88 *
	highest 25%	9	4,69		9	4,45
Knowledge of ROP	lowest 25%	9	3,29	*	8	2,86 ***
	highest 25%	9	3,55		9	3,75
Perceived fit between ROP and organizational goals	lowest 25%	9	3,12	(*)	8	3,11 **
	highest 25%	9	3,56		9	3,70
Perceived fairness of ROP procedures	lowest 25%	9	3,27		8	2,82
	highest 25%	9	3,09		9	3,12
ROP satisfaction	lowest 25%	9	2,77		8	2,53 *
	highest 25%	9	2,90		9	3,14
Perceived ROP effect on organizational performance	lowest 25%	9	3,57	**	8	3,52 *
	highest 25%	9	3,86		9	3,80
Perceived ROP effect on co-operation	lowest 25%	9	3,11	*	8	2,86 *
	highest 25%	9	3,46		9	3,20

(\*) p < .1 \*p < .05. \*\*p < .01. \*\*\*p < .001.

**Table 13.** Cross-tabulation of results-oriented pay (ROP) knowledge quartiles and perceived ROP importance quartiles of 35 ROP systems studied

ROP knowledge quartiles	ROP Importance quartiles			Total
	Lowest 25%	Middle 25%	Highest 25%	
Lowest 25%	3	5	0	8
Middle 50%	6	7	5	18
Highest 25%	0	5	4	9
Total	9	17	9	35

In conclusion, the comparison of top and bottom ROP systems on ROP importance suggested a pattern where respondents in high importance ROP systems perceived all ROP outcomes more positively than the respondents in low importance ROP systems (although not all differences were statistically significant). The same was found when comparing the top and bottom ROP systems on ROP knowledge. Moreover, the relationships with other independent variables were positive as expected, except that the respondents of high importance ROP systems perceived the fairness of ROP systems lower than did the respondents in low importance ROP systems. Even though the difference was not statistically significant, it becomes interesting considering the no-difference finding when high ROP importance organizations were compared to low ROP importance organizations. This finding suggests that this relationship should be studied more in the following analyses.

#### *Correlations in organization level (n = 18) and ROP system level (n = 35) data*

As could be expected from the previous analysis on top and bottom scoring organizations and ROP systems, there were also significant correlations between the independent and dependent variables in the aggregated data (Table 32 and Table 33 in Appendix D).

#### Organization level correlations

The correlations in the organization level data (n = 18) are shown in Table 32 in Appendix D. The pay of the respondents did not have a (significant) correlation with any of the other variables in the organizational level. The achieved amount of bonuses measured as a percentage of annual base pay was, interestingly, negatively correlated with perceived fairness of ROP procedures. This implies that the respondents perceived the fairness of ROP procedures to be weaker in organizations paying sizable bonuses. Another intriguing negative correlation was found between amount of bonuses paid and perceived ROP effect on co-operation suggesting that employees perceived the ROP effect on co-operation weaker in the organizations paying higher bonuses compared to the organizations paying smaller bonuses.

The independent variables of this study did not correlate quite as much with one another in the aggregated data as they did in the individual-level data. Perceived importance of ROP correlated significantly and positively with two of the three other independent variables and with two of three dependent variables but not with the perceived fairness of ROP procedures ( $r = .02$ ). Knowledge of ROP correlated also very vaguely with perceived fairness of ROP procedures ( $r$

= .08). Perceived fairness of ROP procedures did not actually significantly correlate with any of the other three independent variables. The highest correlation was found with perceived fit between ROP and organizational goals ( $r = .20$ ). This implies that, on the organizational level, the perceptions of ROP importance and the knowledge of ROP did not co-vary with the perception of fair ROP procedures.

When we take a look at the correlations between independent variables and dependent variables, we find more statistically significant correlations. One should note, however, that the sample size of only 18 makes it hard for even relatively high correlations to gain statistical significance. Next, the correlations are discussed one dependent variable at the time.

*ROP satisfaction.* All four of the independent variables had positive correlations with ROP satisfaction replicating the pattern of individual level data findings. However, due to small sample size, only the perceived fit between ROP and organizational goals and perceived fairness of ROP procedures correlated significantly with ROP satisfaction.

*Perceived ROP effect on organizational performance.* All four of the independent variables correlated positively with the perceived effect on organizational performance. All except perceived fairness of ROP procedures had statistically significant correlations.

*Perceived ROP effect on co-operation.* Again, all four of the independent variables correlated positively with the perceived effect on co-operation. However, only perceived importance of ROP and perceived fit between ROP and organizational goals correlated statistically significantly.

### ROP system level correlations

Overall, the correlations in the ROP system level data (Table 33 in Appendix D) provided a more complex picture of the relationships between the independent and dependent variables than the correlations in organization level data. Similar to what was found in the organization-level analysis, the amount of ROP achieved was negatively correlated with perceived fairness of ROP procedures indicating that the respondents of ROP systems paying higher bonuses perceived the fairness of ROP procedures as more problematic than the respondents of ROP systems paying smaller bonuses. Overall though, more significant correlations were found between variables with the ROP system level data than the organization level data (as also the sample size was larger,  $N = 35$ ).

Looking at how the independent variables correlated with one another, we find that the only non-significant correlations were found with the perception of ROP importance correlations with both the knowledge of ROP and the perceived fairness of ROP procedures. These were also the lowest correlations among independent variables in the individual level data. The correlation be-

tween how important the ROP system is perceived and how fair the ROP procedures are perceived was particularly low, implying that they do not co-vary much.

All of the correlations between independent variables and dependent variables were statistically significant, except for the relationship between knowledge of ROP and ROP satisfaction, and the relationship between perceived fairness of ROP procedures and ROP effect on organizational performance. Next, the correlations are discussed one dependent variable at the time.

*ROP satisfaction.* All of the independent variables had positive correlations with ROP satisfaction, replicating the pattern of individual level data findings. However, the perceived importance of ROP did not correlate statistically significantly with ROP satisfaction. The finding was contrary to the individual level data findings in which the connection was found significant. This implies that the relationship between perceived importance of ROP and ROP satisfaction varies on an individual level but not as much on system level.

*Perceived ROP effect on organizational performance.* All four of the independent variables correlated positively with the perceived ROP effect on organizational performance. All except the correlation between perceived fairness of ROP procedures and ROP effect on organizational performance were also statistically significant.

*Perceived ROP effect on co-operation.* All four of the independent variables correlated positively and significantly with perceived effect on co-operation. The correlations were higher than the correlations on the individual level data.

Compared to the organization-level data findings, the role of ROP knowledge was accentuated as it correlated significantly and positively with all of the dependent variables. Thus, on the ROP system level, good knowledge of ROP was clearly connected to better ROP satisfaction and more positive perceived effects of ROP on organizational performance and co-operation.

#### *Summary of organizational level and ROP system level descriptive results*

In summary, studying aggregated data on organizational level and ROP system level implied that both the organization and the ROP system studied had a role in explaining variance in the independent and dependent variables. Organization studied accounted for 6 to 14 % of variance in dependent variables, and the ROP studied accounted for even a larger part of the variance in both dependent (10 to 24 %) and independent variables (12 to 21 %). Some organizations succeed better than other organizations in building and implementing ROP systems. The ROP systems as such differ from one another in various ways, for example, in terms of what kind of performance is rewarded and how large bonuses are available. Also the implementation of different ROP systems within an organization may be done in various ways, for example, with very good communication or lacking communication with employees. The results showed that ROP systems account for more variance in dependent and independent variables than the organizations studied. I expected this because the ROP systems are always perceived in the context they are implemented in.

First, when I compared top 25 % organizations on perceived ROP importance and ROP knowledge with the bottom 25 % organizations, I found that the means of dependent variables and other independent variables were more positive in the top organizations than in the bottom organizations. The only exception was the perceived fairness of ROP procedures which did not differ between the top perceived importance group and the bottom perceived importance group. Due to small sample size, four organizations in each group, only part of the differences gained statistical significance.

Second, when I compared in a similar manner the top 25 % ROP systems to the bottom 25 % ROP systems, the results were comparable. The respondents in the top ROP importance and in the top ROP knowledge systems had also perceived the systems having a better fit between ROP and organizational goals and more positive outcomes than the respondents in the bottom ROP systems. Again, the perceived fairness of ROP procedures did not vary significantly between the two groups. Interestingly though, the perceived fairness of ROP procedures was actually higher in the bottom ROP importance group. It should be noted that now the top systems differed from the bottom systems also by the amount of bonuses paid. There had been, on average, larger bonuses paid in the top ROP importance group compared to the bottom ROP importance group (bonuses were 7.7 % vs. 3.7 % of annual pay). The same trend was found in top and bottom ROP knowledge groups (bonuses amounted to 7.6 % vs 4.11 % of annual pay).

Third, I found some support for the hypothesized relationships when I studied the correlations between control variables, independent variables, and dependent variables first with the organizational-level data and in the ROP system-level data. I can thus conclude that the theoretical propositions of relationships between independent and dependent variables gained partial support also in the level of aggregated data.

- Perceived importance of ROP was positively and significantly correlated to the perceived ROP effect on both performance and co-operation. The correlation to ROP satisfaction was fairly low in the ROP system level data (.16) indicating that on the system level the perceived importance of ROP was not directly linked to ROP satisfaction.
- Knowledge of ROP was positively correlated to all three dependent variables. The correlations were significant and relatively high in the ROP level data (.45 - .50) indicating that the ROP system context defines a significant amount of the acquired ROP knowledge and it also correlates highly with ROP outcomes.
- Perceived fit between ROP and organizational goals was positively and significantly correlated to all three dependent variables. The correlations were also high (.48 - .79) indicating a strong interdependence between both organizational level and ROP system level perception of fit and ROP outcomes.

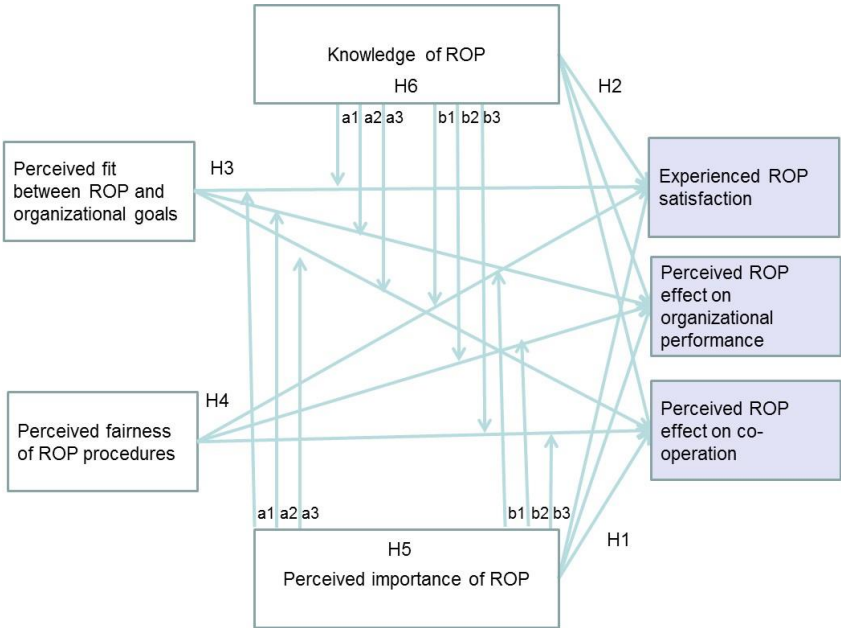
- Perceived fairness of ROP procedures was strongly positively and significantly correlated to ROP satisfaction both in organizational level and ROP system level data (.71 -.76). It was also positively and significantly correlated to perceived ROP effect on co-operation in the ROP system level data.

One interesting deviation of expectations was found again in the control variables: the amount of bonuses paid was negatively correlated to the perceived fairness of ROP procedures both in the organizational-level and ROP system-level data. The finding was negative also in the individual level data, but now the correlation was clearly higher (-.39 in ROP system-level data vs -.07 in individual-level data). This could indicate either that individuals simply are more sensitive to fairness issues when the bonuses are higher or, for some reason, the ROP systems paying higher bonuses differ from the ROP systems paying smaller bonuses in some meaningful ways. For example, the 12 local government sector ROP systems studied paid on average smaller bonuses than did the private sector ROP systems. The local government sector systems also typically pay bonuses for group results. When I compared the local government sector systems average for perceived fairness of ROP procedures to the others', I found significant differences in favor of the local government sector systems: mean 3.4 in local government sector ROP systems and mean 3.0 in private sector ROP systems ( $t = 2.09$ ,  $p < .05$ ).

Overall, I find identifying the ROP system and its characteristics of particular interest in finding out how ROP outcomes originate. The influence of the system can be expected to be quite complex, taking into account what kind of a system is used (e.g., level of performance measurement and amount of maximum bonuses) and what is the context in which the system is implemented in (e.g., sector and the novelty of the system in the context). Because the system and the organization studied as such explained considerable amounts of variation in dependent variables, I will study the individual level perceptions, first, separately without taking the system into account. I do this to find how the theoretical propositions are shown. Then, I will turn my attention back to what characteristics makes a ROP system special and use that information in my conclusions.

### **6.1.3 Testing the theoretical model explaining results-oriented pay effects on ROP satisfaction, organizational performance, and co-operation**

The theoretical model I test aims at explaining three ROP outcomes: ROP satisfaction, perceived ROP effect on organizational performance, and perceived ROP effect on co-operation (Figure 11).



**Figure 11.** The theoretical model and the moderator hypotheses of how the ROP effects originate

I expected the four independent variables to have a significant explanatory power on these three outcomes. The independent variables included in the model are perceived importance of ROP, ROP knowledge, perceived fit between ROP and organizational goals, and perceived fairness of ROP procedures. Additionally, I wish to test the moderation hypotheses of both the perceived ROP importance and ROP knowledge moderating the relationship between the two remaining independent variables and the three dependent variables. This is done by integrating interaction effects into the model tested. Interaction effects represent the combined effects of variables on the criterion or dependent measure. For example, the combined effects of perceived ROP importance and perceived fairness of ROP procedures on ROP satisfaction. When an interaction effect is present, the impact of one variable depends on the level of the other variable. Furthermore, I also expect several control variables to have a role in predicting outcomes: gender, age, base pay, the amount of bonuses received, and managerial position of the respondent. I describe the control variables in more detail when explaining how the analysis was done in each of the phases.

As the organization and ROP system variables were shown to have influence in ROP satisfaction and perceived ROP effect on organizational performance and co-operation, I will omit them in the following analysis. I do this to test the interaction model itself more accurately.

First, I performed separate hierarchical regression analyses for each of the three dependent variables to see how the hypotheses concerning each of them were confirmed or discarded. Second, I studied the interactions in the regression analysis in more detail to see how the moderation hypotheses hold.



Moderator means that a quantitative variable affects the direction or the strength of the relation between the independent and dependent variable (Baron & Kenny, 1986). The moderation effect can be represented in an analysis of variance as an interaction between the independent variable and the moderating variable (Baron & Kenny, 1986). My moderation hypotheses, also seen in Figure 11, are that

**H5a** The perceived importance of ROP moderates the relationships between

1. the perceived fit between the ROP and organizational goals and ROP satisfaction.
2. the perceived fit between the ROP and organizational goals and perceived ROP effect on organizational performance
3. the perceived fit between the ROP and organizational goals and perceived ROP effect on co-operation

**H5b** The perceived importance of ROP moderates the relationships between

1. the perceived fairness of ROP procedures and ROP satisfaction.
2. the perceived fairness of ROP procedures and perceived ROP effect on organizational performance
3. the perceived fairness of ROP procedures and perceived ROP effect on co-operation

**H6a** The knowledge of ROP moderates the relationships between

1. the perceived fit between the ROP and organizational goals and ROP satisfaction.
2. the perceived fit between the ROP and organizational goals and perceived ROP effect on organizational performance
3. the perceived fit between the ROP and organizational goals and perceived ROP effect on co-operation

**H6b** The knowledge of ROP moderates the relationships between

1. the perceived fairness of ROP procedures and ROP satisfaction.
2. the perceived fairness of ROP procedures and perceived ROP effect on organizational performance
3. the perceived fairness of ROP procedures and perceived ROP effect on co-operation

#### *Regression results explaining ROP satisfaction*

I studied the theoretical model explaining ROP satisfaction with hierarchical regression analysis testing the moderation hypotheses H5a1, H5b1, H6a1, and H6b1 with a procedure suggested by Baron and Kenny (1986). First, I centered all independent variables and control variables (Dawson, 2014), then I calculated the interaction variables for each of the hypothesized moderations, for ex-

ample, perceived importance of ROP \* perceived fit between ROP and organizational goals. The moderating effect is seen if the interaction variable is found significant in the regression.

Then, in the three-step regression analysis, I entered control variables in step 1. I controlled for gender, age, and tenure of the respondents. I also controlled for whether the respondent was in a managerial position or not. Further, the base pay of the respondent and the amount of bonuses received were controlled for. Base pay was entered as a monthly salary in Euros and the amount of bonuses received was given as a percentage of annual pay. In step 2, all the four independent variables were entered, and in step 3 all the four interactions were entered (importance\*fit, importance\*fairness, knowledge\*fit, and knowledge\*fairness).

The regression model explained 46 % of variance in ROP satisfaction (Table 14). The regression results indicate first, that a small amount of variance in ROP satisfaction was explained by control variables, especially the gender of the respondent, managerial position, and amount of bonuses achieved (6 %). Being female and being in a managerial position was related to higher ROP satisfaction. Higher bonuses achieved were also related to higher ROP satisfaction. Interestingly though, the base pay was negatively related to ROP satisfaction, i.e., respondents with higher base pay were less satisfied with their ROP when all other variables were held constant.

A further 39 % of variance in ROP satisfaction was explained by the independent variables. Each of the independent variables explained the variance in ROP satisfaction statistically significantly or almost significantly thus supporting the main effect hypotheses H1-H4 concerning independent variables having an influence on ROP satisfaction. Somewhat contradictory, ROP importance had a negative almost significant association with ROP satisfaction when all other variables were held constant. Note that both the importance and the ROP satisfaction varied significantly between different systems. Now, leaving out the system variables may have led to this unexpected finding.

Adding the interactions in the model added a further 1 % of explanatory power totaling in 46 % of explained variance in ROP satisfaction. In the interaction model in step 3, there was a positive main effect found for knowledge of ROP, perceived fit between ROP and organizational goals as well as for the perceived fairness of ROP procedures. However, the main effects are not analyzed further in the interaction model because only the highest level regression coefficients can be interpreted (Ketokivi, 2009; Howell, 2002). Two of the four moderation hypotheses were supported. First, hypothesis 5b1 of perceived importance of ROP moderating the relationship between perceived fairness of ROP procedures and ROP satisfaction was supported. Second, hypothesis 6a1 of knowledge of ROP moderating the relationship between perceived fit between ROP and organizational goals and ROP satisfaction was supported.

**Table 14.** Regression results for results-oriented pay (ROP) satisfaction,  $R^2 = .46$ 

Variable	Step 1		Step 2		Step 3	
	B	Sig.	B	Sig.	B	Sig.
(Constant)	2,99	***	2,95	***	2,95	***
Gender (female)	0,31	***	0,21	***	0,21	***
Managerial position (no)	-0,35	***	-0,10		-0,09	
Age	0,04		0,01		0,01	
Organizational tenure	-0,01	*	0,00		0,00	
Amount of bonuses achieved (%)	0,03	***	0,03	***	0,03	***
Base pay	-0,00	(*)	-0,00	***	-0,00	***
Perceived ROP importance			-0,04	(*)	-0,06	
Knowledge of ROP			0,20	***	0,20	***
Perceived fit between ROP and organizational goals			0,25	***	0,25	***
Perceived fairness of ROP procedures			0,46	***	0,46	***
Perceived importance of ROP * Perceived fit between ROP and organizational goals					-0,03	
Perceived importance of ROP * Perceived fairness of ROP procedures					0,05	*
Knowledge of ROP * Perceived fit between ROP and organizational goals					0,05	*
Knowledge of ROP * Perceived fairness of ROP procedures					-0,01	
R2	.06	***	.45	***	.46	***
Change in R2	.06	***	.40	***	.01	*

Note. Unstandardized regression weights are reported (N= 1119).

(\*)p < .1. \*p < .05. \*\*p < .01. \*\*\*p < .001.

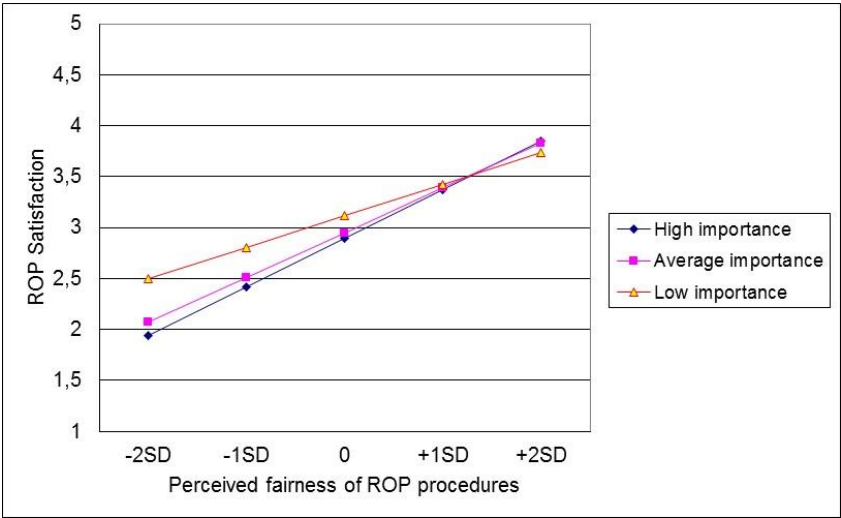
In summary, the regression results supported, first, the individual effects of each of the four independent variables on ROP satisfaction. Furthermore, it gave partial support for the interaction model explaining ROP satisfaction.

Next, I examined the significant interactions by calculating and drawing partial regression lines as suggested in Howell (2002). Drawing the regression lines enables us to see what the directions of the relationships are when different values of the moderator variable are used in the regression equation. I used centered independent variables in the analysis and the regression coefficients from the analysis in calculating the regression lines. I used such values for high and low conditions that were actually possible considering the variance of each independent variable and moderator. Additionally, I studied the significance of the differences between the slopes with the help of simple slope analyses (Dawson, 2014).

#### Perceived importance of ROP and ROP knowledge as moderators in predicting ROP satisfaction

There were two significant interactions found for explaining ROP satisfaction. First, there was the interaction between importance of ROP and perceived fairness of ROP procedures and, second, there was the interaction between knowledge of ROP and perceived fit between ROP and organizational goals.

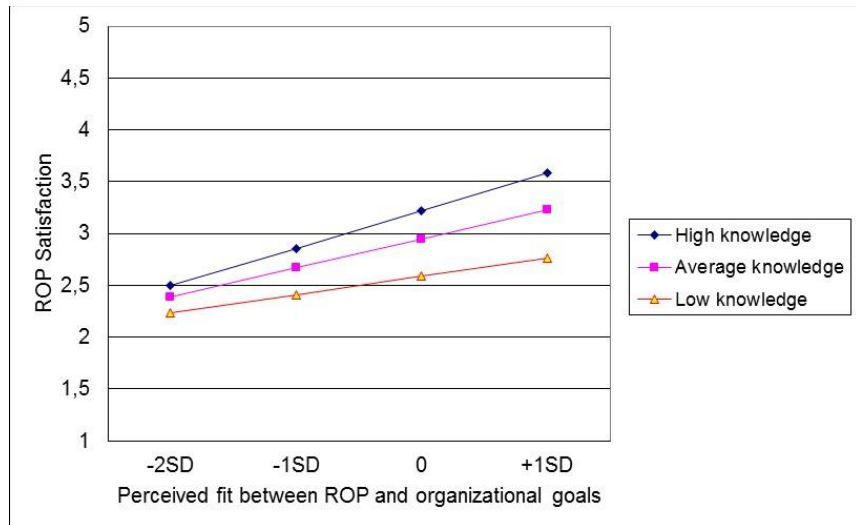
Figure 12 represents the partial regression lines for perception of fairness of ROP procedures in the case of different amounts of perceived ROP importance. High perceived importance is 0.75 SD above the mean and low perceived importance is 2.5 SD below the mean – this reflects the fact that the mean of perceived importance is very high. The figure suggested a moderating effect of perceived ROP importance to the relationship between perceived fairness of ROP procedures and ROP satisfaction. The regression line had higher slope in case of higher perceived importance than in the case of lower perceived importance. The figure also suggested that higher perceived importance actually debilitates the effect of lower perceived fairness on ROP satisfaction. This is in line with the main effects finding of the potentially negative impact of perceived importance on ROP satisfaction. When the perceived fairness of ROP procedures was very low, two standard deviations below the average, the respondents who placed higher importance to the ROP system were more dissatisfied with the system than the respondents who place less importance to the ROP system. When the perceived fairness of ROP procedures was one standard deviation higher than the average, the differences between respondents placing high or low importance on the system vanished and all were equally satisfied with the system.



**Figure 12.** Explaining ROP satisfaction: Interaction ROP importance \* Perceived fairness of ROP procedures (High importance = average + 0.75 SD and Low importance = average -2.5 SD. Centered independent and control variables)

Figure 13 represents the partial regression lines for perception of fit in the case of different amounts of ROP knowledge. High knowledge of ROP is 1.5 SD above the mean and low knowledge of ROP is 2 SD below the mean. Overall, Figure 13 shows that ROP satisfaction was on a higher level in cases where high ROP knowledge was present, and the satisfaction grew when the perception of fit between ROP and organizational goals was higher. The relationship between perception of fit and ROP satisfaction was positive with all levels of ROP knowledge: low, average, and high. However, the slope of the regression line

was slightly steeper in the case of high ROP knowledge compared to the low ROP knowledge suggesting a moderating effect of ROP knowledge.



**Figure 13.** Explaining ROP satisfaction: Interaction ROP knowledge \* Perceived fit between ROP and organizational goals (High knowledge = average + 1.5 SD and Low knowledge = average -2SD. Centered independent and control variables)

#### *Regression results explaining perceived ROP effect on organizational performance*

Next, I performed a hierarchical regression analysis in a similar manner for the perceived ROP effect on organizational performance. The regression model explained 31 % of variance in perceived ROP effect on organizational performance (Table 15). The variance explained is somewhat smaller than in the case of ROP satisfaction. One of the reasons is that there is less variation in the perceived ROP effect on organizational performance in the data than there is variation for ROP satisfaction. The regression results indicated first, that 4 % of variance in ROP effect on organizational performance was explained by control variables, most notably gender and managerial position of the respondent, indicating that being female and being in a managerial position was connected to higher perceived ROP effect.

A further 26 % of variance in perceived ROP effect on organizational performance was explained by the independent variables. All of the four independent variables explained a statistically significant share of ROP effect on organizational performance.

Adding the four interactions into the model in step 3 produced a further 1 % of explanatory power, the added  $R^2$  being statistically almost significant. Then, there was a positive main effect found for each of the four independent variables and one of the four moderation hypotheses (H6b2) was supported: the interaction between knowledge of ROP and perceived fairness of ROP procedures was significant. Thus, the moderating effect of knowledge of ROP for the relationship between perceived fairness of ROP procedures and perceived ROP effect on organizational performance was supported.

In summary, the regression results supported the specific effects of each independent variable on perceived ROP effect on organizational performance. The results also supported in part the interaction model explaining perceived ROP influence on organizational performance.

**Table 15.** Regression results for perceived results-oriented pay (ROP) effect on organizational performance,  $R^2 = .31$

Variable	Step 1		Step 2		Step 3	
	B	Sig.	B	Sig.	B	Sig.
(Constant)	3,69	***	3,67	***	3,66	***
Gender (female)	0,14	***	0,12	***	0,11	***
Managerial position (no)	-0,18	***	-0,06		-0,05	
Age	0,01		0,00		-0,00	
Organizational tenure	0,00		0,00		0,00	
Amount of bonuses achieved (%)	0,01	***	0,00		0,00	
Base pay	0,00		0,00		0,00	
Perceived ROP importance			0,09	***	0,10	***
Knowledge of ROP			0,06	**	0,07	***
Perceived fit between ROP and organizational goals			0,17	***	0,17	***
Perceived fairness of ROP procedures			0,09	***	0,09	***
Perceived importance of ROP * Perceived fit between ROP and organizational goals					0,01	
Perceived importance of ROP * Perceived fairness of ROP procedures					-0,02	
Knowledge of ROP * Perceived fit between ROP and organizational goals					0,04	*
Knowledge of ROP * Perceived fairness of ROP procedures						
R2	.04	***	.30	***	.31	***
Change in R2	.04	***	.26	***	.01	(*)

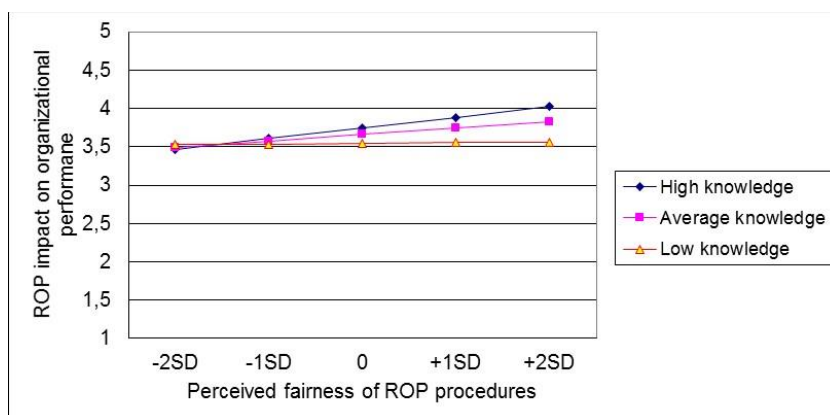
Note. Unstandardized regression weights are reported (N= 1115).

(\*)  $p < .1$ . \* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

### Knowledge of ROP as a moderator in predicting perceived ROP effect on organizational performance

There was one statistically significant interaction found predicting perceived ROP effect on organizational performance: the interaction between knowledge of ROP and perceived fairness of ROP procedures. Figure 14 supports the hypothesis of ROP knowledge moderating the relationship between perceived fairness of ROP procedures and perceived ROP effect on organizational performance. The slope of high knowledge respondents is steeper than the slope of low knowledge respondents indicating that when there is better knowledge of ROP, the impact of perceived justice is more noticeable on organizational performance effects. It is also interesting to note that when the perceived fairness of ROP procedures is very low, 2 standard deviations below the average, there is no difference between respondents having more or less knowledge of the ROP. However, when perceived justice is average or higher, the respondents

having high knowledge perceive higher ROP effect on organizational performance.



**Figure 14.** Explaining perceived ROP effect on organizational performance: Interaction ROP knowledge \* Perceived fairness of ROP procedures (High knowledge = average + 1.5 SD and Low knowledge = average -2SD. Centered independent and control variables)

#### *Regression results explaining perceived ROP effect on co-operation*

Finally, I performed a hierarchical regression analysis in a similar manner for the third dependent variable, the perceived ROP effect on co-operation. The regression model explained 23 % of variance in perceived ROP effect on co-operation (Table 16). The variance explained was smaller than in the cases of ROP satisfaction and perceived ROP effect on organizational performance. One of the reasons is that there is less variation in the perceived ROP effect on co-operation in the data than there is variation for ROP satisfaction. The regression results indicated, first, that only 1 % of variance in ROP effect on co-operation was explained by control variables. The results indicate that the base pay is negatively connected to the co-operation effects. Respondents with higher base pay perceived less positive co-operation effects of ROP.

A further 22 % of variance in perceived ROP effect on co-operation was explained statistically significantly by each of the four independent variables. Thus, hypotheses 1-4 concerning independent variables' main effects on perceived ROP effect on co-operation were supported. Keeping other variables constant, perceiving better fairness of ROP procedures by one unit (on a scale from 1 to 5), the perceived impact on co-operation would be expected to rise 0.16 units (on a scale from 1 to 5).

When the interactions were added to the model in step 3, only 0.001 % more explanatory power was gained. None of the interactions were significant. Thus, none of the four moderation hypotheses were supported.

The regression results suggested that the main-effects model explained perceived ROP effect on co-operation and the interactions did not add explanatory value to the model.

**Table 16.** Regression results for perceived results-oriented pay (ROP) effect on co-operation,  $R^2 = .23$ 

Variable	Step 1		Step 2		Step 3	
	B	Sig.	B	Sig.	B	Sig.
(Constant)	3,20	***	3,18	***	3,18	***
Gender (female)	0,01		-0,02		-0,02	
Managerial position (no)	-0,17	**	-0,04		-0,04	
Age	0,02		0,02		0,02	
Organizational tenure	0,00		0,00		0,00	
Amount of bonuses achieved (%)	0,01	(*)	0,00		0,00	
Base pay	-0,00	*	-0,00	***	-0,00	***
Perceived ROP importance			0,08	***	0,09	***
Knowledge of ROP			0,06	*	0,06	*
Perceived fit between ROP and organizational goals			0,14	***	0,14	***
Perceived fairness of ROP procedures			0,16	***	0,16	***
					0,00	
Perceived importance of ROP * Perceived fit between ROP and organizational goals					0,01	
Perceived importance of ROP * Perceived fairness of ROP procedures					-0,02	
Knowledge of ROP * Perceived fit between ROP and organizational goals					0,01	
Knowledge of ROP * Perceived fairness of ROP procedures						
R2	.01	*	.23	***	.23	***
Change in R2	.01	*	.22	***	.00	

Note. Unstandardized regression weights are reported (N= 1111).

(\*)  $p < .1$ . \* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

#### 6.1.4 Summary of the results on overall model explaining ROP outcomes

The results of the separate regression analyses by three outcomes showed partial support for hypotheses concerning how each of the three outcomes are generated (Figure 15). The theoretical model with moderation hypotheses fit the data well or acceptably well for explaining ROP satisfaction and perceived ROP effect on organizational performance: 46 % of variance in ROP satisfaction and 31 % of variance in perceived ROP effect on organizational performance were explained with the model. The main effects model fit acceptably well for explaining perceived ROP effect on co-operation, 23 % of the variance was explained.

The main effects hypotheses H1 – H4 were supported with testing the model without the interaction effects, i.e., main effects only (regression step 2). The main effects were tested separately because they cannot be reliably interpreted from the results of a model with interaction effects included (Howell, 2002). All the independent variables had a statistically significant role in explaining each of the three outcome variables. The direction of the relationships was positive as expected except with the slightly negative (and only marginally significant) relationship between perceived importance of ROP and ROP satisfaction. Thus, perceived importance of ROP contributed positively to perceived effect on organizational performance, and perceived effect on co-operation but not on ROP





perceived fairness of ROP procedures, the satisfaction with ROP was actually lower than when the perceived importance was low.

- ROP knowledge moderated the relationship between perceived fit between ROP and organizational goals and ROP satisfaction (support for H6a1). The partial regression lines (Figure 13) showed that the relationship between perceived fit and ROP satisfaction is positive with all levels of ROP knowledge. However, the slope of the regression line was slightly steeper in the case of high ROP knowledge, and overall, the ROP satisfaction was higher with high ROP knowledge condition.

The remaining two interaction hypotheses in explaining ROP satisfaction did not gain support (H5a1 and H6b1).

Furthermore, one of the interaction hypotheses was supported in explaining perceived ROP effect on organizational performance:

- ROP knowledge moderated the relationship between perceived fairness of ROP procedures and perceived ROP effect on organizational performance (support for H6b2). The partial regression lines (Figure 14) showed that the slope of the regression line in the case of high knowledge was steeper than in the case of low ROP knowledge. However, when the perceived fairness was very low, the perceived effect on organizational performance was on the same level whether the knowledge was high or low.

The remaining three interaction hypotheses in explaining perceived effect on organizational performance did not gain support (H5a2, H5b2, and H6a2)

The main effects model was more informative than interaction model in explaining ROP effect on co-operation. No interactions were found statistically significant in explaining perceived ROP effect on co-operation (H5a3, H5b3, H6a3, and H6b3 were not supported). The lacking significance for interactions could depend partly on the fact that there was less variation to be explained in the perceived effect on co-operation variable to start with than with the other two outcomes studied.

As was found in the chapter 6.1.1 and also when testing the model with organization and ROP system level controls, both the organizational context and the characteristics of the ROP system had an influence on ROP outcomes. This influence is studied more in the following analyses.

## 6.2 Part 2: Generation of the results-oriented pay outcomes in the context of three types of ROP systems

In this section, I answer the second research question of how the results-oriented pay outcomes on ROP satisfaction, perceived ROP effect on organizational performance, and perceived co-operation are generated in the context of diverse ROP systems. The results of the previous section indicated that aside from the independent variables, the ROP systems studied and the contexts in which they are implemented are significant in explaining the three dependent variables. Thus, I first explored how the ROP systems studied could be clustered by their characteristics in a meaningful way. I used correspondence analysis as means for clustering the systems. I further divided the data into three subsets according to the system clustering. I named the clusters by what type of employees they were aimed at: 1. “Individualists” (individual level ROP systems paying intermediate or higher bonuses), 2. “Life supporters” (group level ROP systems covering all employees and paying smallish bonuses), and 3. “Processors” (large group level production ROP systems paying intermediate bonuses). Then, I studied the theoretical model of how ROP outcomes originate with each of the newly formed three subsets of data.

### 6.2.1 Finding three types of ROP systems by the configuration of their characteristics

As discussed earlier, there are several ROP characteristics that theoretically might have a role in determining ROP outcomes. I coded each of the ROP systems studied accordingly by the characteristics chosen: sector, the closest level of measurement (individual, small group, or large group), the intensity of the nearest measurement level bonuses, number of measurement levels used in determining bonuses, maximum size of the bonuses, whether the bonuses are determined with equal maximum Euros or percentage of base pay, the frequency of payment, the age of the ROP system, the target group of the system, and the work type of the target group. I studied the differences in outcomes and antecedents by the characteristics and present the most interesting descriptive results in this chapter (by context and then by ROP characteristics). Then I describe how the meaningful configurations of ROP characteristics were found.

#### Local government sector respondents were more satisfied with their ROP than others

I mentioned earlier that respondents' answers varied by sector where they were employed for several reasons. First, the sector practices in ROP systems vary significantly, for example, the local government sector in Finland encourages almost purely group based ROP systems with smallish maximum bonuses. There were indeed differences in how the ROP systems were perceived by respondents working in different sectors (Table 34 in Appendix E). The respondents of local government sector ROP systems perceived the importance of ROP, their knowledge of ROP, and the perceived fit between ROP and organizational goals lower than the respondents of either private service sector or manufacturing sector. However, the local government sector respondents perceived the

ROP procedures as more fair, and they were more satisfied with the ROP than the other respondents even though their bonuses were significantly smaller than the bonuses of other respondents. The perception of fairness and satisfaction with ROP were clearly lowest in the manufacturing sector.

#### Large individual bonuses were connected to not enhancing co-operation

Next, I compared the means of independent and dependent variables in different groups of ROP system characteristics to see what kind of differences were found. I describe the most interesting findings on differences between ROP systems measuring individual, small group, or large group performance (Table 35 in Appendix E), and differences between ROP systems paying smaller or larger maximum bonuses (Table 36 in Appendix E).

The respondents of ROP systems paying for small group performance corresponded closely to the local government sector ROP system respondents discussed previously. In fact, most of the ROP systems paying for small group performance were found there. Thus, it is understandable that these respondents had also a similar pattern of perceptions as the local government sector ROP system respondents earlier. They perceived the importance of ROP, their knowledge of ROP, and the fit between the ROP and organizational goals lower than the respondents having either individual or large group bonuses. Additionally, they perceived the fairness of ROP processes higher and were more satisfied with their ROP than the respondents of either the large group bonuses or the individual bonuses. The bonuses received were also clearly the smallest in the case of small group bonuses. Bonuses received were highest in the case of individual bonuses. ROP knowledge was perceived highest among respondents belonging to individual level ROP systems. Another interesting difference was found in the perceived ROP effect on co-operation. It was lowest in the case of individual bonuses, which could also be expected. The ROP systems rewarding for group performance can be interpreted as rewarding for co-operation.

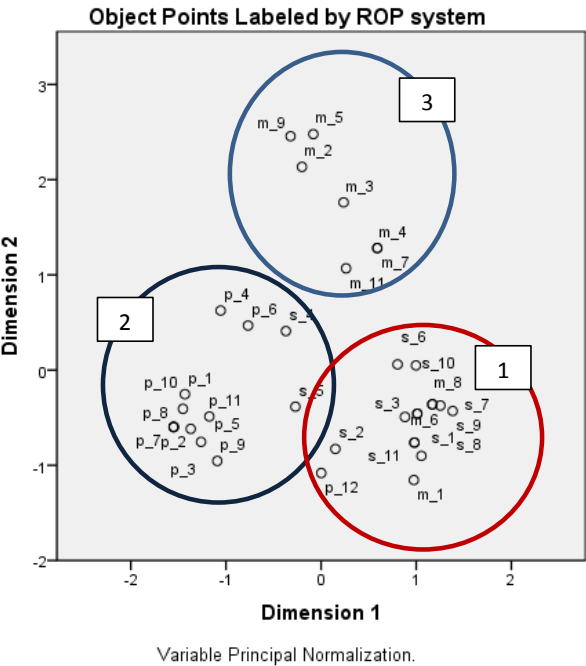
The comparison of means between ROP systems providing different levels of maximum bonuses showed that, naturally, the amount of bonuses received grows when the maximum amount of bonuses grows (Table 36 in Appendix E). Many of the same local government sector ROP systems and ROP systems paying for group performance were found in the group of systems paying a maximum of 5 % of annual pay as bonuses. However, the results of this comparison were not as straightforward. The ROP was perceived as most important in the two groups with highest maximum bonuses (either 8 to 16 % of annual pay or more than 16 % of annual pay). The knowledge of ROP and the fit between ROP and organizational goals was perceived highest among the respondents of the highest bonuses group. However, at the same time the respondents in highest bonuses group were among the least satisfied with their system, perceived the fairness of ROP procedures weakest, and viewed the ROP influence on co-operation weakest. ROP satisfaction was highest in the ROP systems paying smallest maximum bonuses from 5 to 8 % of annual pay.

*Clustering the ROP systems studied with the help of correspondence analysis*

Next, I wanted to find out if the 35 ROP systems studied formed meaningful clusters according to their system characteristics. The quest was inspired by configurational approach claiming that often these kinds of characteristics are found in bundles and typologies of the bundles can be made. I used multiple correspondence analysis to form a basis for forming meaningful ROP system clusters.

The ROP structural characteristics described in Table 6 were used in the multiple correspondence analysis. I did not use the contextual sector variable in the analysis because I regarded that as an important driver behind the other structural characteristics. I did not want the sector variable as such to dominate the analysis. The solution was calculated with preset amount of two dimensions. The inertia of the first dimension was 0.60 and the second dimension 0.39. The total inertia ( $\chi^2$  statistic divided by sample size) is a measure of how much variance there is in the table (Greenacre, 2007). Thus, both dimensions had a good share of variance explained.

As a result, the positions of the 35 ROP systems on the perceptual map are shown (Figure 16). Dimension one differentiated fairly clearly between local government sector systems and private sector systems (local government sector systems group in the left and private sector systems in the right). Dimension two differentiated between manufacturing sector production bonuses and the rest of the ROP systems, manufacturing sector production bonuses were situated to the upper part of the map. Three distinctive groups were formed on the perceptual map. However, the clusters are not this clear cut but contain exceptions of the general descriptions as well as potential outliers. Let us, therefore, take a closer look at what kind of attributes are behind the clustering.

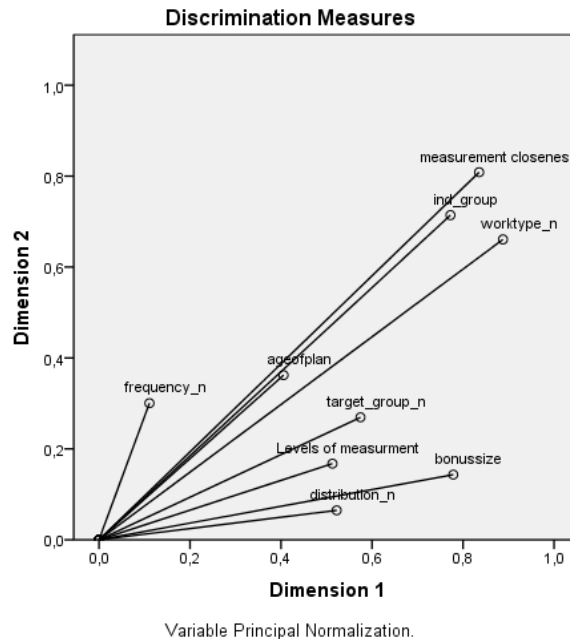


**Figure 16.** Correspondence analysis: The positions of the 35 ROP systems on the perceptual map. The circles illustrate the most prominent clusters

Next, I will examine which attributes described the two dimensions (Figure 17), and how each of the attributes or characteristics were distributed in the perceptual map. The variables loading more on dimension 1 than on dimension 2 were size of bonuses, distribution of bonuses, and levels of measurement. The lower bonuses were situated in the left and the higher bonuses on the right hand side of the dimension. Maximum bonuses determined as equal amount of euros were situated to the left and the maximums affected by individual’s pay to the right. One level of measurement was situated in the left, two levels of measurement in the center and three or more levels in the right hand side of dimension 1. Type of work, measurement closeness intensity, individual or group based bonuses, age of plan, and target group –variables loaded quite strongly on both dimensions, most somewhat stronger on dimension 1. This means that these variables divided ROP systems on both dimensions.

I will next examine the pattern of each of these variables on the perceptual map. Type of work on dimensions 1 and 2 separated public service work on the lower left part of the area, expert and management work on the lower right part, production work on upper part and service work on the center part of the area. Small group bonuses were situated to the lower left part of the map, large group bonuses to upper center part and individual bonuses to the lower right part of the map. Measurement closeness intensity variable separated both individual types (more than 50% of individual measurements and less than 50%) on the lower right part of the map, more than 50% of small group measures to lower

left part of the map, and, finally, systems containing less than 50% small group measures or all large group measures to the upper center part of the map. ROP systems that covered all employees were situated to lower left part, employee systems to the upper center part, and “key” employee systems to lower right part of the map. Age of the plan variable did not separate systems studied as clearly, although older systems of more than 6 years were situated to the upper right part of the map. Finally, one of the variables, frequency of payments, was loading a little more – although not very strongly - on dimension 2. ROP systems paying annual bonuses were situated on the lower left part and ROP systems paying more often on the upper right part of the map.



**Figure 17.** Discrimination measurements for each variable (squared component loading on each of the two dimensions)

When taken together these partial maps and loadings provide support to dividing the 35 ROP systems of this study into three major clusters or configurations.

Cluster 1 in the right lower quarter of the perceptual map is characterized by being mainly private sector systems either for specific key employees (in service or manufacturing) or all employees (in service sector) rewarding for individual performance. Performance is measured at least on two levels; on individual level and on one or more higher levels of organization. The maximum bonuses were typically either intermediate or high and paid at least partly according to the size of base pay of an employee. There were altogether 15 ROP systems located in the cluster 1 making it the largest cluster. The ROP systems studied were from 12 different organizations.

Cluster 2 in the lower left hand side of the perceptual map is characterized by systems covering all employees of the workplace or the organization and paying small or smallish bonuses once a year. The systems are by nature group (mainly small group) bonuses and in those the bonuses are mainly based on one measurement level performance, that is, small group performance. The type of work performed in organizations studied is characterized by public-sector or service work. Altogether 13 ROP systems were located in cluster 1. The ROP systems were studied in altogether 7 different organizations.

Cluster 3 in the upper half of the perceptual map is characterized by predominantly “old” manufacturing sector systems paying for large group performance for all employees, production employees, or salaried and higher ranking employees. The common feature is the tendency to measure productivity, efficiency, and quality on plant level. Some systems in this cluster measure performance also on higher level of the organization, for example, division or company level. The bonuses are intermediate and paid typically more than once a year. Altogether 7 ROP systems were located in cluster 2 area. The ROP systems were originated from three different manufacturing organizations.

There were some potential outliers: one local government sector system for special groups of employees paying small bonuses for individual performance, and one service sector system covering all employees paying smallish bonuses for individual performance. It could also be justified to cluster the systems even to five clusters and leaving the two systems mentioned above as outliers. The division would not have been as logical to justify as it was with three clusters.

It was interesting to notice that the characteristics of ROP systems clustered in a meaningful way into three different configurations that were each also found typically in different kinds of working contexts. While I wished to capture also some of the context, I named the clusters by the type of employees or work the ROP systems were designed to reward to ‘Individualists’, ‘Life supporters’, and ‘Processors’. Next, I describe my reasoning behind the names and present an example of ROP systems in each of the clusters.

### **Cluster 1: Individualists**

These ROP systems were found both in manufacturing and service industries and, additionally, in one local government sector organizations. The common denominator was that the bonuses were aimed at rewarding also individual level performance. Most of the systems were targeted to special groups of employees such as management, experts, or sales. My interpretation is that the idea behind these ROP systems was to support strategic goals and motivate individuals to achieve them.

Example: Higher ranking employees’ ROP in chemical industries company (see appendix A).

The company produces chemical products and related services. The ROP system studied was targeted to higher ranking employees working in Finland. The system studied had a long history of 10 years during which many changes to the structure had been made. The general aim of the system was to support the achievement of



company targets and direct individual efforts to the achievement of strategic goals. The amount of maximum bonuses varied by position, most commonly it equaled to less than 2 months' salary of the recipient. Bonuses were paid annually. The financial criteria of the bonuses were selected from both the employee's own work unit and one level above the work unit (e.g., division or company cash flow or net sales). The share of individual financial and operational criteria was not supposed to exceed half of the total. The criteria were to be measurable and were set most often in discussions between the employee and his/her manager. The targets were further accepted by the supervisor of the supervisor. The practices of goal-setting as well as the bonuses realized varied between sub-units.

### **Cluster 2: Life supporters**

The ROP systems in this cluster were used mainly in local government sector organizations providing health care, education, transportation, and infrastructure services to residents of the municipalities. The ROP systems found in private sector that clustered here were also found in service areas of pharmaceuticals and insurances and rewarded for smallish unit or group level performance. The underlying idea behind the ROP systems could be interpreted as aiming for qualitative unit-level performance leaps while the systems rewarded for completing development projects and improving customer processes.

Example: Health center ROP in municipality B (see appendix A).

The health center is located in a large Finnish municipality but employs only 15 people. The center works with the residents in the specific part of the municipality it is located in. There are medical doctors, nurses, nurse aides, laboratory personnel, and administrative personnel working in the center. The ROP system had been implemented for the first time three years prior to the study. All 15 employees were entitled to the bonuses if center-level yearly performance targets were met. The bonuses were in the best case 2 % of the unit's pay sum and the maximum amount per person was equal in Euros for everyone. The overall aim of the bonus system was to enhance co-operation within the unit and direct efforts towards attaining unit goals. More specifically employees were rewarded for achieving 10 different criteria (e.g., piloting internet-services, enhancing phone accessibility and thus improving customer satisfaction, emphasizing preventive work in appointments, and enhancing the level of teamwork).

### **Cluster 3: Processors**

The ROP systems in this cluster were found mainly in manufacturing companies where the production was process oriented, i.e., production of pulp or chemicals. One service sector ROP found in this cluster could also be classified as supporting process-oriented work in insurance business. My interpretation of the common idea behind the processors' ROPs is that they are meant to support continuous improvement of productivity of the processes, for example, the amount and quality produced in an hour. The possible improvements are measurable and also quite well predictable in the work settings of process industry. The bonuses can also form a significant share of earnings of processors and are thus expected.

Example: Blue collar employees' ROP in Forest industry company A (see appendix A).

The forest industry company operates production plants and a head office in Finland. There is a ROP system for all employees of the company with some variations according to personnel group (management, salaried employees, and blue collar employees). This case focuses on the system used for blue collar employees. The ROP system had first been introduced six years prior to the study and only minor changes to the structure had been made during the years. The aim of the system was to support strategic goals of the company and reward employees for achieving the goals in co-operation. The system covered all blue-collar employees in all but one plants (one plant had a variation of the system). The maximum amount of bonuses was equal to each persons' two months' pay and the bonuses were paid annually. One third of the bonuses were tied to company level target of return of capital employed (ROCE). Two thirds of the bonus was tied to plant level targets including level of production, operation time, product quality, cost effectiveness, work safety, and environmental effects.

### *Summary of clustering the 35 ROP systems*

As there were theoretical reasons to expect that the incentive systems' characteristics and contexts they are used in should have a role in determining reward system outcomes, I had coded the ROP characteristics accordingly. Additionally, the empirical evidence in chapter 6.1.2 had suggested that a considerable share of ROP outcomes could be explained by the ROP system used. In this chapter, I presented comparisons of model variable means by different ROP system characteristics. I found local government sector ROP systems and ROP systems paying for small group results to differ from other systems by being perceived as less important but having more fair procedures by the employees who also were more satisfied with their ROP.

The findings suggested that ROP characteristics have an important role in determining ROP outcomes. However, many of the characteristics "overlapped" with one another, for example, systems paying smaller bonuses were often found in local government sector and they were often targeted for small group performance. On the other hand, ROP systems with longer history were often found in manufacturing, where plant-level ROP systems pay moderate or even high bonuses for large group results. When it comes to individual level bonuses, they also tend to be quite high and found especially in private sector special employee groups. So, I wanted to examine whether the data in hand would form some meaningful characteristics clusters or configurations with the help of correspondence analysis.

The correspondence analysis showed three distinctive clusters of ROP systems by their system characteristics. The clusters were named according to the employee group they were aimed at.

1. Individualists' ROP. Individual level ROP systems for either specific employee groups or all employees paying intermediate or higher bonuses (15 ROP systems). The systems are found mainly in private service sector or manufacturing. Performance was measured at least in two levels and the bonuses were at least partly determined by the person's base pay.

2. Life supporters' ROP. Group level ROP systems covering all employees and paying smallish bonuses (13 ROP systems). The bonuses were mainly paid once a year and were based on one measurement level performance, most often small group performance. Systems typically covered employees in local government or service sector work.
3. Processors' ROP. Large group level production ROP systems covering all employees or an employee group and paying intermediate bonuses (7 ROP systems). The systems are found in manufacturing and measure predominantly performance on plant level and pay bonuses more often than once a year.

Overall, studying the characteristics of the ROP systems to find meaningful clusters or configurations proved useful. The ROP systems that were clustered together were not only quite similar in their characteristics but seemed also to belong to certain contexts. Taking an institutional theory lens this could be seen as proof for institutional mimetic forces in action within a given institutional setting, for example, manufacturing industries in Finland. On the other hand, the finding could also be interpreted from contingency theory or the internal alignment point of view or the configurational point of view as a proof for good-fit bundles of characteristics forming within a given setting. Whether there is a good-fit in the cases studied should be reflected to the positive ROP outcomes.

I used the clustering in the next phase of the analysis to divide the individual dataset into three subsets and see how differently the theoretical model fits the datasets.

### **6.2.2 Testing the model in the context of the three types of ROP systems**

I divided the data into subsets according to three major clusters of ROP derived from the correspondence analysis.

1. Individualists. Individual level ROP systems paying intermediate or higher bonuses (15 ROP systems used within 12 organizations, n = 817).
2. Life supporters: Group level ROP systems for all employees paying smallish bonuses (13 ROP systems used within 7 organizations, n = 705).
3. Processors: Large group level production ROP systems paying intermediate bonuses (7 ROP systems used within 3 organizations, n = 256).

Next, I studied the descriptive results of each of the three subsets of data to examine how the three types of ROP differed in their outcomes and antecedents. Then, I tested the theoretical model in each of the three subsets of data in a similar way that the model was tested in the total data.

*Descriptive results of the three types of ROP systems*

According to theoretical expectations, structurally different ROP systems should also have differing effects. Let us next take a look at the perceived levels of effects and the independent variables in the three subsets of data (Table 17). The differences between the groups were compared with analysis of variance (ANOVA).

First, the respondents belonging to the three different types of ROP systems studied had been paid bonuses differing in their average size. The Life supporters had been paid the lowest bonuses, on average 2.22 % of annual pay. This is due to the ROP systems of this group being mainly from local government sector organizations. As discussed earlier, the maximum bonuses in the local government sector are often 5 % of annual pay. The largest bonuses were paid to the Individualists, on average 6.48 % of annual pay. The bonuses paid for the Processors were slightly lower, on average 5.77 % of annual pay. Theoretically, the larger bonuses should be seen as more important by the respondents and they should have more motivational value and lead to better perceived outcomes. The level of average base pay of the respondents followed the same order; it was lowest for the Life supporters and highest for the Individualists. It should also be noticed that the Processors had been working in the same organization for the longest time, on average 19.46 years.

Second, let us take a look at the levels of independent variables in the three groups. Following theoretical expectation, the perceived importance of the ROP was lowest but positive in the Life Supporters' data (3.86). However, the perceived importance was not highest in the Individualists (4.28) but in the Processors data (4.50). The ROP knowledge and perceived fit between ROP and organizational goals varied less, but followed the order of lowest values in Life supporters to highest values in Individualists. The Individualists tended to assess their knowledge of the ROP system higher than the other groups. The finding is logical in the sense that the same respondents also perceived the system more important and might thus also be more interested in finding out about the ROP system facts. In addition, one would expect that the individual targets had been individually set and that would further enhance the ROP knowledge. Similarly, the Individualists perceived the fit between ROP and organizational goals higher than the other two groups. Examining the perceived fairness of ROP procedures gives us a different picture. Now, the Life supporters perceived the procedures most fair (3.46). The perception of fairness was positive also among the Individualists (3.09). The Processors, however, perceived the ROP procedures on average unfair (2.81). Some part of the explanation could be that the possibilities of individuals to have voice in ROP decision making differs in these groups. The Individualists probably have some voice concerning the individual level targets. And in the case life supporters, much of the decision making happens in the unit-level and, particularly in the local government sector cases, the criteria of the ROP were often designed participatively.

Interestingly, and contradictory to theoretical expectations of valence, the Life supporters were the most satisfied with the ROP (3.10). However, it should be

remembered that they found the ROP procedures fair, and that should theoretically contribute to satisfaction. The least satisfied were the Processors (2.46). This could be theoretically justified with expectancy models; the performance of an individual has quite limited impact on the plant-level bonuses. In addition, the low perceived fairness of ROP procedures leads theoretically to lower ROP satisfaction. The perceived ROP effect on organizational performance did not differ as much as satisfaction between the groups. Interestingly, the Processors perceived the impact highest (3.77). Thinking of the context of the production organizations studied, it is easier understood. The criteria used in the ROP systems were often the very same criteria with which the success of the production unit was traditionally measured, such as the amount of production, productivity, the quality of production etc. When it comes to the perceived ROP effect on co-operation, the averages were higher in the cases of group level ROP systems (3.36 Processors and 3.21 Life supporters) than in Individualists (3.07). This is also theoretically expected; group goals should enhance co-operation and individual goals may, in the worst case, decrease co-operation. Furthermore, because the measure of co-operation included also items such as co-operation between units, it would be expected that the Processors' large group bonuses would enhance co-operation even more than the systems designed for smaller groups.

**Table 17.** Means, standard deviations, and confidence intervals of model variables in three subsets of data (ANOVA,  $p = ***$  except for fit  $p = *$ )

Variable	Individualists				Life supporters				Processors			
	N	Mean	SD	95% CI	N	Mean	SD	95% CI	N	Mean	SD	95% CI
Organizational tenure	807	12.54	10.70	[11.80, 13.28]	695	11.16	9.99	[10.41, 11.90]	252	19.46	11.13	[18.8, 20.84]
Base pay	688	3061.85	1406.96	[2956.53, 3167.17]	645	2108.83	891.65	[2039.89, 2177.77]	237	2910.27	953.68	[2788.22, 3032.31]
Amount of bonuses achieved (%)	579	6.48	5.36	[6.04, 6.92]	545	2.22	1.49	[2.10, 2.35]	200	5.77	5.18	[5.04, 6.49]
Perceived importance of ROP	808	4.28	0.95	[4.22, 4.35]	690	3.86	1.22	[3.77, 3.96]	251	4.50	0.73	[4.40, 4.59]
Knowledge of ROP	814	3.55	0.89	[3.49, 3.61]	693	3.24	0.88	[3.17, 3.30]	255	3.47	0.82	[3.37, 3.57]
Perceived fit between ROP and organizational goals	762	3.48	1.08	[3.41, 3.56]	646	3.32	1.20	[3.23, 3.41]	235	3.37	1.20	[3.21, 3.52]
Perceived fairness of ROP procedures	752	3.09	0.91	[3.03, 3.16]	645	3.46	0.94	[3.38, 3.53]	246	2.81	0.90	[2.70, 2.93]
ROP satisfaction	803	2.94	0.98	[2.87, 3.00]	674	3.10	1.03	[3.02, 3.18]	256	2.46	0.96	[2.34, 2.58]
Perceived ROP effect on organizational performance	786	3.70	0.58	[3.66, 3.74]	684	3.61	0.59	[3.56, 3.65]	244	3.77	0.62	[3.69, 3.84]
Perceived ROP effect on co-operation	785	3.07	0.69	[3.02, 3.12]	681	3.21	0.64	[3.16, 3.25]	244	3.36	0.77	[3.26, 3.46]

Note. ROP = results-oriented pay.

### *Regression results for the three types of ROP systems*

Next, I performed hierarchical regression analysis in three steps for the three subsets of data. The control variables were added at step one, next, the four independent variables at step two, and finally, the interactions were added to the regression at step three. The overall results are described in Table 18 and Table 19. Both the main effects model and the interaction model were fitted in all three subsets of data. Over all, the findings showed theoretically and practically interesting differences between the three types of ROP systems in addition to replicating some of the findings from analyzing the total data.

When only the main effects were included in the model, most of the independent variables were found significant in explaining pay outcomes in the three subsets of data giving partial support for hypotheses H1-H4 (Table 18). Perceived importance of the ROP system was found significant in explaining ROP satisfaction in the case of Processors, organizational performance in the case of Individualists, and co-operation in all cases (partial support for H1). Knowledge of ROP systems was found significant in explaining ROP satisfaction in the context of all ROP types, organizational performance only in the case of Processors, and co-operation in the case of Life supporters and Processors (partial support for H2). Perception of fit between ROP and organizational goals was significant in explaining all three types of outcomes in the context of all three types of ROP systems (support for H3). Perceived fairness of ROP explained all outcomes except perceived effect of Processors' ROP on organizational performance and co-operation (partial support for H4).

**Table 18.** Regression results overview for three clusters of results-oriented pay (ROP) systems, main effects only

Variable	ROP Satisfaction			Perceived ROP effect on organizational performance			Perceived ROP effect on co-operation		
	I	LS	P	I	LS	P	I	LS	P
R <sup>2</sup>	.40	.51	.66	.30	.34	.38	.17	.34	.34
Gender	***		*	***	***				
Managerial position									*
Age									
Tenure									
Achieved bonus percentage	***	***	**						*
Base pay		**					(*)		**
Perceived importance of ROP			*	***			*	(*)	(*)
Knowledge of ROP	***	***	**			***		**	*
Perceived fit between ROP and organizational goals	***	***	***	***	***	***	**	***	***
Perceived fairness of ROP procedures	***	***	***	***	*		***	***	

Note. I = Individualists, LS = Life supporters, P = Processors.

(\*)p < .1. \*p < .05. \*\*p < .01. \*\*\*p < .001.

When the interactions were included in the analyses, the model explained Processors' ROP outcomes best (Table 19). Particularly R<sup>2</sup> for ROP satisfaction was very high for this dataset (R<sup>2</sup> = .69). The explanatory power of the model in explaining ROP satisfaction was good with the Life supporters' and the Individualists' ROP systems. Perceived ROP effects on co-operation were least explained in the case of Individualists (R<sup>2</sup> = .17). As was the case with the complete data

analyzed earlier, no significant interactions were found in explaining co-operation effects. Thus, the main effects model is used for explaining co-operation effects. There were also differences in which independent and control variables had significant main effects in each of the three datasets. The results are discussed next individually for the three types of ROP systems.

**Table 19.** Regression results overview for the three clusters of results-oriented pay (ROP) systems, interaction model

Variable	ROP Satisfaction			Perceived ROP effect on organizational performance			Perceived ROP effect on co-operation		
	I	LS	P	I	LS	P	I	LS	P
R <sup>2</sup>	.41	.52	.69	.30	.35	.41	.17	.34	.35
Gender	***		**	***	***				
Managerial position									(*)
Age									
Tenure									
Achieved bonus percentage	***	***	***			(*)			*
Base pay		**				*	*		**
Perceived importance of ROP	*		***	***	*		*		
Knowledge of ROP	***	***	**			**		**	*
Perceived fit between ROP and organizational goals	***	***	***	***	***	***	**	***	***
Perceived fairness of ROP procedures	***	***	***	***			***	***	
Perceived importance of ROP * Perceived fit between ROP and organizational goals	(*)		**		*				
Perceived importance of ROP * Perceived fairness of ROP procedures			*						
Knowledge of ROP* Perceived fit between ROP and organizational goals		(*)							
Knowledge of ROP* Perceived fairness of ROP procedures					*				

Note. I = Individualists, LS = Life supporters, P = Processors.

(\*)p < .1. \*p < .05. \*\*p < .01. \*\*\*p < .001.

### 6.2.3 Individualists' ROP systems

In the dataset of Individualists, the explanatory power (R<sup>2</sup>) of the complete interaction model was .41 for ROP satisfaction, .30 for perceived effect of ROP on organizational performance, and only .17 for perceived effect of ROP on co-operation (Tables 20, 21, and 22). Only one of the interactions was modestly significant – perceived importance of ROP moderating the relationship between perceived fit between ROP and organizational goals and ROP satisfaction (H5a1). Because none of the other interactions were found significant, the hypotheses H5a(2-3), H5b(1-3), H6a(1-3), and H6b(1-3) are not supported. The main effects model is used in explaining Individualists' ROP effect on organizational performance and co-operation.

As noted in the overview, the model explained individualists' ROP systems' effects less than it did group based ROP systems' effects. This is contrary to theoretical expectations and the finding is discussed in the discussion chapter.



### ROP satisfaction

Three of the four independent variables had a significant positive main effect on ROP satisfaction (Table 20). The better the fit between ROP and organizational goals, the fairness of ROP procedures, and the knowledge of ROP were perceived, the higher was the ROP satisfaction (support for hypotheses H2-H4). For example, the results suggest that one unit increase in perceiving ROP procedures fairness (on a scale from 1 to 5) increases ROP satisfaction by 0.45 units (on a scale from 1 to 5). The importance of ROP did not have a significant main effect (no support for hypothesis H1). However, importance of ROP did modestly moderate the relationship between perceived fit between ROP and organizational goals and ROP satisfaction (Figure 18). The interaction lines showed that the relationship between perceived fit and ROP satisfaction was positive whether ROP was perceived as important or not. However, the interaction suggested that perceived fit has actually stronger positive relationship with ROP satisfaction when the importance is perceived low and it results with higher absolute ROP satisfaction. Why did the perceived importance of ROP not predict ROP satisfaction among the individualists positively? Even the correlation between perceived importance and ROP satisfaction is fairly low, only .21. This finding is contrary to expectations derived from motivation theories.

**Table 20.** Regression results for Individualists' results-oriented pay (ROP) satisfaction

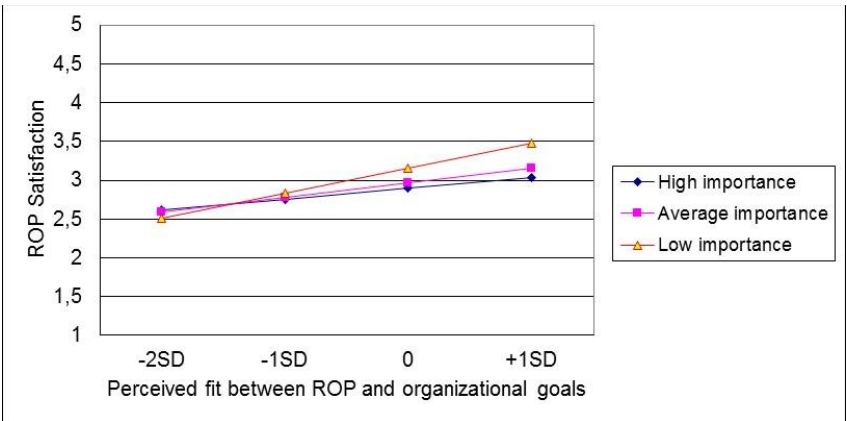
Variable	Step 1		Step 2		Step 3	
	B	Sig.	B	Sig.	B	Sig.
(Constant)	3,00	***	2,96	***	2,97	***
Gender (female)	0,37	***	0,31	***	0,32	***
Managerial position (no)	-0,31	**	-0,08		-0,08	
Age	0,00		-0,01		-0,01	
Organizational tenure	-0,00		0,00		0,00	
Amount of bonuses achieved (%)	0,03	***	0,02	***	0,02	***
Base pay	0,00		-0,00		-0,00	
Perceived ROP importance			-0,05		-0,10	*
Knowledge of ROP			0,24	***	0,25	***
Perceived fit between ROP and organizational goals			0,17	***	0,18	***
Perceived fairness of ROP procedures			0,45	***	0,44	***
Perceived importance of ROP * Perceived fit between ROP and organizational goals					-0,07	(*)
Perceived importance of ROP * Perceived fairness of ROP procedures					-0,01	
Knowledge of ROP * Perceived fit between ROP and organizational goals					0,07	
Knowledge of ROP * Perceived fairness of ROP procedures					0,01	
R2	.08	***	.40	***	.41	***
Change in R2	.08	***	.33	***	.01	

Note. Unstandardized regression weights are reported (N= 488).

(\*) p < .1. \*p < .05. \*\*p < .01. \*\*\*p < .001.

The gender of the respondent and the amount of bonuses received were also connected with ROP satisfaction. Male respondents were less satisfied among

the Individualists confirming earlier findings from the total data. Actual amount of bonuses received had a positive main effect on ROP satisfaction.



**Figure 18.** Explaining ROP satisfaction: Interaction perceived importance of ROP \* perceived fit between ROP and organizational goals (High importance = average + 0.75 SD and Low importance = average - 2 SD)

*Perceived effect of ROP on organizational performance*

Three of the four independent variables had a significant positive main effect on perceived organizational performance (Table 21). The better the fit between ROP and organizational goals, the fairness of ROP procedures, and the importance of ROP were perceived, the higher was the perceived effect on organizational performance. Perceived knowledge of ROP did not have a significant main effect.

The male respondents perceived less effects on organizational performance than did females. The amounts of actual bonuses did not have significant effects.

**Table 21.** Regression results for Individualists' perceived results-oriented pay (ROP) effect on organizational performance

Variable	Step 1		Step 2		Step 3	
	B	Sig.	B	Sig.	B	Sig.
(Constant)	3,73	***	3,71	***	3,69	***
Gender (female)	0,18	***	0,17	***	0,16	***
Managerial position (no)	-0,16	**	-0,05		-0,04	
Age	0,02		0,02		0,02	
Organizational tenure	-0,00		0,00		0,00	
Amount of bonuses achieved (%)	0,00		-0,00		-0,00	
Base pay	0,00	*	0,00		0,00	
Perceived ROP importance			0,12	***	0,14	***
Knowledge of ROP			0,04		0,03	
Perceived fit between ROP and organizational goals			0,11	***	0,11	***
Perceived fairness of ROP procedures			0,16	***	0,17	***
Perceived importance of ROP * Perceived fit between ROP and organizational goals					0,01	
Perceived importance of ROP * Perceived fairness of ROP procedures					0,04	
Knowledge of ROP * Perceived fit between ROP and organizational goals					0,03	
Knowledge of ROP * Perceived fairness of ROP procedures					-0,03	
R2	.05	***	.30	***	.30	***
Change in R2	.05	***	.24	***	.01	

Note. Unstandardized regression weights are reported (N= 485).

(\*)  $p < .1$ . \*\* $p < .05$ . \*\*\* $p < .01$ . \*\*\*\* $p < .001$ .

### *Perceived effect of ROP on co-operation.*

The model was weakest in explaining ROP effect on co-operation in the case of Individualists. As noted earlier, the level of co-operation effects was overall lowest in their case. Thus, it is interesting to uncover which factors contributed to co-operation effects. The better the fairness of ROP procedures, the fit between ROP and organizational goals, and the importance of ROP were perceived, the higher was the perceived effect on co-operation among the Individualists (Table 22). Perceived knowledge of ROP did not have a significant main effect, nor did any of the control variables except for the slightly significant negative relationship between respondent's pay and perceived co-operation. One explanation could be that the variance of co-operation effects is overall lowest in the case of individual bonuses and there is not as large between organizations variance as in other types of systems studied. That is, that the choice to use individual level bonuses leads to modest co-operation effects in general. It can be argued that enhancing co-operation is not the goal of individual incentives in

general. However, something can be done in organizations using individual bonuses to foster co-operation; 15 % of variance in co-operation effects were explained by employee perceptions of fairness, fit, and importance.

**Table 22.** Regression results for Individualists' perceived results-oriented pay (ROP) effect on co-operation

Variable	Step 1		Step 2		Step 3	
	B	Sig.	B	Sig.	B	Sig.
(Constant)	3,11	***	3,10	***	3,11	***
Gender (female)	0,09		0,07		0,07	
Managerial position (no)	-0,19	**	-0,10		-0,11	
Age	0,03		0,03		0,03	
Organizational tenure	-0,00		-0,00		-0,00	
Amount of bonuses achieved (%)	0,00		-0,00		-0,00	
Base pay	-0,00		-0,00	(*)	-0,00	*
Perceived ROP importance			0,08	*	0,08	*
Knowledge of ROP			0,02		0,01	
Perceived fit between ROP and organizational goals			0,09	**	0,09	**
Perceived fairness of ROP procedures			0,20	***	0,20	***
Perceived importance of ROP * Perceived fit between ROP and organizational goals					-0,03	
Perceived importance of ROP * Perceived fairness of ROP procedures					0,06	
Knowledge of ROP * Perceived fit between ROP and organizational goals					0,02	
Knowledge of ROP * Perceived fairness of ROP procedures					-0,06	
R2	.02		.17	***	.17	***
Change in R2	.02		.15	***	.00	

Note. Unstandardized regression weights are reported (N= 482).

(\*)  $p < .1$ . \* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

#### 6.2.4 Life supporters' ROP systems

In the dataset of Life supporters, the explanatory power ( $R^2$ ) of the total interaction model was .52 for ROP satisfaction, .34 for perceived effect of ROP on organizational performance, and .34 for perceived effect of ROP on co-operation (Tables 23, 24, 25). The interaction model showed interesting findings for the generation of ROP satisfaction and organizational performance. The effects on co-operation were best explained by the main effects model as noted earlier.

##### *ROP satisfaction*

Three of the four independent variables had a significant main effect on ROP satisfaction (Table 23). The better the fit between ROP and organizational goals, the fairness of ROP procedures, and the knowledge of ROP were perceived, the higher was the ROP satisfaction (support for hypotheses H2-H4). The perceived importance of ROP did not have a significant main effect (no support for hy-

pothesis H1). Furthermore, the amount of actual bonuses received had a positive main effect and the amount of base pay had a negative main effect on ROP satisfaction.

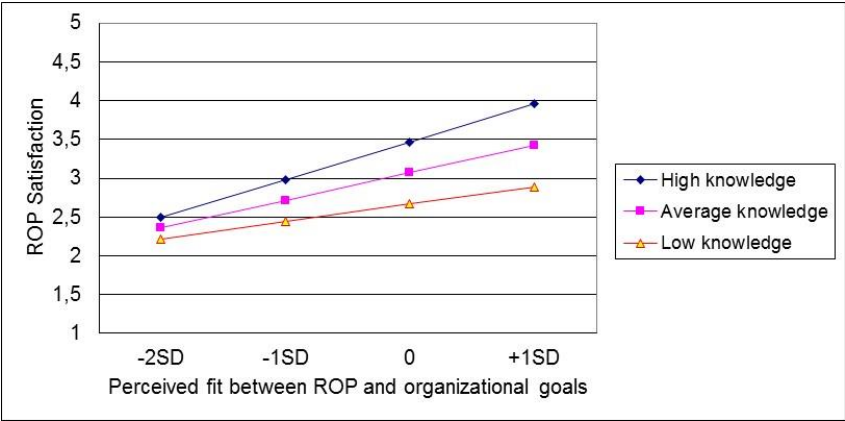
**Table 23.** Regression results for Life supporters' results-oriented pay (ROP) satisfaction

Variable	Step 1		Step 2		Step 3	
	B	Sig.	B	Sig.	B	Sig.
(Constant)	3,12	***	3,09	***	3,07	***
Gender (female)	0,11		-0,01		0,00	
Managerial position (no)	-0,48		-0,12		-0,09	
Age	-0,03		-0,03		-0,03	
Organizational tenure	-0,00		0,00		0,00	
Amount of bonuses achieved (%)	0,27	***	0,17	***	0,17	***
Base pay	-0,00		-0,00	**	-0,00	**
Perceived ROP importance			-0,01		-0,00	
Knowledge of ROP			0,23	***	0,23	***
Perceived fit between ROP and organizational goals			0,30	***	0,30	***
Perceived fairness of ROP procedures			0,29	***	0,29	***
Perceived importance of ROP * Perceived fit between ROP and organizational goals					0,02	
Perceived importance of ROP * Perceived fairness of ROP procedures					0,00	
Knowledge of ROP * Perceived fit between ROP and organizational goals					0,06	(*)
Knowledge of ROP * Perceived fairness of ROP procedures					-0,03	
R2	.20	***	.51	***	.52	***
Change in R2	.20	***	.31	***	.01	

Note. Unstandardized regression weights are reported (N= 455).

(\*) p < .1. \*p < .05. \*\*p < .01. \*\*\*p < .001.

One of the interaction hypotheses gained modest support: The knowledge of ROP moderated the relationship between perceived fit between ROP and organizational goals and ROP satisfaction (support for hypothesis H6a1). Taking a closer look at the partial regression lines (Figure 19) showed that the slope of the high knowledge regression line was steeper than the low knowledge regression line. That is, that satisfaction with ROP grew faster in the condition of high ROP knowledge when the perception of fit got better than in the condition of low ROP knowledge. Additionally, ROP satisfaction was constantly higher in when there was high ROP knowledge than in the case of low ROP knowledge.



**Figure 19.** Explaining ROP satisfaction: Interaction ROP knowledge \* perceived fit between ROP and organizational goals (High knowledge = average +2SD and Low knowledge = average - 2SD. Centered independent and control variables)

*Perceived effect of ROP on organizational performance*

Two of the four independent variables had a significant main effect on perceived ROP effect on organizational performance (Table 24). The better the fit between ROP and organizational goals and the fairness of ROP procedures, the higher was the perceived ROP effect on organizational performance. No significant effect was found for perceived ROP knowledge or ROP importance. In addition, the male respondents perceived ROP effect on organizational performance in a less positive way than female respondents.

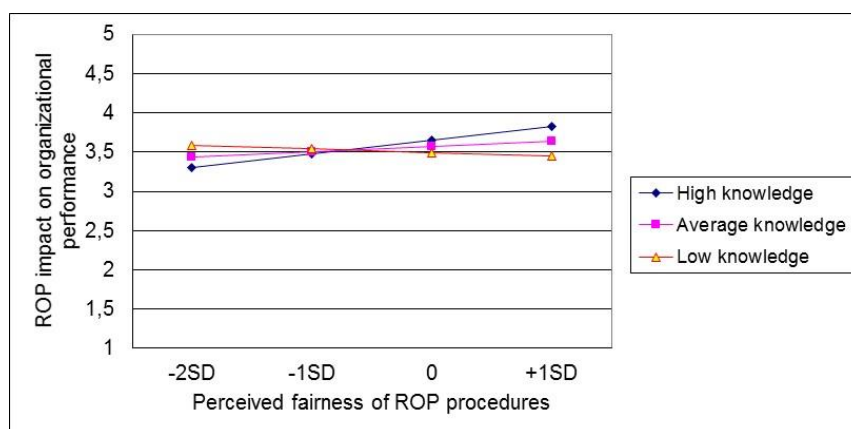
One of the hypothesized interactions gained support; ROP knowledge moderated the relationship between perceived fairness of ROP procedures and the perceived ROP effects on organizational performance supporting hypothesis H6b2 (Figure 20). The partial regression lines portray a slightly different relationship than in the former cases. The high ROP knowledge condition had a positive impact on how perceived fairness and perceived outcomes are related. The low ROP knowledge condition had a slightly negative impact on the relationship, i.e., in case of low ROP knowledge, the higher perceived fairness actually lead to lower perceived effects than the lower perceived fairness.

**Table 24.** Regression results for Life supporters' perceived results-oriented pay (ROP) effect on organizational performance

Variable	Step 1		Step 2		Step 3	
	B	Sig.	B	Sig.	B	Sig.
(Constant)	3,62	***	3,61	***	3,58	***
Gender (female)	0,22	***	0,18	***	0,20	***
Managerial position (no)	-0,29	**	-0,10		-0,11	
Age	0,00		0,00		0,00	
Organizational tenure	-0,00		0,00		0,00	
Amount of bonuses achieved (%)	0,04	*	0,00		-0,01	
Base pay	-0,00		-0,00		-0,00	
Perceived ROP importance			0,04		0,06	*
Knowledge of ROP			0,04		0,04	
Perceived fit between ROP and organizational goals			0,23	***	0,23	***
Perceived fairness of ROP procedures			0,07	**	0,07	*
Perceived importance of ROP * Perceived fit between ROP and organizational goals					0,03	
Perceived importance of ROP * Perceived fairness of ROP procedures					0,00	
Knowledge of ROP * Perceived fit between ROP and organizational goals					-0,02	
Knowledge of ROP * Perceived fairness of ROP procedures					0,07	*
R2	.05	***	.34	***	.35	***
Change in R2	.05	***	.29	***	.01	(*)

Note. Unstandardized regression weights are reported (N= 458).

(\*)  $p < .1$ . \* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .



**Figure 20.** Explaining perceived ROP effect on organizational performance: Interaction ROP knowledge \* perceived fairness of ROP procedures (High knowledge = average +2SD and Low knowledge = average -2SD. Scale of organizational performance: 1 = deteriorates a lot, 3 = no effect, 5 = improves a lot)

#### *Perceived effect of ROP on co-operation.*

The better the fit between ROP and organizational goals, the fairness of ROP procedures, and the knowledge of ROP were perceived, the higher the perceived

ROP effect was on co-operation (Table 25). For example, all other variables held constant, perceiving the fit between ROP and organizational goals one unit higher (on a scale from 1 to 5), the perceived effects on co-operation are expected to be 0.20 units higher (on a scale from 1 to 5). Perceived ROP importance had a modestly significant role in predicting ROP effect on co-operation. None of the interaction hypotheses were supported for Life supporters' perceived ROP effect on co-operation.

**Table 25.** Regression results for Life supporters' perceived results-oriented pay (ROP) effect on co-operation

Variable	Step 1		Step 2		Step 3	
	B	Sig.	B	Sig.	B	Sig.
(Constant)	3,22	***	3,20	***	3,19	***
Gender (female)	0,08		0,02		0,02	
Managerial position (no)	-0,19	*	0,03		0,03	
Age	0,00		0,00		-0,00	
Organizational tenure	-0,00		-0,00		0,00	
Amount of bonuses achieved (%)	0,06	**	0,01		0,01	
Base pay	0,00		0,00		0,00	
Perceived ROP importance			0,04	(*)	0,04	
Knowledge of ROP			0,10	**	0,10	**
Perceived fit between ROP and organizational goals			0,20	***	0,20	***
Perceived fairness of ROP procedures			0,15	***	0,16	***
Perceived importance of ROP * Perceived fit between ROP and organizational goals					-0,00	
Perceived importance of ROP * Perceived fairness of ROP procedures					0,02	
Knowledge of ROP * Perceived fit between ROP and organizational goals					0,02	
Knowledge of ROP * Perceived fairness of ROP procedures					0,02	
R2	.03	*	.34	***	.34	***
Change in R2	.03	*	.30	***	.01	

Note. Unstandardized regression weights are reported (N= 456).

(\*)  $p < .1$ . \* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

### 6.2.5 Processors' ROP

In the dataset of Processors' ROP systems, the explanatory power ( $R^2$ ) of the model was .69 for ROP satisfaction, .36 for perceived effect of ROP on organizational performance, and .27 for perceived effect of ROP on co-operation (Tables 26, 27, and 28). The interaction model produced interesting findings in explaining ROP satisfaction, but the main effects model was more informative in explaining both organizational performance and co-operation.



### ROP satisfaction

The variance of ROP satisfaction was highly explained by the model ( $R^2 = .69$ ). All four of the independent variables had a significant main effect on ROP satisfaction (Table 26). The better the fit between ROP and organizational goals, the fairness of ROP procedures, and the knowledge of ROP were perceived, the higher was the ROP satisfaction (supporting hypotheses H2-H4). Contrary to expectations the beta for perceived importance was negative suggesting a negative relationship between perception of importance and ROP satisfaction when all other variables were held constant (opposite direction of the relationship in hypotheses H1). The results indicated that, for example, the Processors' satisfaction with ROP is expected to be 0.65 units higher (on a scale from 1 to 5) when the perceived fairness of ROP procedures is one unit higher (on a scale from 1 to 5). In addition, the male respondents were less satisfied. Furthermore, the amount of actual bonuses received had a positive main effect on ROP satisfaction.

**Table 26.** Regression results for Processors' results-oriented pay (ROP) satisfaction

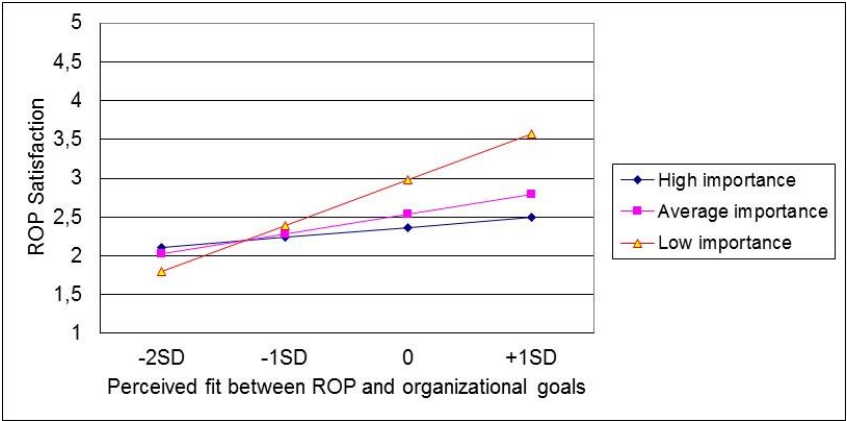
Variable	Step 1		Step 2		Step 3	
	B	Sig.	B	Sig.	B	Sig.
(Constant)	2,51	***	2,50	***	2,54	***
Gender (female)	0,22		0,30	*	0,34	**
Managerial position (no)	0,07		0,18		0,14	
Age	0,34	*	0,14		0,13	
Organizational tenure	-0,02	(*)	-0,01		-0,01	
Amount of bonuses achieved (%)	0,05	***	0,03	**	0,03	***
Base pay	0,00		-0,00		-0,00	
Perceived ROP importance			-0,19	*	-0,30	***
Knowledge of ROP			0,20	**	0,20	**
Perceived fit between ROP and organizational goals			0,16	***	0,21	***
Perceived fairness of ROP procedures			0,65	***	0,59	***
Perceived importance of ROP * Perceived fit between ROP and organizational goals					-0,19	**
Perceived importance of ROP * Perceived fairness of ROP procedures					0,22	*
Knowledge of ROP * Perceived fit between ROP and organizational goals					0,08	
Knowledge of ROP * Perceived fairness of ROP procedures					-0,07	
R2	.09	*	.66	***	.69	***
Change in R2	.09	*	.57	***	.02	*

Note. Unstandardized regression weights are reported (N= 176).

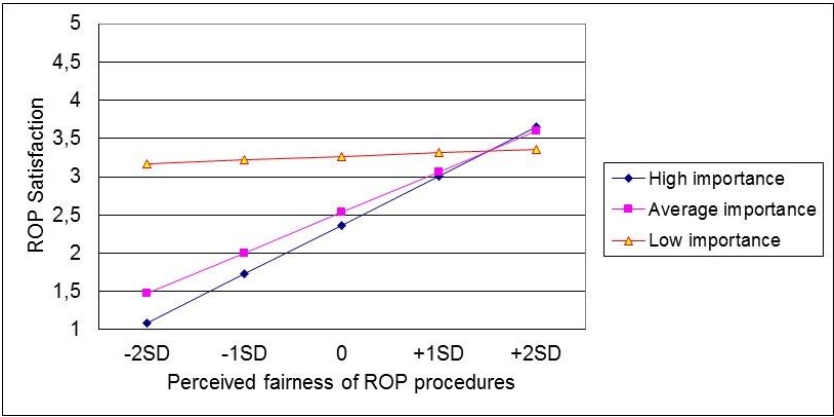
(\*)  $p < .1$ . \* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

In the interaction model (step 3), two of the hypothesized interactions gained support. First, perceived importance of ROP moderated the relationship between perceived fit between ROP and organizational goals and ROP satisfaction. This interaction is particularly interesting because the perceived importance

main effect was negative. The partial regression lines (Figure 21) showed that the slope of high importance regression line was not as steep as the regression line of low importance. This implied contradictory that when the respondents perceived the ROP systems as not that important, the added perception of fit had a stronger positive relationship with ROP satisfaction. However, also the relationship in high importance conditions was positive between perceived fit and ROP satisfaction. Notably ROP satisfaction tended to be lower for those who perceived their ROP as highly important.



**Figure 21.** Figure 21 Explaining ROP satisfaction: Interaction perceived importance of ROP \* perceived fit between ROP and organizational goals (High importance = average + 0.75 SD and Low importance = average – 2 SD)



**Figure 22.** Explaining ROP satisfaction: interaction perceived ROP importance \* perceived fairness of ROP procedures (High importance = average + 0.75 SD and Low importance = average – 2 SD)

Second, the perceived importance of ROP moderated also the relationship between perceived fairness of ROP procedures and ROP satisfaction. The partial regression lines proved to be very interesting (Figure 22). The regression line of high perceived ROP importance was steeper than the regression line of low perceived ROP importance indicating that in the condition of high ROP importance the amount of perceived fairness had a stronger effect on ROP satisfaction. Interestingly, if the perceived fairness was low in the high importance condition,

the satisfaction was significantly lower than in the low importance condition. A theoretically sound justification might be that when the ROP system is perceived important it also hurts more if the procedures are perceived as unfair.

#### *Perceived ROP effect on organizational performance*

Because no interactions were found statistically significant, the main effects model (step2) was used in studying perceived effect on organizational performance (Table 27). Only two of the four independent variables had a significant main effect on perceived ROP effect on organizational performance. The better the fit between ROP and organizational goals and the knowledge of ROP were perceived, the higher was the perceived effect.

**Table 27.** Regression results for Processors' perceived results-oriented pay (ROP) effect on organizational performance

Variable	Step 1		Step 2		Step 3	
	B	Sig.	B	Sig.	B	Sig.
(Constant)	3,78	***	3,77	***	3,79	***
Gender (female)	0,08		0,06		0,05	
Managerial position (no)	-0,07		-0,07		-0,08	
Age	0,06		0,00		0,01	
Organizational tenure	-0,00		0,00		-0,00	
Amount of bonuses achieved (%)	0,03	**	0,01		0,01	(*)
Base pay	-0,00		-0,00		-0,00	*
Perceived ROP importance			0,08		0,03	*
Knowledge of ROP			0,18	***	0,16	**
Perceived fit between ROP and organizational goals			0,19	***	0,19	***
Perceived fairness of ROP procedures			0,04		0,07	
Perceived importance of ROP * Perceived fit between ROP and organizational goals					-0,02	
Perceived importance of ROP * Perceived fairness of ROP procedures					-0,12	
Knowledge of ROP * Perceived fit between ROP and organizational goals					-0,07	
Knowledge of ROP * Perceived fairness of ROP procedures					0,07	
R2	.05		.38	***	.41	***
Change in R2	.05		.32	***	.03	

Note. Unstandardized regression weights are reported (N= 172).

(\*) p < .1. \*p < .05. \*\*p < .01. \*\*\*p < .001.

#### *Perceived effect of ROP on co-operation.*

Two of the four independent variables had a significant main effect on perceived ROP effect on co-operation (Table 28). The better the fit between ROP and organizational goals and the knowledge of ROP were perceived, the higher the perceived effect was. Perceived importance of ROP had a modestly significant main effect on ROP effect on co-operation. Furthermore, the amount of bonuses received had a positive main effect and respondent's base pay had a negative

main effect on perceived ROP effect on co-operation. Additionally, respondents in managerial positions perceived the co-operation effects as higher.

**Table 28.** Regression results for Processors' perceived results-oriented pay (ROP) effect on co-operation

Variable	Step 1		Step 2		Step 3	
	B	Sig.	B	Sig.	B	Sig.
(Constant)	3,37	***	3,37	***	3,36	***
Gender (female)	0,02		-0,03		-0,05	
Managerial position (no)	-0,27	(*)	-0,26	*	-0,25	(*)
Age	0,08		0,02		0,02	
Organizational tenure	-0,00		0,00		0,00	
Amount of bonuses achieved (%)	0,04	***	0,02	*	0,02	*
Base pay	-0,00	(*)	-0,00	**	-0,00	**
Perceived ROP importance			0,14	(*)	0,15	
Knowledge of ROP			0,17	*	0,16	*
Perceived fit between ROP and organizational goals			0,20	***	0,19	***
Perceived fairness of ROP procedures			0,04		0,07	
Perceived importance of ROP * Perceived fit between ROP and organizational goals					0,04	
Perceived importance of ROP * Perceived fairness of ROP procedures					-0,11	
Knowledge of ROP * Perceived fit between ROP and organizational goals					-0,05	
Knowledge of ROP * Perceived fairness of ROP procedures					0,05	
R2	.10	**	.34	***	.35	***
Change in R2	.10	**	.24	***	.01	

Note. Unstandardized regression weights are reported (N= 173).

(\*) p < .1. \*p < .05. \*\*p < .01. \*\*\*p < .001.

### 6.2.6 Summary of findings with three types of ROP systems

I examined how the ROP effects are generated in the context of different ROP systems by studying each of the three datasets separately. Table 29 summarizes the main characteristics of the three types of ROP systems identified.

**Table 29.** Summary of the configurations of Life Supporters', Processors', and Individualists' results-oriented pay (ROP) systems

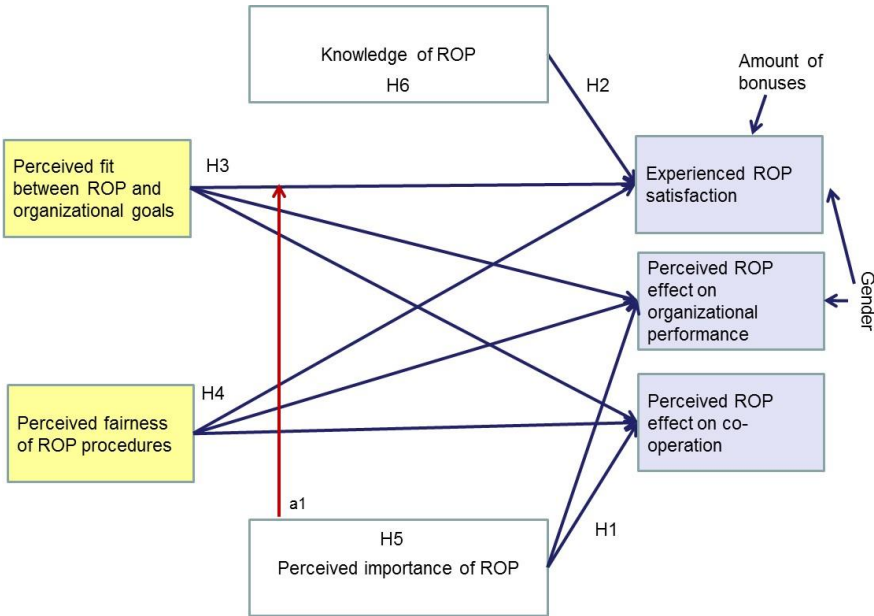
Characteristic	Life supporters	Processors	Individualists
Type of the ROP	Group level ROP systems covering all employees	Large group level production ROP systems covering all employees or an employee group	ROP including individual performance criteria for either specific employee groups or all employees
Performance measurement levels	One performance measurement level, most often small group performance	Predominantly one measurement level, plant performance (or maximum two levels)	At least on two levels; on individual level and on one or more higher levels of organization.
Bonus size and frequency	Smallish bonuses once a year	Intermediate bonuses more often than once a year	Intermediate or higher bonuses
Context	Local government sector, mainly in organizations providing health care, education, transportation, and infrastructure services	Manufacturing, where the production was process oriented, i.e., production of pulp or chemicals.	Private service sector or manufacturing
Other	Relatively new systems that were rare in the local government sector context.	"Old" systems that have been used for a number of years. The bonuses are a significant share of earnings and thus expected.	In manufacturing the systems in this category were for specific groups such as salaried employees. In service sector these could also include all personnel.
Interpretation of the rationale of the ROP systems	The systems aim at qualitative unit-level performance leaps by rewarding for e.g., completing development projects and improving customer processes.	The systems are meant to support continuous improvement of productivity of the processes, e.g., amount and quality produced in an hour.	The systems are meant to support strategic goals and motivate individuals to achieve them.

The outcomes of the ROP systems varied between the three types. The Life supporters were the most and the Processors were the least satisfied with their ROP systems. The ROP systems of Life supporters were mainly found in local government sector and even though both the maximum bonuses and the bonuses paid were the lowest among the three types of ROP systems, the Life supporters were the most satisfied. Part of the reason could be perhaps found in the "honeymoon effect" as many of the Life supporters' ROP systems were new and not common among corresponding organizations. Another part of the explanation could be that the systems were structured to support smallish organizations' goals in a comprehensive way. Thus, the Life supporters were able to perceive the rationale behind the ROP systems. The Processors on the other hand worked in contexts where the ROP systems were more likely "taken as granted". The Processors' ROP systems had been used for years, some even more than 10 years. The nature of the Processors' ROP systems was more as a part of the pay package and the "business as usual" than something extra. And as the amount of maximum bonuses was in many cases considerable, also the expectations of the monetary bonuses must have been different from the expectations of the Life supporters. The Individualists perceived the co-operation effects weakest as could be expected. The Individualists' ROP systems included always individual goals and even though there were also group or company level goals this might have directed the attention of the individualists more towards their own goals than the group goals.

Overall, the theoretical model explained the outcomes of the three types of ROP systems at least moderately, and partly very well. The model fitted the data

better in the case of group-based ROP systems than in the case of Individualists' systems. Additionally, as was the case with the total data, the main effects model suited best explaining the co-operation effects. Furthermore, the findings suggested that the outcomes of these three types of ROP systems were explained with differing patterns.

In the case of Individualists' ROP systems, only main effects were found to explain perceived effect on organizational performance and co-operation (Figure 23). ROP satisfaction was explained by all other independent variables but perceived importance of the ROP, which however, had a moderating role for the relationship between perceived fit and ROP satisfaction. Interestingly, the perceived importance of ROP did not explain Individualists' ROP satisfaction as I would have expected with positive main effect, quite contrary it seemed like lower perceived importance was connected with higher ROP satisfaction when interpreting the interaction effect. The perceived effect on organizational performance and co-operation were both explained by all other independent variables but the knowledge of ROP.

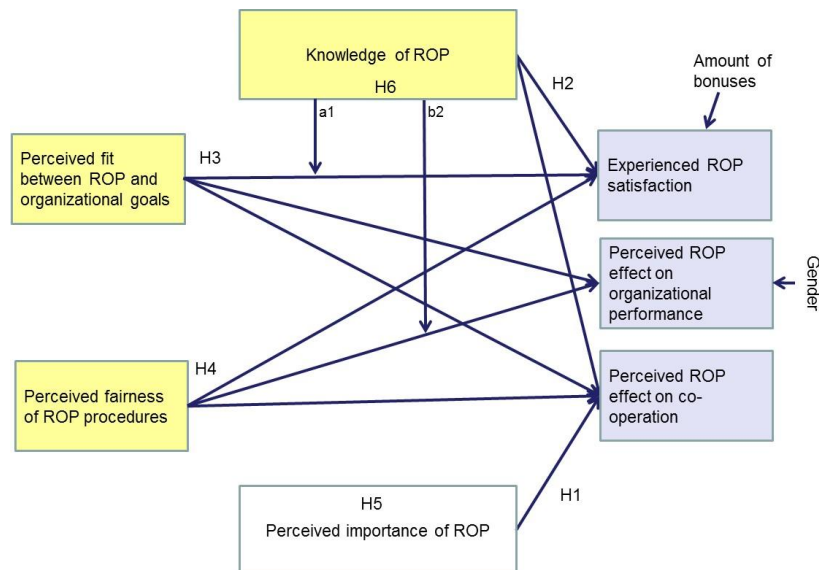


**Figure 23.** Findings of how the ROP outcomes were created in Individualists' ROP systems, the colors of the lines represent the direction of the relationship (blue for positive and red for negative relationship)

Contrary to my expectations, the theoretical model explained individualists' ROP outcomes in a lesser amount than the effects of group-based ROP systems. I expected that individual reactions to pay (especially ROP satisfaction) would be even more clearly guided by individual's perception of ROP importance, knowledge of the ROP system, and perceptions of fairness and fit because the actual bonuses are determined individually. I particularly thought that the perception of fair ROP processes would be a strong contributor to individual level

ROP satisfaction. Because this was not the case, I discuss some alternative explanations drawn partly from my experiences in the field. The actual communication about the bonus systems may be more active in case of the group-based systems. The rationalization could be that understanding of an ROP system is more coherent and strong in the cases of group-based ROP systems because the employees have more reason to talk about their common goals and common experiences concerning the system. The discussion of individual level ROP systems may be much less active and thus lead to less constant ways of perceiving the pay system and its outcomes.

The Life supporters' ROP system satisfaction was explained by all other independent variables but perceived importance of the ROP (Figure 24). In addition, one moderation hypothesis was supported: knowledge of ROP moderated the relationship between perception of fit and ROP satisfaction such that the relationship between perception of fit and ROP satisfaction was stronger in the high knowledge condition (H6a1). Perceived effect on organizational performance was explained by two main effects: perceived fit and perceived fairness. In addition, two moderation hypotheses were supported: perceived importance of ROP moderated the relationship between perceived fit and organizational performance (H5a2) and ROP knowledge moderated the relationship between perceived fairness and organizational performance (H6b2). Co-operation effects were more informatively explained by the main effects model, in which all four independent variables had a significant role in determining the co-operation effects.

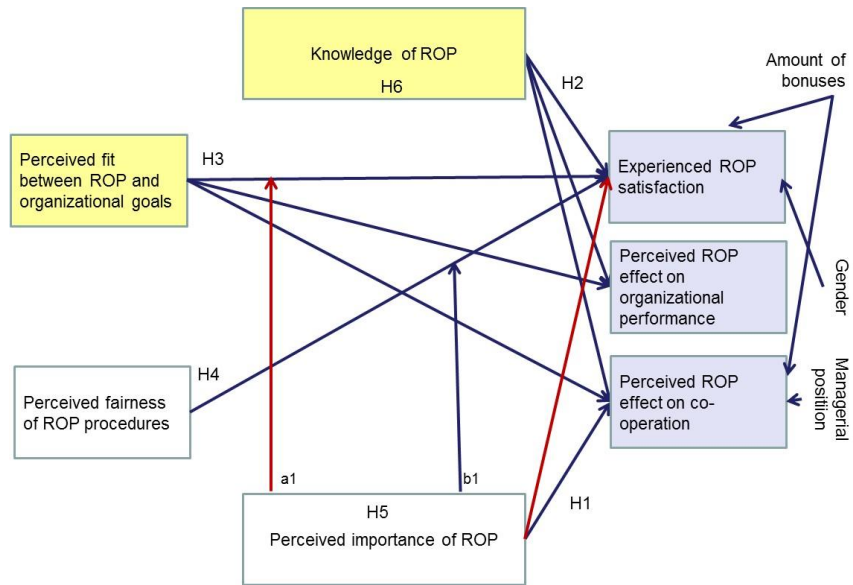


**Figure 24.** Findings of how the ROP outcomes were created in Life supporters' ROP systems, the colors of the lines represent the direction of the relationship (blue for positive and red for negative relationship)

The Processors' ROP system satisfaction was explained in the main effects model by all four independent variables (Figure 25). Additionally, two of the moderation hypotheses were supported: the perceived importance of the system moderated both the relationship between perceived fit and satisfaction (H5a1) and perceived fairness and satisfaction (H5b1). Both of the relationships were stronger when the importance of ROP was perceived as high. Interestingly, ROP satisfaction was even lower in high importance condition when the perceived fit or fairness was low. That is, respondents who perceived the ROP system as important were even more sensitive for misfit or unfairness than the respondents who perceived the system as less important. Because Processors' ROP systems were also monetarily substantial to many respondents this finding is understandable. One practical conclusion is that when the ROP system is substantially monetarily important for employees, the risk for negative effects is also higher if procedural fairness is violated or the ROP has poor fit with organizational goals.

Main effects model proved to be more informative in explaining perceived ROP effect on organizational performance and co-operation. ROP effect on organizational performance was explained by two main effects only: perceived fit between ROP and organizational goals and knowledge of ROP. The Processors' ROP systems were often an integral part of the organization because the systems had been used already for a long time and very central aspects of performance were rewarded. Thus, it was also logical that the perceived fit of the system and organizational goals was a significant predictor of perceived organizational performance. ROP effect on co-operation was explained by all but one independent variable, the perceived fairness of ROP procedures did not have an effect. The Processors' ROP systems rewarded for large group, often unit-level performance. Thus, it is easier to understand that the co-operation effects were not significantly dependent of perceived fairness – the rules and the incentives were same for every respondent within a given ROP system.





**Figure 25.** Findings of how the ROP outcomes were created in Processors' ROP systems, the colors of the lines represent the direction of the relationship (blue for positive and red for negative relationship)

Perceived ROP effect on co-operation was only moderately explained by the theoretical model. However, it was better explained in the sub-datasets of Life supporters and Processors (group-based ROP systems) than with the total data described in Chapter 6.1. Similarly as with the total data, only main effects were found significant for explaining co-operation effects in the contexts of all three types of ROP systems. Part of the explanation may be as was the case with total data that there simply was less variation to be explained. Another part of the explanation may be found in the clear role of the actual ROP structure in creating the co-operation outcomes. If the ROP system is structured to support individual goals it does not strongly support co-operation whether or not the system is perceived important or fair.

## 7. Discussion

The aim of the thesis is to build a midrange theory that is suitable for understanding various results-oriented pay systems' outcomes in a Finnish context. Heneman (2000), among others, has suggested that midrange theory contributions are needed in the field of compensation systems research. Furthermore, we want to know how incentive system structures and the contexts in which incentives are used, contribute in generating positive incentive-system outcomes (Gerhart & Fang, 2014; Gerhart et al., 2009). My central question is how and under what conditions do the Finnish ROP systems generate positive outcomes on ROP satisfaction, organizational performance, and co-operation as perceived by the employees.

In answer to the above, I first built a theoretical model, based on the literature, for describing how results-oriented pay systems' outcomes are generated. The model proposes that ROP system outcomes are generated by four antecedents: employees' knowledge of ROP and the importance they ascribe to it, together with their perceptions of fairness of ROP procedures and fit between the ROP system and organizational goals. Second, I tested the theoretical model on the data from 35 Finnish ROP systems. Third, I aimed at understanding the processes of how ROP outcomes emerge in the context of three ROP types and expected that the processes may differ from one another.

The findings show that positive ROP outcomes emerged when the respondents experienced that the ROP systems made sense, i.e., the link between ROP and organizational goals was clear and the employees knew the system well, and the systems had sensibility, i.e., the employees were fairly treated. Thus the contingency proposition (Gerhart & Rynes, 2003), the knowledge of pay proposition (Vroom, 1964; Locke & Latham, 1990), and the organizational justice proposition (Folger & Konowsky, 1989) were supported. The perceived importance of the ROP contributed to the generation of organizational performance and co-operation outcomes, but not to fostering satisfaction with the ROP system. Thus, the valence proposition (Vroom, 1964; Locke & Latham, 1990) was supported only for generating perceived performance and co-operation outcomes. Furthermore, both the outcomes and the mechanisms by which the outcomes were generated differed between three types of ROP systems identified in this study. The three types of ROP systems were named after their contexts as Individualists', Processors', and Life-supporters' ROP systems.

Next, I initially summarize the main findings and discuss their contribution to the literature. Then, I discuss the practical implications of my study. Thereafter,

the limitations of the study are discussed and, finally, ideas for future research are presented.

## 7.1 Main findings – Not a question of how much but how

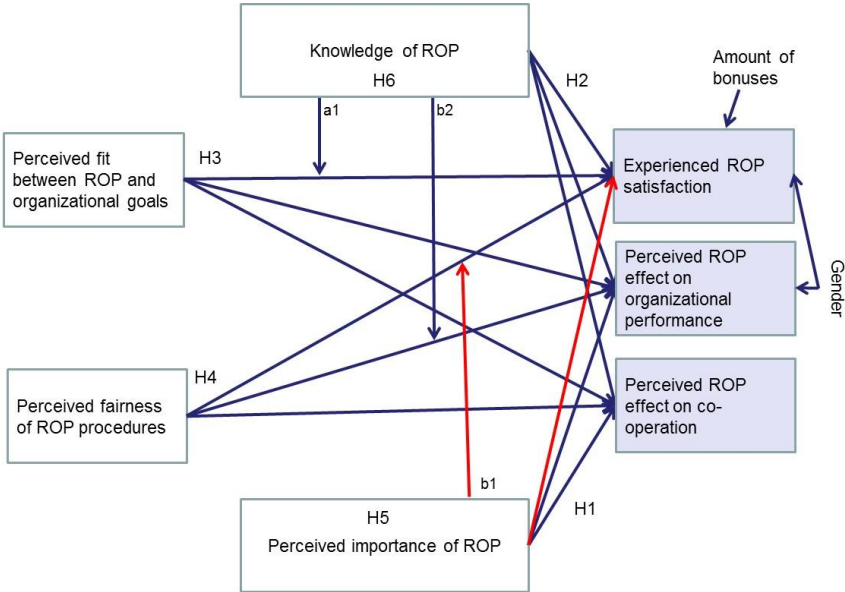
Overall, the respondents in the 35 different ROP systems studied experienced the outcomes of the ROP systems only as moderate, i.e., not particularly positively or negatively. However, there were also clearly negative experiences. The informants did not consider the ROP procedures fair and were not, on average, satisfied with their system. There were substantial differences in the perceived outcomes between the 35 ROP systems and the 18 organizations; for example, informants found some systems even detrimental for co-operation and others very supportive of co-operation. I find that ROP systems do not automatically have positive outcomes, which is in the spirit of earlier findings of incentive systems not self-evidently gaining positive outcomes. For example, only two out of three variable pay plans increase organizational performance (Heneman et al. 2000), and individual incentives may have negative co-operation effects (Gerhart et al., 2009; Pfeffer & Langton, 1993).

The results suggest that it is not a question of how much is paid but how incentives are paid that best explains incentive systems outcomes. The psychological mechanisms, the context, and the type of ROP system together contribute to the ROP outcomes.

### 7.1.1 Fairness, fit, and importance perceptions and knowledge of the system generate satisfaction, organizational performance, and co-operation

All four antecedent variables had their own unique role in explaining the variance in the outcome variables (Figure 26). All except the perceived importance of ROP contributed significantly to ROP satisfaction (the relationship was nearly significant for the exception variable). The direction of the relationships was as expected except for the slightly negative relationship between perceived importance of ROP and ROP satisfaction. Thus, the findings supported hypotheses H1-H4 on main effects except for the ROP importance-ROP satisfaction relationship. Table 30 summarizes the findings by showing the direction of the relationships between independent variables and dependent variables.

The complete theoretical model including moderation hypotheses fit the data well or acceptably well. As expected, satisfaction with an ROP system was explained best with the model. The first reason I anticipated this result was that the satisfaction reported by an individual also should theoretically be more closely tied to individual experiences of, for example, ROP importance and fairness. Second, there was clearly less variance to be explained in the perceived ROP effect on organizational performance and co-operation than in ROP satisfaction.



**Figure 26.** Summary of findings, the colors of the lines represent the direction of the relationship (blue for positive and red for negative relationship)

The size of the achieved bonus did not influence the outcomes of ROP systems as much as one might expect based on the literature (e.g., Gerhart & Rynes, 2003). Higher bonuses were only related to actual ROP satisfaction, and they did not influence organizational performance and co-operation.

Female informants were more satisfied with ROP systems and perceived the effect on organizational performance to be higher than did male informants. This difference is in line with earlier findings on females being more satisfied with their pay than are males (e.g., Williams et al., 2006).

**Table 30.** Summary of the findings from the complete data

Independent and control variables	Dependent variables		
	ROP satisfaction (R <sup>2</sup> = .46)	ROP effect on organizational performance (R <sup>2</sup> = .31)	ROP effect on co-operation (R <sup>2</sup> = .23)
ROP importance	Weak, negative	Positive	Positive
ROP knowledge	Positive	Positive	Positive
Fairness of ROP procedures	Positive	Positive	Positive
Fit between ROP and organizational goals	Positive	Positive	Positive
ROP knowledge as a moderator	ROP knowledge * Fit between ROP and organizational goals	ROP knowledge * Fairness of ROP procedures	
ROP importance as a moderator	ROP importance * Fairness of ROP procedures		
Control variables	Amount of bonuses	Female	Pay level
	Female		

Notes. Green shading is for positive relationships and red shading for negative relationships. ROP = results-oriented pay.

### *Perceived ROP effect on ROP satisfaction*

The existing literature emphasizes experienced pay fairness as an antecedent to pay satisfaction (e.g., Williams et al., 2006), whereas the equity and discrepancy theories (Adams, 1965; Lawler, 1971) recognize that knowledge is needed to make an evaluation on, for example, equity.

Fairness of ROP procedures was indeed a significant explanatory variable in the model, supporting earlier literature on procedural fairness being a major antecedent of or correlated to pay satisfaction (e.g., Colquitt et al., 2001; Till & Karren, 2010; Williams et al., 2006). Respondents' knowledge of pay also had a significant positive relationship to their satisfaction, which supports the theoretical hypothesis and findings from earlier empirical studies (Moisio et al., 2012; Mulvey et al., 2002; Salimäki et al., 2009; Sweins & Kalmi, 2008; Sweins et al., 2009). Further, the alignment between ROP and organizational goals had a significant positive relationship with satisfaction. This is in line with earlier Finnish qualitative findings on how lack of perceived fit was one reason for perceiving ROP systems as meaningless (Hakonen et al., 2011) and one reason for perceiving performance-based pay systems as unfair (Maaniemi, 2013). Furthermore, the respondents' knowledge of the ROP system was found to moderate the relationship between perceived fit and ROP satisfaction (H6a1). The relationship between perceived fit and satisfaction was slightly stronger when the employees knew the system well. Overall, those who knew the ROP system well were more satisfied with it (Figure 13), suggesting that devoting time and effort to communicating the ROP system pays off in ROP satisfaction.

The importance the informants ascribed to the ROP had a complicated and unexpected role in how satisfied they were with the system. Contrary to expectations, the importance of ROP did not explain ROP satisfaction in a statistically significant way in the main effects model. However, the importance of ROP had a nearly significant role and is worth mentioning because importance had an unexpected negative connection with satisfaction. Furthermore, the importance of ROP had a moderating effect between perceived fairness of ROP procedures and ROP satisfaction, suggesting that when the system was perceived as very important, the role of fairness was even more crucial for ROP satisfaction (H5b1). Satisfaction with the ROP system was lowest when the system was perceived as important but the procedures as unfair. ROP satisfaction remained lower for those perceiving the system as very important when fairness was average (Figure 12). Only after fairness was more than 1SD higher than average were the informants perceiving the system as very important more satisfied than were those perceiving the system as not important. Thus, when the ROP system is highly important to employees – for example, when it constitutes a considerable part of their income – the fairness of ROP procedures is crucial in ensuring ROP satisfaction.

### *Perceived ROP effect on organizational performance*

I hypothesized that a ROP system that employees appraise fitting well with organizational goals would have a positive influence on organizational performance. According to contingency theory (e.g., Gomez-Mejia & Balkin, 1992), the

alignment between reward strategy and corporate strategy leads to better organizational performance. I argued that the fit must be perceived by individuals for the possible performance outcomes to materialize.

The fit between ROP and organizational goals was found to be a significant predictor of ROP effect on organizational performance. This capability is also in line with empirical findings based on the perceptions of persons responsible for reward systems in their organizations (Hakonen et al., 2005; Mitra et al., 2011). I argued that to influence organizational performance, one must first influence the actions of the individual. According to expectancy theory (Vroom, 1964) and goal-setting theory (Locke & Latham, 1990), the potential reward must be considered valuable for an individual to pursue the reward. Perceived importance of ROP was my operationalization of the value or valence and, as I hypothesized, perceived importance was found to have a significant positive relationship to how much the pay system was found to influence performance.

Furthermore, the fairness of ROP procedures had a significant positive relationship with organizational performance outcomes. This relationship is in line with general findings on procedural justice having a positive effect on performance (e.g., Colquitt et al., 2013; Colquitt et al. 2001; Lipponen & Wisse, 2010). However, because I was not able to find any studies on pay system-related procedural justice and organizational performance, this finding extends the literature in showing that there is a clear link between them. Furthermore, it was important that the informants had knowledge of the ROP system. That is, knowledge had a positive main effect on perceived organizational outcomes, which is in line with earlier findings on a positive pay knowledge-organizational performance link in the US (Mulvey et al., 2002) and in Finland (Sweins & Kalmi, 2008; Sweins et al., 2009). Knowledge of pay also moderated the relationship between fairness and performance by strengthening the fairness relationship to positive organizational performance outcomes (H6b2, Figure 14). Fairness theories assume that employees make conscious assessments of fairness (Colquitt & Zipay, 2015). In the context of pay systems, individuals therefore need knowledge of the pay systems and pay procedures to make their assessment. Knowing the pay system well enhanced the effect of fair procedures on organizational performance. However, when the informants did not know their pay system well, fairness made almost no difference to organizational performance. A study by Burchett and Willoughby (2004) found that being aware of an unfair pay system reduced the productivity of experiment participants. Their result does not exactly match the case here: when pay procedures were perceived as very unfair, there was no difference in how much the pay system affected organizational performance based on whether the individuals had good knowledge of the pay systems.

The findings of how knowledge of the pay system and fairness of the pay system-related procedures interact in contributing to positive performance effects add flavor to the literature by first supporting that both fairness (e.g., Colquitt et al., 2013) and knowledge of pay (e.g., Mulvey et al., 2002; Sweins et al., 2009) have a role in generating positive organizational performance. Second, good pay

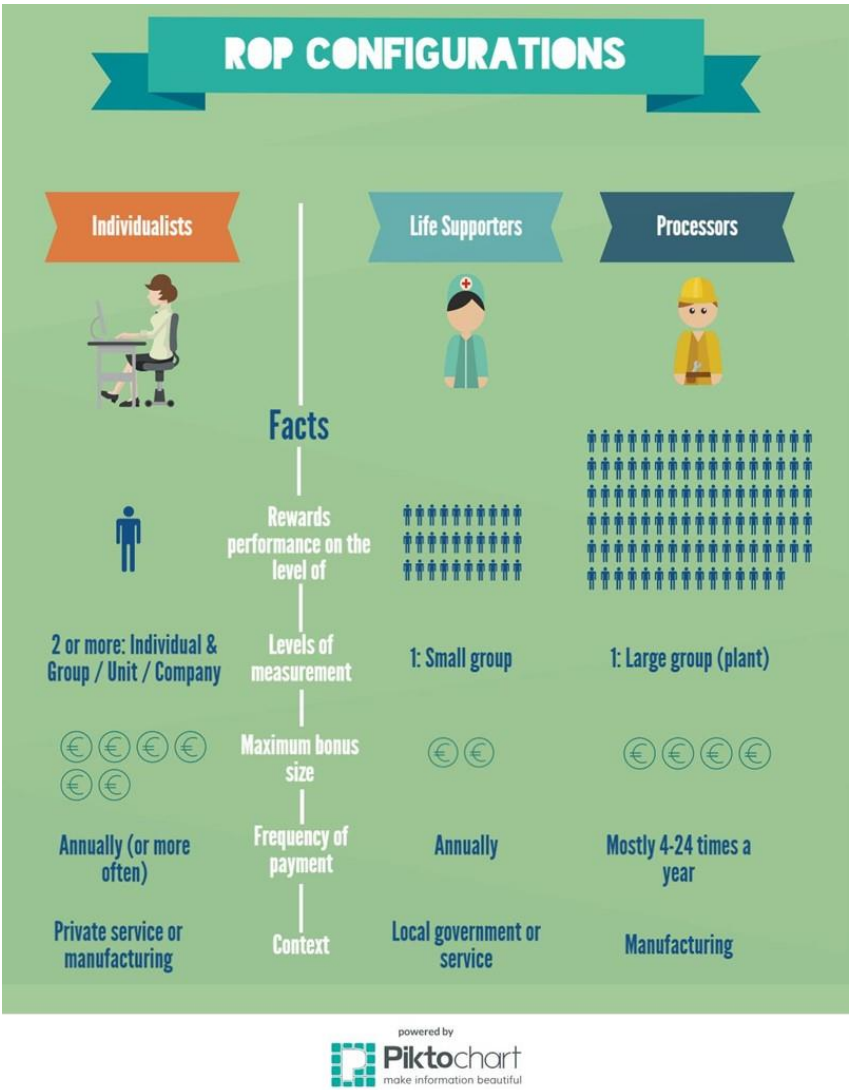
knowledge did strengthen the relationship between fairness and performance, but poor pay knowledge seemed even to restrain the power of fairness to enhance performance. Thus, it is crucial that individuals really do know their incentive systems well; although designing and implementing such systems fairly is important, doing so is insufficient if people do not understand them.

#### *Perceived ROP effect on co-operation*

I hypothesized that an ROP system that is appraised as fair important, and fits well with the organizational goals and is known by the respondents would have a positive influence on co-operation. As I expected, fairness had a significant relationship with co-operation. This result is in line with earlier findings on pay system-related procedural justice and organizational citizenship behavior (Folger, 1993) and procedural justice in general having a relationship with organizational citizenship behaviors and extra-role behaviors (e.g., Colquitt et al., 2001). The ROP alignment with organizational goals had also a significant positive relationship with co-operation outcomes. My reasoning was that if there is a fit between ROP and organizational goals, few conflicting goals should exist that could destroy co-operation. The finding contributes to the scarcely studied vantage point of contingency theory – how pay strategy influences performance by changing employee perceptions (Gerhart & Rynes, 2003) – by showing that contingency perception has a positive relationship with perceived co-operation between individuals and groups in the workplace. When the informants knew their incentive system well, there were better co-operation effects as in Sweins et al. (2009). Finally, when informants appraised their system as important, the system had better co-operation effects.

#### **7.1.2 There are unique ways of generating ROP outcomes in the contexts of Individualists, Life supporters, and Processors**

The 35 ROP systems were each wonderfully diverse in terms of what types of results were measured and rewarded, how large the bonuses were, how often bonuses were paid, and many other characteristics. I aspired to understand how pay satisfaction, performance, and co-operation are generated in the context of different types of incentive systems. I found three diverse clusters of systems that I named by their work contexts as Individualists, Life Supporters, and Processors (Figure 27).



**Figure 27.** Overview of main characteristics of Individualists', Life supporters', and Processors' ROP systems

I concluded that the three-cluster solution was a functional (although rather crude) means of categorizing employee ROP systems typically used in Finland. I divided the individual level data into three ROP type groups according to these clusters. Table 33 summarizes how the Individualists, Life supporters, and Processors positioned against one another in terms of how positive or negative their outcomes and antecedents were.

Interestingly, and contradictory to theoretical expectations of valence stating that larger bonuses should bring more positive outcomes, the Life supporters who had the lowest bonuses and appreciated their systems less important than the other groups remained most *satisfied with their pay systems*. However, note that these respondents also found the ROP procedures fair, which should



also theoretically contribute to satisfaction. The least satisfied were the Processors. Processors had primarily plant-level bonuses, which could be one reason for their lack of satisfaction; the performance of one individual has a limited effect on the bonuses. Another reason may be that the processors perceived their systems as unfair, which also theoretically should lead to lower ROP satisfaction.

The three types of ROP systems did not differ very much on average *ROP effect on organizational performance*, suggesting that each type of system was capable of creating positive performance effects in their own contexts. This result is in line with the equifinality assumptions of the configurational theory, i.e., that same outcomes can be reached via differing configurations (Meyer et al., 1993). At the same time, this finding does not support the expectancy theory-driven “line of sight” assumption (Lawler, 1990). According to the “line of sight” idea, incentive systems rewarding for individual achievement should be more motivating than those systems rewarding for group results such as unit profitability. Correspondingly, unit-performance rewards should be more motivating than company-level rewards (Heneman et al., 2000). Additionally, the findings on team-based incentives have suggested that allocating incentives by individual contributions (equitably) is connected to better performance than dividing incentives equally between team-members (Garbers & Conradt, 2014). Thus, contradictory to expectancy theoretic expectations, the findings suggest that we cannot judge an incentive system’s potential to enhance performance simply by whether it rewards for collective performance or individual performance.

**Table 31.** Summary of findings of Individualists’, Life supporters’, and Processors’ results-oriented pay (ROP) outcomes and independent variables

Independent and dependent variables	Individualists	Life supporters	Processors
ROP importance	Positive	Lowest, positive	Highest, positive
ROP knowledge	Highest, positive	Lowest, positive	Positive
Fairness of ROP procedures	Moderate	Highest, positive	Lowest, unfair
Fit between ROP and organizational goals	Highest, positive	Lowest, positive	
ROP satisfaction	Moderate (unsatisfied)	Highest, moderate	Lowest, unsatisfied
ROP effect on organizational performance	Positive	Positive	Positive
ROP effect on co-operation	Lowest, neutral	Positive	Highest, positive

Note. Green shading is for positive and red shading for negative appraisal.

A key critical discussion in the literature has touched on the possible negative *co-operation effects* of individual incentives (e.g., Gerhart et al., 2009; Pfeffer & Langton, 1993) and positive co-operation effects of group incentives (e.g., Bamberger & Levi, 2009). Overall, the ROP systems studied had a weak to moderate positive perceived influence on co-operation. The co-operation outcomes were stronger in cases of group-based bonuses – that is, among the Processors and Life supporters. The findings are in line with theoretical expectations and earlier findings of the positive relationship between, for example, team-based pay and helping behaviors (Bamberger & Levi, 2009) and reduced helping between groups when individual incentives were introduced instead of group-

based incentives (Kato et al., 2013). The bonuses in Life supporters' and Processors' systems are not only group based but also allocated equally; thus, individual differences in performance have no effect on employees' bonuses. Bamberger and Levi (2009) found that helping behaviors were highest when the rewards were thus equally allocated. Note that their finding is exactly opposite to Garbers and Konradt (2014), who found that equitable allocation of team-based incentives produces better performance outcomes than equal distribution does. Perhaps it is logical that when we wish to boost co-operation in particular, it is better to reward only collective performance so that helping others will benefit every individual. Moreover, when a specific performance such as a team sales quota is the target, it would be better to include some individual element to the incentive system so that each individual is motivated to do his / her best in achieving the target.

Interestingly, Processors with large group (plant level) bonuses had the highest co-operation effects, contradicting Berger et al.'s (2011) findings from Germany in which only team-based incentives influenced co-operation positively. However, other studies on large group incentives (gainsharing and profit sharing) have also found positive co-operation effects (Hatcher & Ross, 1991; Heywood et al., 2005). I measured informants' perception of co-operation not only between individuals but also between teams and units. Because the Processors were rewarded for plant success (and some Processors even for company success), the incentives supported co-operation between smaller groups and even units. The Life supporters were rewarded primarily for unit-level success, and the units were relatively small; thus, the incentives supported employees co-operating within the unit but *not between* units.

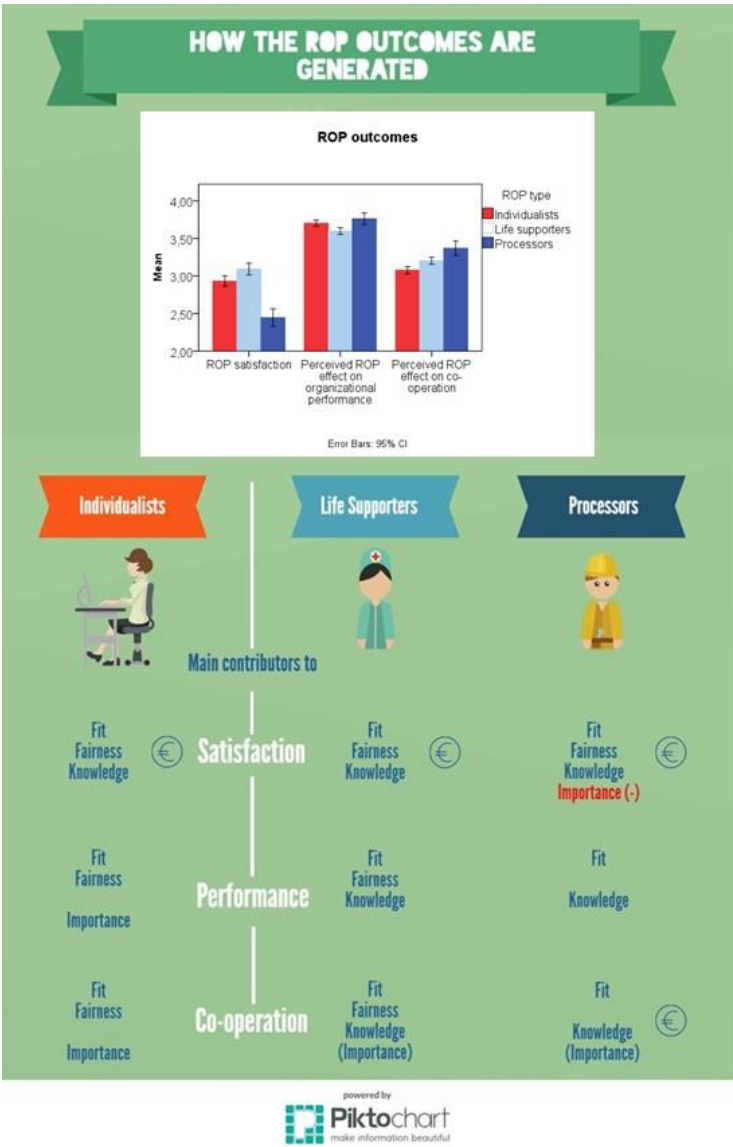
The findings suggest that group-based incentives have in general a moderate positive influence on co-operation between individuals, groups, and units in the workplace, although interestingly there was one exception among the Life supporters' ROP systems with moderate negative effects on co-operation. In practice, organizations should focus on whether they need co-operation only within a certain group or also between groups to succeed in making their strategy work. If co-operation between groups is wanted, organizations should consider also rewarding employees for collective results.

Were the individual ROP systems detrimental to co-operation between individuals and groups in the work place as critics such as Pfeffer and Langton (1993) expect? Not necessarily, but in some cases, yes. The influence of individual bonuses on co-operation was neutral; on average, respondents did not find that systems either supported or hindered co-operation. One should note that the Individualists' ROP systems were not rewarding employees only for their individual performance; they always also rewarded for some type of group or organization performance, which should theoretically mitigate the possible negative effects of individual bonuses. However, several individual-level ROP systems studied had moderately negative perceived influence on co-operation. Two of the Individualists' systems had clearly negative influence on co-operation,

particularly co-operation between units, and a negative influence on organizational climate. However, four of the Individualists' systems had moderately positive influence on co-operation, and in three of these cases, the influence was positive even for co-operation between units because employees were also rewarded for company success.

*How were the ROP outcomes created in the three contexts?*

Not only were the outcomes of Individualists', Life supporters', and Processors' bonus systems different but also the mechanisms by which the outcomes were created proved to be unique in these three contexts. The findings confirmed some of the more robust findings of research question one but did indeed note several interesting differences between the three types of ROP in how the ROP outcomes were generated (Figure 28). The model fit moderately or well with all three types of ROP systems. However, the model fit the data better in the case of group-based ROP systems than in the case of Individualists' ROP systems.



**Figure 28.** Summary of key elements that had a role in generating outcomes in Individualists', Life supporters', and Processors' contexts

Individualists' ROP systems

In the case of Individualists' ROP systems, ROP satisfaction was explained by all other independent variables except for perceived importance of the ROP. However, perceived importance had a slightly negative role in generating ROP satisfaction when perceived importance moderated the relationship between perceived fit and ROP satisfaction; perceived high fit seemed to result in more ROP satisfaction when ROP was *not* perceived as very important.

The perceived effect on organizational performance and co-operation were both explained by all other independent variables except the knowledge of ROP.

Why did the knowledge of ROP not have a significant role in explaining ROP outcomes in this group of Individualists but had it in the two other groups? Part of the explanation could be that knowledge was highest overall among Individualists and there was less variance in the knowledge variable. Perhaps it was a given that employees knew the ROP system well when everyone had individual targets to be met and rewarded for meeting.

#### Life supporters' ROP systems

The Life supporters' ROP system satisfaction was explained by all other independent variables except perceived importance of the ROP. Furthermore, knowledge of ROP moderated the relationship between perceived fit and ROP satisfaction such that when knowledge was high, perceived fit was more strongly positively connected to ROP satisfaction than when knowledge was low. Perceived importance of the system did not affect ROP satisfaction or ROP effect on organizational performance; thus, the valence proposition was not supported for Life supporters. Perceived effect on organizational performance was explained by perceived fit and perceived fairness. In addition, one moderation hypotheses was supported similarly to the case with the total data; ROP knowledge moderated the relationship between perceived fairness and organizational performance (H6b2). Higher knowledge of the system enhanced the effect of perceived fairness on organizational performance. Perceived effect on co-operation was explained by all four independent variables.

#### Processors' ROP systems

The processors' ROP system satisfaction was explained by all independent variables. The importance of the system proved to be treacherous. First, when the employees perceived the ROP system to be more important, they were less satisfied. Second, the perceived importance of the system moderated both the relationships between perceived fit and satisfaction (H5a1) and perceived fairness and satisfaction (H5b1). However, how well the respondents perceived the ROP to fit organizational goals was more positively connected to ROP satisfaction when the ROP was *not* considered important. Conversely, the fairness of ROP procedures mattered more for those who found ROP systems important than for those who did not find them important. There was also a caveat here; respondents who did not feel their ROP was important were more satisfied with it until the fairness was perceived well above average. Only after the fairness was perceived as well above average, the employees who perceived the system as very important were more satisfied than were employees who perceived the system as less important. Why was this latter interaction found only for the Processors? Perhaps this result is affected by the employees in this group having a longer average tenure than employees do in the other two groups? Scott, Shaw, and Duffy (2008) found that older employees were more sensitive to pay-for-performance perceptions (close to procedural justice) in merit pay raises than were younger employees.

Processors' ROP influence on organizational performance was explained by two main effects only: perceived fit between ROP and organizational goals and

knowledge of ROP. The influence on co-operation was explained by all but perceived fairness. Perceived fairness was not significant in explaining ROP effect on co-operation in the group of Processors' unlike in the two other groups. One explanation could be that Processors' ROP systems are less vulnerable to procedural fairness breaches simply because the criteria of ROP systems are collective. In the groups of Individualists and Life Supporters, there are smaller group or individual-based performance criteria included and thus more possibilities for procedural unfairness when the criteria are selected, targets are set, and success is rated.

*Why did the model explain group-based ROP outcomes better than it did the outcomes of individual ROP systems?*

Contrary to my expectations, the theoretical model explained Individualists' ROP outcomes to a lesser degree than it did the effects of group-based ROP systems. One explanation could be that the incentive systems within the Individualists' group were very heterogeneous due to their characteristics and organizational contexts. The systems were used in different industrial contexts ranging from the chemical industry to service sales and management in trade organizations. It is possible that the midrange theory differs in these diverse contexts.

Alternately or additionally, there may be something special in the context of group-based bonus systems. Group-based systems may be more meaningful to employees than is often thought (for example from expectancy theory point of view). Hakonen (2012) found group-based bonus systems to have both symbolic and monetary meaning to employees. Her research was conducted with some of the same data as was mine. She also found that her model of how the pay meanings mediate, for example, the relationship between bonus size and individual performance fitted group-based bonus systems better than it did individual bonus systems. Employees should find it easy and necessary to talk with their colleagues about group-based bonuses without, for example, fear of envy. The discussion of individual bonus systems may be much less active and thus lead to less-constant ways of perceiving the pay system and its outcomes. Talking more about a bonus system provides employees a better possibility to understand the system and how it functions in their organization.

Following this line of thought, there are other potentially important characteristics leading to discussing and understanding the bonus systems in both of the group-based ROP types and even more likely in their contexts. These characteristics are discussed next.

The Life supporters' systems were primarily local government sector ROP systems. As discussed in the data-collection chapter, many of the local government sector bonus systems studied were actually developed in co-operation with our research group. Thus, I have a good knowledge of the participative style of developing the systems and discussing the bonus systems extensively within the organization. Employees from across the organization participated by belonging to the development group or voicing their expectations in employee surveys. The goals of the organization and the idea of the ROP system were thoroughly discussed during the development process. Thus, although many of the systems

were recent practices, the development process itself contributed to the understanding of the ROP.

The story for the Processors is different. Their bonus systems exist in a manufacturing sector in which bonuses have a long history. Many of the ROP systems studied had already been used in their organizations for more than six years. I argue that history has made the ROP systems part of the “social reality” of these workplaces and that the shared views of the ROP systems have had time to develop. Another characteristic supporting more understanding of the ROP systems is that they rewarded employees for achieving goals that were the obvious and important goals of the production work itself. Goals such as production quantity, productivity, production quality, throughput time, and safety are discussed and followed up actively in the everyday life of manufacturing organizations with or without bonus systems.

#### *Need for context-sensitive management of incentive systems*

The findings note that diverse configurations of incentive systems may produce equally good performance (the equifinality assumption, Meyer et al., 1993) but differ substantially in other aspects of outcomes such as co-operation. The Individualists' ROP systems with individual bonuses had the weakest influence in co-operation, which supports theoretical and empirical expectations (e.g., Gerhart et al., 2009). Thus, the choice between individual and group bonuses should be made by considering the co-operation effects.

The generation of outcomes was unique for each of the three contexts; thus, the study emphasizes the call for context-sensitive approaches. ROP satisfaction was enhanced by the perceived fairness and fit and by knowledge of the system. Against expectations, the importance ascribed to the system had a negative influence on satisfaction in the case of the Processors. Organizational performance and co-operation were influenced by how ROP was aligned with organizational goals. Knowledge of ROP had a significant role for the group-based systems. Importance credited to the system was influential for the Individualists. Ideally, incentive systems should be built to match organizational goals, and managers should communicate this strategic link so that systems make sense. The managers of individual bonuses should strive for fairness and use sufficiently influential bonuses. The managers of group-based bonuses should invest specifically in active communication of the ROP system.

## **7.2 Theoretical and methodological contribution**

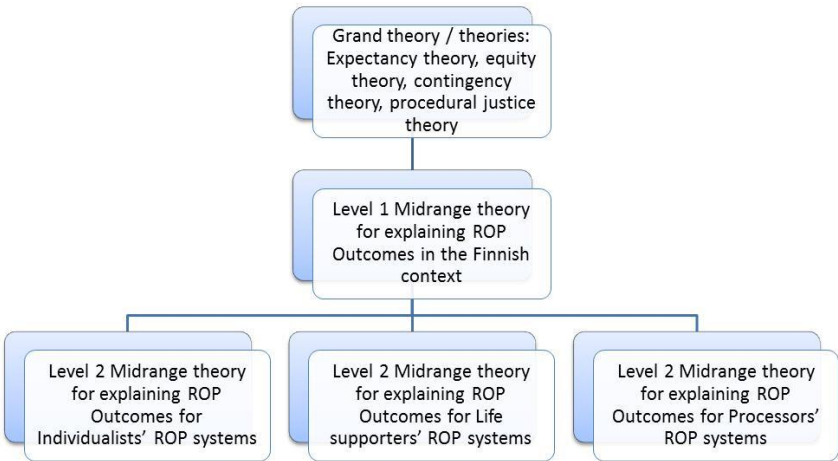
My study first makes a theoretical contribution by presenting a midrange theory for how incentive system outcomes are generated in the Finnish context and by further tuning the midrange theory for three diverse contexts within the Finnish working life.

The study also makes separate contributions for the individual grand theories that were used in building the midrange theory – namely contingency theory,

configurational theory, expectancy theory, goal-setting theory, and procedural-justice theory. These contributions are discussed in the following.

**7.2.1 Building a midrange theory for explaining ROP outcomes in the Finnish context**

This thesis contributes to building midrange theories to describe incentive effects in the context of diverse Finnish ROP systems by utilizing contingency theory, configurational theory, motivation theories, and procedural-justice theory. My theoretical framework encompasses these theories, and their integration in one theoretical model made it possible to gain a broader understanding of how and under what conditions incentives have positive individual and organizational consequences (level 1 midrange theory in Figure 29). My findings also support the need to study different types of reward systems separately because both the outcomes and how the outcomes were created differed among the systems I studied (level 2 midrange theories). Important findings would have been lost if all of these systems had been studied as representing one type of ROP system.



**Figure 29.** Two levels of midrange theories

**7.2.2 Configurational theory used in a context of ROP systems**

Configurational theory suggests that organizational structures and management systems are “best understood in terms of overall patterns rather than in terms of analyses or narrowly drawn sets of organizational properties” (Meyer et al., 1993, p. 1181). The patterns or configurations rather than individual variables are expected to be related to outcomes such as performance (Delery & Doty, 1996). Configurational theory is most often used in strategic management research. I applied a configurational theory approach in a narrower subject of results-oriented pay systems. Rather than studying several ROP system characteristics separately, I aimed at finding and studying meaningful configurations



of characteristics and their outcomes. I used the idea of configurations to locate the three contexts in which level-2 midrange theories should be developed.

Fiss (2007) noted that empirical evidence on configurations' effect on performance is mixed and suggested that one reason could be the linear methods used to study configurations. The configurational theory stresses non-linearity and equifinality, that is, that the same outcomes can be reached with different configurations. However, the empirical research has primarily utilized linear methods such as linear regression that "treat variables as competing in explaining variation in outcomes rather than showing how variables combine to create outcomes" (Fiss, 2007, p. 1181).

I introduced and discussed the use of correspondence analysis in identifying meaningful types of incentive systems. Fiss also criticized an alternative use of cluster analysis to form configurations because of its inability to discern which characteristics are of importance and which are not in producing the performance outcomes. The configurations found with correspondence analysis can be used in research as a categorical variable in analysis and thus escape the problems arising from using a set of categorical variables as described by Fiss (2007). Although correspondence analysis can still be criticized similarly to cluster analysis in the context of configurational theoretic research (Fiss, 2007), how it was used in this study respects the differences of ROP configurations found in real life.

The findings show that each of the three types of ROP systems had on average positive influence on perceived organizational performance, which contributes empirical support for the configurational theory assumption of different configurations leading to same outcomes (equifinality). However, the three types of ROP systems had on average differing outcomes on ROP satisfaction and perceived co-operation effects. The Individualists' systems are by nature less co-operation-oriented than are the other two types of ROP systems simply because they stress individual performance goals. Thus, it would be unintuitive to expect similar results concerning co-operation from these system types. I propose that the equifinality assumption of configurational theory should only be applied to outcomes that are commonly pursued by the organizations studied.

### **7.2.3 Contingency theory –individual perceptions of alignment connected to pay outcomes**

By their nature, results-oriented pay systems should be designed to align with the organization and its goals. However, the perceived contingency is not always that good, as shown by the variance among organizations in how well employees perceive ROP systems to be aligned with organizational goals.

This work contributes to the contingency theory by examining the link between the *perceived contingency* of a pay system and organizational goals and perceived pay outcomes at both the individual and organizational levels. Little previous research has addressed the potential importance of how individuals perceive pay strategies (Gerhart & Rynes, 2003). Earlier qualitative studies in

the Finnish context have found a lack of perceived fit between incentive system and organizational strategy to be connected to perceiving the system as meaningless (Hakonen et al., 2011) and a lack of fit between intended pay system and realized pay system to be connected to perceiving the pay system as unfair (Maaniemi, 2013). Furthermore, two quantitative studies have found that pay plans that managers responsible for compensation find aligned with organizational structures and strategies have better perceived outcomes (Hakonen et al., 2005; Mitra et al., 2011). The results of this study show strong support for perceived fit between ROP and organizational goals to be significantly connected with all three outcomes studied: ROP satisfaction, perceived ROP effect on organizational performance, and perceived ROP effect on co-operation.

Thus, the findings clearly indicate that individual perceptions of fit between pay system and organizational goals have an effect on pay outcomes. My findings of employee fit perceptions' connection to positive pay system outcomes are in line with the studies of managers' perceptions (Hakonen et al., 2005; Mitra et al., 2011). The findings also point to the same direction as earlier studies of how perceived alignment with own job tasks and organizational strategy enhanced work engagement of Australian police service employees (Biggs et al., 2014).

#### **7.2.4 Motivation theories – knowledge of pay plays a major role**

The findings contribute empirical support to theoretical propositions that feature knowledge of pay system is a major factor in generating positive pay outcomes (Locke & Latham 1990, 2002; Vroom, 1964). Knowledge of pay had a clear independent main effect on ROP satisfaction, perceived effect on organizational performance and co-operation in the data overall and in the case of Processors' collective ROP systems. The findings on knowledge having a strong connection with pay satisfaction are in line with earlier empirical findings from the US, Canada (Mulvey et al., 2002), and Finland (Moisio et al., 2012; Salimäki et al., 2009; Sweins & Kalmi, 2008). The findings concerning Processors' ROP systems are in line with the Sweins et al. (2009) study on Finnish profit-sharing systems that likewise are collective ROP systems. The authors found links between profit-sharing knowledge and profit-sharing satisfaction in addition to perceived effects on economic success and co-operation.

Furthermore, knowledge of ROP moderated the relationship between perceived fit and ROP satisfaction, suggesting that knowledge of ROP has a role in contingency theory explanation of ROP outcomes. Knowledge also moderated the relationship between perceived fairness of ROP procedures and perceived ROP effect on organizational performance, suggesting that there is a separate role of knowing about the pay system in the procedural-justice theory explanation of ROP outcomes.

### **7.2.5 Motivation theories – perceived importance of ROP is a double-edged sword**

My operationalization for the valence of an ROP system was to measure how important the respondents felt that the ROP system was for them. I expected that, according to the expectancy and goal-setting theories, perception of the system as more important would result in more-positive outcomes. However, I found this relationship only for perceived organizational performance and co-operation effects. This positive relationship between importance and performance and co-operation is in line with theoretical assumptions from expectancy (Vroom, 1964) and goal-setting theory (Locke, 1968). The findings also resonate with Malik et al. (2015), who found reward importance to moderate the relationship between rewards and creative job performance of Pakistani managerial employees.

The story of how satisfaction with a results-oriented pay system is generated portrays importance ascribed to ROP more as a villain than as a hero - or at least as a double agent. First, the perceived importance was only nearly significant and actually negative, not positive, in explaining ROP satisfaction. In the case of the Processors, the negative relationship was also statistically significant. Furthermore, perceiving ROP as very important made the fairness of ROP procedures even more crucial for being satisfied or dissatisfied. If fairness was not on a very good level, high importance seemed to result in dissatisfaction in the overall data and particularly in the processors' data. Perceived importance also had a slightly negative role in generating ROP satisfaction, whereas it moderated the perception of fit relationship to satisfaction such that satisfaction was higher when there was less importance.

It is possible that if the operationalization of valence had been accomplished differently, valence could have had the expected positive role in explaining satisfaction. First of all, I measured perceived importance of the system, not the outcome such as the bonuses paid. However, I argued that the importance of the system reflects also the importance or valence of the outcomes (bonuses) because the respondents had prior experience of the bonuses paid via the system. Second, Van Eerde and Thierry (1996) noted in their meta-analysis that operationalization of valence as perceived importance did not explain as much variance in the outcomes as operationalizing valence as desirability, attractiveness or anticipated satisfaction.

The size of actual bonuses could also reflect the valence proposition. Actual bonus size had only a weak role in explaining ROP outcomes, thus, bonus size also did not really support the valence proposition.

### **7.2.6 Procedural justice theory – pay system-related procedural justice has a leading role**

Procedural justice perception linked to ROP procedures was found to have a leading role in the quest for positive outcomes. It is a hero helping results-oriented pay to generate satisfaction, performance, and co-operation at work. The

ROP satisfaction effect is in line with earlier empirical evidence on the procedural justice-pay satisfaction relationship (e.g., Folger & Konovsky, 1989; Williams et al. 2006). This work contributes to the earlier empirical body of knowledge by providing support for the procedural justice-pay satisfaction link by studying it *specifically in the context of results-oriented pay systems*.

I found little research on a pay system-related procedural justice to performance relationship. Folger (1993) found a link between pay system-related procedural justice perception and self-rated organizational citizenship behavior. Additionally, earlier empirical findings on procedural justice (not pay related) and employee performance (Cohen-Carash & Spector, 2001), team performance (Colquitt et al., 2002), unit-level organizational citizenship behavior (Erhart, 2004), and unit-level performance (Lipponen & Witte, 2010) connections provided a good reason to expect that the link between fair ROP procedures and ROP effect on perceived organizational performance and co-operation could be found.

Perceived fairness of ROP procedures contributed significantly to the perceived organizational performance effects of the ROP and particularly to the perceived co-operation effects of the ROP. This work contributes to the vast procedural justice literature by bringing additional empirical evidence on *pay system-related procedural justice and organizational performance*. Moreover, the findings suggest that the relationship between perceived fairness of ROP procedures and ROP effect on organizational performance was moderated by perceived knowledge of the ROP system. Perceived ROP effect on organizational performance increased higher and faster by increasing procedural justice when the respondents knew the ROP system well. The interaction was consistent with the findings on procedural justice, performance appraisal knowledge, and OCB by Haworth and Levy (2001), although I did not find similar interaction for ROP co-operation effects.

### 7.3 Practical implications

The study has several practical implications. Overall, the results suggest that the organizations should carefully manage their ROP systems to provide sufficient information about the system and its goals to employees. The ROP systems are inherently complex in nature and should be clearly linked with organizational goals and communicated accordingly, which requires good planning of performance criteria and communicating the ROP-strategy link to all employees. When employees know how and why they are rewarded, they have a possibility to act according to expectations. However, the willingness to act may be quite dependent upon how fairly employees feel they are treated with the ROP, underlining the importance of creating fair procedures for ROP, adhering to them and requiring, for example, training supervisors to be excellent goal setters and providers of performance feedback. Thus, the processes of ROP decision making should be transparent and consistent such that employees feel they are treated fairly.

Moreover, when the ROP system is substantially monetarily important for employees, the risk for negative effects is also higher if procedural fairness is violated or the ROP has a poor fit with organizational goals.

Results-oriented pay must be designed strategically, communicated effectively, and implemented fairly to gain pay system satisfaction and organizational performance outcomes.

### **7.3.1 How to foster ROP satisfaction**

There were three do's that were especially powerful when the focus was on increasing ROP satisfaction: increasing knowledge of the system, fairness of ROP procedures, and the fit between ROP and organizational goals. This result is good news, because all of these aspects are elements that can actually be developed in an organization – better communication, better training, and continuous development of the ROP criteria and structural choices. These above-mentioned good procedures were associated with ROP satisfaction also when the size of bonuses was controlled for.

Perceived importance of the system was only essential for employees in the Processors' ROP systems. In this context of production bonuses, their perceived importance was also a double-edged sword; those who experienced their ROP systems as very important were also more sensitive to the fairness of ROP procedures. Satisfaction dropped dramatically if the procedures were viewed as unfair. For those who did not consider the system very important, the fairness of ROP procedures did not seem to play a very powerful role in creating satisfaction or dissatisfaction. Be extra mindful of fair procedures if you have a highly important collective ROP system in a manufacturing environment. Unfairness experiences in this context can be very costly and produce dissatisfaction.

### **7.3.2 Seeking organizational performance improvement**

Overall, it is wise and of utmost importance to design ROP systems that are in line with organizational goals. People must see that the link between strategy and the incentive system makes sense. That aspect was found for all of the groups studied. The incentive system also must have importance to employees to contribute to better performance. The size of potential bonuses is one factor to consider when thinking about what makes incentives important to people, but it is not the only means of boosting the importance of the incentive system. Furthermore, it is essential to communicate the goals and the details of the incentive system actively such that employees have all the information they need. Additionally, always be mindful to make the goal-setting, feedback, and reward allocation processes as consistent and accurate as possible so that people can feel that they are treated in a fair manner.

Ensuring that the ROP systems make sense – that is, are aligned with strategic goals – is essential in all of the Finnish contexts that were studied here. However, this study shows that some practices have more effect in certain ROP con-

texts than in others. One of the clear differences is between those incentive systems that reward for individual performance (Individualists) and those that reward for group performance (Life supporters and Processors). First, the importance employees ascribe their ROP system was essential for enhancing performance only in the context of individual incentive systems. This perception might mean that having a possibility for larger bonuses boosts organizational performance if at least parts of the bonuses are tied to individual performance, allowing one truly to influence one's bonuses. Second, in the context of group-based incentives, more knowledge of incentive systems enhances organizational performance; thus, providing information about ROP systems and how they function in the organization is a good means to enhance positive outcomes.

Another interesting difference is found between Processors' systems rewarding for large group – primarily plant – performance and the other two groups. Fair procedures of ROP was not statistically significant for the Processors' organizational performance outcomes unlike the other groups. The goals and incentives of Processors' incentive systems are the same for all employees of the plant; thus, procedures are the same for all. Perhaps the procedures are thus not as important for employees when they work for plant targets.

### **7.3.3 How to enhance the co-operation effects of ROP systems**

Generally, two aspects made a difference in fostering co-operation effects in all types of ROP systems: the system needed to be perceived as important (to have an effect at all), and the system needed to be compatible with organizational goals. However, as was true earlier, the story varied between the three types of ROP.

In the case of Life supporters, all of the four variables contributed positively to co-operation effects; in addition to fit and fairness, also knowledge of the system and perceived importance had a role in fostering co-operation. In the Individualists' case all other aspects except knowledge of ROP had a role in enhancing co-operation effects. Knowledge of the system, perceived importance of the system and perceiving a good fit between ROP and organizational goals had a significant role in fostering co-operation effects for Processors. However, the perceived fairness of ROP procedures did not have a significant role for co-operation effects in the case of Processors. The procedures are the same for the whole group in these types of ROP systems, in which performance is measured typically at the plant level.

### **7.3.4 Effects of structural choices on pay system outcomes**

The choice of ROP system as such had an effect on pay outcomes. Three broader ROP types were found in this study. Each had its own characteristic features and differing outcomes. For example, an ROP system for Individualists in which at least part of the bonus was determined by individual performance did not foster co-operation between employees or groups. It is also possible that this type of

ROP system does not fit into certain work contexts such as public-sector work defined by common good or work that is highly interdependent.

With respect to individual structural choices of ROP systems, the results were not as straightforward. The size of possible bonuses was another question without a single answer. The data show, that the amount of bonuses achieved correlated positively with the perceived importance of ROP, knowledge of the system, and satisfaction with the system. However, larger bonuses were also negatively correlated with the perceived fairness of ROP procedures. In addition, the perceived ROP effect on co-operation was lowest in the case of ROP systems paying the largest maximum bonuses of more than 16 % of annual pay. Such bonuses were usually also paid on an individual basis, thus not directly contributing to co-operation.

One of the main implications of the study is that the ROP systems should be viewed as configurations or entities. The configurations tend to be different in diverse work settings even within Finland. For example, the amount of possible bonuses payable by local government sector ROP systems is restricted; moreover, the systems are most often designed to benefit unit performance. The configurations of ROP in their special Finnish contexts each have their own unique patterns of how the ROP effects originate.

## 7.4 Limitations

As always, some decisions made during the research process created limitations in utilizing the study. Next, I critically evaluate the research design, data collection, and methodology used.

First, the study is cross-sectional; thus, a prediction of ROP satisfaction, perceived ROP effect on organizational performance and co-operation cannot be made. However, we are able to see how these outcomes vary with the theoretically founded independent variables and have a reason to interpret that the independent variables are those that influence the outcome variables and not vice versa. For example, ROP procedures that are perceived as fair contribute to ROP satisfaction rather than ROP satisfaction would contribute to perceiving ROP procedures as fair.

Second, the variables were measured with a common method and source. Particularly the use of perceived organizational performance and perceived co-operation measures can be seen as a limitation. As explained in the methods chapter, I had three reasons to choose to measure perceived ROP effects instead of objective measures. First, my data was not longitudinal and thus it was not possible to objectively measure results-oriented pay effectiveness as a change happening from before ROP implementation to post implementation. Second, given the different nature of business in the diverse sectors studied, the objective performance measures would have been very hard to process to be comparable throughout the businesses and sectors. Third, even if I had longitudinal data on organizational performance, I would still have had the challenge of discerning which part of the variance would be due to results-oriented pay system and what

would be the impact of, for example, other HR interventions or changes in the organization's context.

According to Wall et al. (2004), the validity of subjective measurement of organizational performance is threatened by two types of potential errors. First, there may be some systematic bias (common method variance) when the same respondent is asked both about the ROP practices and their outcomes. This may occur because of a general tendency to answer positively or negatively or because other answers are affected by the respondent's view of something important such as his / her satisfaction with the incentive system. Second, there may be random error caused by a respondent not remembering correctly or simply guessing. Because I asked the respondents for their own perception, I am not worried about their remembering correctly. However, there is a possibility that some respondents rate the organizational performance by merely guessing and not putting effort in trying to think about their own view. The respondents in this study are employees from all organizational levels. I cannot assume that they in general are wholly aware of their organization's success. However, all of the organizations studied use results-oriented pay systems and keep their employees informed about the organization's success. I can thus claim that all employees have at least some idea of whether their organization is doing well economically, the products or services are of good value, or their customers are satisfied. Additionally, all employees have perception of whether co-operation between individuals, groups, and units has been affected by the ROP system and how. Furthermore, I wished to study how the ROP has affected various organizational performance outcomes. Because my data is not longitudinal, it would have been very difficult to figure out what part of objective organizational performance could be associated with the ROP system used.

Continuing on the subjective measures of performance, Wall et al. (2004) suggested that subjective measures of performance were valid in their two studies. They found that there was convergent validity, because the subjective performance measures were associated with the objective performance measures; the correlations varied from .40 to .60. This may have been due to varying operationalization of performance in cases of subjective and objective measures. Importantly, in every instance in which a practice was significantly related to performance it was significantly related to both objective and subjective measures. On the other hand, Pransky et al. (2006) did not find self-reports and objective performance measures to correlate as well in their study in a complex office task environment (the correlations varied from .27 to .29). They argued that self-reports and objective measures of performance may in fact measure different aspects of work performance particularly in highly complex jobs. Because the performance may be hard to conceptualize and measure objectively, the perceptions of performance may even provide a more accurate level of performance. The data of this study are from diverse work types, majority representing the more complex tasks. Thus, I expect that the subjective measures of organizational performance reflect the realities of the organization relatively well.



Third, one of the independent variables, perception of fit between ROP and organizational goals, was measured with only a single item. “The use of single-item measures for psychological constructs is typically discouraged, primarily because they are presumed to have unacceptably low reliability” (Wanous, Reichers, & Hudy, 1997, p. 247). There are exceptions, particularly when constructs are unambiguous to the respondent or very narrow. Wanous et al. (1997) meta-analyzed 17 different samples using both single-item measures and scales of job satisfaction. They concluded that single items were sufficiently reliable and their use should be permitted if needed. However, they noted that the use of well-constructed scales is most often advisable. I argue that the construct of fit between ROP system and organizational goals is sufficiently narrow to be measured with a single item. However, I would rather construct and use a scale if I had the possibility to start from the beginning. Another possible weakness of the measure of fit between ROP and organizational goals is that it did not specify the type of organizational goals further (e.g., short term vs. long term goals). However, this allowed the respondents to use their own understanding of the goals that were most essential in the context of their organizations. Further, the organizations were heterogeneous and not all of them used terms such as short term and long term goals or operational and strategic goals in colloquial language. Thus, asking questions with specified terms might have led to more misunderstandings among the respondents.

Fourth, the importance of ROP system as an operationalization of valence has some restrictions. It does not measure directly the valence of the outcomes such as the bonuses as in expectancy theory (Vroom, 1964). However, I argue that the overall importance of the ROP system captures also the valence of outcomes such as bonuses because the respondents have prior experience of bonuses paid via the ROP system. Further, the operationalization as importance has according to meta-analysis by Van Eerde and Thierry (1996) had less explanatory power on the outcomes than valence operationalized as desirability, attractiveness, or anticipated satisfaction. It is possible that a different operationalization might have produced a stronger role for valence in the context of ROP systems than what was found in this study. It would be very interesting to study different operationalizations in future research.

Fifth, the context of the study is Finnish working life, and the results must be interpreted accordingly. As one of the research needs has been to study performance-based pay systems in various countries and work cultures, this study has a contribution. Our study does not represent Finnish working life in total, even though both public-sector and various private sector work places are represented in the data. The selection of organizations and ROP systems to the study has not been made to represent Finnish working life (utilizing results-oriented pay) in total, so we must be careful with generalizing the results.

Most of the local government sector systems selected in this study were special in the sense that the workplaces collaborated actively with our research program in actual development work of the ROP systems. Thus, it could be argued that

these workplaces were particularly development-oriented or had better than average resources in the ROP system development. The story is different for the private sector workplaces studied; they participated because they were primarily interested in evaluating the state of their ROP systems. Possibly these organizations experienced more need to develop the systems than some other organizations not collaborating with our research program. Alternatively, the organizations were also particularly development-oriented because they were collaborating with a university instead of using consultants or developing their ROP systems in-house. Despite the selection challenges described, the ROP systems in the study did correspond to the typical Finnish ROP systems' characteristics. Thus, I believe that this work provides valuable insights concerning the outcomes of different types of results-oriented pay systems and the importance of understanding contextual differences.

## 7.5 Future avenues for research

The potential of the results-oriented pay systems is most certainly going to be even more sought after in the near future because of the long economic downturn and the slow progression of base wages in Finland. The public discussion particularly in Finland has demanded all parties to contribute to increasing the competitiveness of Finnish industries. This has indicated that employees must be patient and not expect significant pay raises in the near future. Results-oriented pay can be paid out when the results are good and it provides a possibility to motivate good performance even when base pay raises are cut.

My aim has been to understand how ROP outcomes are generated. Thus, a naturally appealing future research would include a longitudinal setting. Ideally, a setting in which it is possible to study the same respondents before a change in an ROP system is presented, a short time (e.g., half a year or one year) after the change was implemented, and later on when the system has stabilized (e.g., two years after the implementation). This would offer a possibility to study how the changes take place at the individual and organizational level and what are the most important independent variables explaining changes in ROP satisfaction and perceived organizational outcomes.

My findings indicated that incentives influenced co-operation at work both positively and negatively. ROP systems that included individual bonuses had inferior effect on co-operation compared to group-based incentives. I would warmly welcome research with a focus on how to foster co-operation when it is wanted.

Next, drawing from a limitation of my study, I would welcome more research on the ROP outcomes including objective performance measures and for example the turnover of employees in addition to reported measures. This would give the possibility to see how well this model predicts performance differences.

Furthermore, this study showed against expectations that the perceived importance of ROP system can increase both the positive and negative outcomes of an ROP system. However, this study did not differentiate between diverse

types of importance or meanings (e.g., the meaning of pay approach or the valence proposition with increasing monetary value). It would be valuable to conduct a detailed research on whether diverse types of importance ascribed to the incentive systems produce different mechanisms of how the outcomes originate. For instance, Hakonen (2012) found that symbolic meanings of ROP had a stronger mediating role in explaining individual performance than monetary meanings of ROP.

My study showed that it does matter how well employees perceive their incentive systems are aligned with organizational goals. This is a seldom studied angle of contingency theoretical thinking. In my opinion, the alignment perception is worth much more attention and would benefit from studying the perception with more precision, to start with, utilizing multiple items. It might also be of interest to pair employee perceptions of alignment with management perceptions and / or expert evaluations of the alignment.

ROP system knowledge and perceived importance of ROP were studied as moderators of the relationships between perceived fairness of ROP procedures and the three outcomes as well as the relationships between perceived fit between ROP and organizational goals and the three outcomes. There are naturally also other possible ways to theorize about the relationships between the variables that would be very interesting to study. For example, it could be argued that knowledge of ROP relationship with the outcome variables would be mediated by the importance of ROP.

I used correspondence analysis to recognize the incentive system configurations. To my best knowledge this methodology has not previously been used in compensation studies. Because there is a continuing call to study pay systems as realistic combinations of their characteristics, correspondence analysis may offer fruitful insights in such studies.

A contextual factor that calls for more attention is the gap in the literature concerning the suitability of diverse general theories to explain incentive system outcomes in different countries and regions. How, for instance, the model presented in this work would fit a data from Chinese companies or Indian companies? If there were relatively similar configurations of ROP systems to be found in other country contexts, would the findings correspond to this study?

One of my main contributions was that the psychological processes with which incentive outcomes were generated differed for the diverse incentive configurations. I would warmly encourage future research taking a closer look into the incentive system characteristics and their role in creating the outcomes. The ROP systems were very versatile in the Finnish setting and often the systems included interesting combinations of performance criteria. It would be fascinating to study more closely those very common ROP systems in which individual level performance criteria are used as part of the criteria combination. The complex nature of the incentive systems provides continuously ample possibilities to enhance our understanding of how to make them work.



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# Appendices

## APPENDIX A. DESCRIPTION OF 35 ROP SYSTEMS STUDIED

Organiza- tion	ROP system studied	Target group and measure- ment levels	N of re- spon- dents	Bonuses	Examples of bo- nus criteria
Local govern- ment sector systems					
Municipality, city A	Health care (health center), unit level ROP system. (Small group). Had been used for 3 years.	For all employ- ees except medical doctors (n=33). One level of meas- urement: unit level.	28	Maximum of 5 % of annual pay. Maximum is set as an amount of euros. Paid an- nually.	Measures perfor- mance from several angles: e.g., productivity, cus- tomer satisfaction, development of op- erations.
	Educational sector (youth affairs), unit level ROP system. (Small group). Had been used for 3 years.	For all employ- ees (n=30). These employ- ees are divided into small units and perfor- mance is meas- ured in one level: small unit.	19	Maximum of 5 % of annual pay. Maximum is set as an amount of euros. Paid an- nually.	3-7 criteria: e.g., cost of a camp day, proportion of suc- cessfully completed youth work periods, interest group feed- back.
	Technical sector organiza- tion, unit level ROP system. (Small group). Had been used for 4 years.	For all employ- ees (n=27). One level of measurement: unit level.	25	Maximum varies between 3,6 to 8,2 % of annual pay. Maximum is set as an amount of Euros. Paid annually.	4 criteria: economic success, repair debt %, customer satisfaction, and work climate index.
	Logistics or- ganization, or- ganization and unit level ROP system. (Small group). Had been used for 4 years.	For all employ- ees (n=142). Two levels of measurement: organizational level and unit level.	28	Maximum of 5 % of annual pay. Maximum is set as a percentage of pay. Paid an- nually.	Organizational level: economic success, and inter- est group feedback. Unit level effective- ness and develop- ment goals.
	Logistics or- ganization, in- dividual level ROP system. Had been used for 4 years.	For part of the employees. Two levels of measurement: organizational level and indi- vidual level.	21	Maximum of 5 % of annual pay. Maximum is set as a percentage of pay. Paid an- nually.	Organizational level: economic success, and inter- est group feedback. Individual level ef- fectiveness and de- velopment goals.
Municipality, city B	Health care (health center), unit level ROP system. (Small group). Had been used for 3 years.	For all employ- ees (n=15). One level of measurement: unit level per- formance.	12	Maximum of 5 % of annual pay. Maximum is set as an amount of euros. Paid an- nually.	10 criteria from ef- fectiveness, cus- tomer, process, and personnel per- spectives. E.g., proportion of emer- gency patient visits, customer satisfac- tion with accessibil- ity by phone, and team competence analysis.
	Health care (dental), or- ganization level ROP system. (Large group).	For all employ- ees (n=230). One level of measurement: organization	171	Maximum of 5 % of annual pay. Maximum is set as an amount of euros. Paid an- nually.	13 criteria from dif- ferent perspectives: e.g., length of queues, amount of activities, customer satisfaction, and

	Had been used for 4 years.	level performance.			team agreements completed.
	Technical sector organization, unit level ROP system. (Large group). Had been used for 1 year.	For all employees (n=94). One level of measurement: unit level performance.	67	Maximum of 5 % of annual pay. Maximum is set as an amount of euros. Paid annually.	Several criteria from effectiveness, customer, process, and personnel perspectives. E.g., success of operations, customer satisfaction, effectiveness of operations, and development of work procedures.
	Educational sector (physical education), unit level ROP system. (Small group). Had been used for 3 years.	For all employees (n=11). One level of measurement: unit level performance.	10	Maximum of 5 % of annual pay. Maximum is set as an amount of euros. Paid annually.	8 criteria from different perspectives: e.g., amount of actions, customer satisfaction, success of process development projects, and processing development needs.
Municipality, city C	Educational sector (youth affairs), division level ROP system. (Small group). Had been used for 2 years.	For all employees of pilot units (n=239). Two levels of measurement: division level and unit level performance.	139	Maximum of one month's pay (on unit level cannot exceed 5% of unit level pay sum). Maximum is set as an amount of euros. Paid annually.	E.g., keeping to budget, amount of people visiting / weekend, developing operations, developing competence.
Municipality, city D	Educational sector (education unit), unit level ROP. (Small group). Had been used for 4 years.	For all employees of the unit (n=26). One level of measurement: unit level performance.	25	Maximum of 5 % of annual pay. Maximum is set partly as an amount of euros and partly as a percentage of pay. Paid annually.	6 criteria: e.g., economic success of the unit, amount of customers / maximum amount of customers, interest group feedback, participation in training.
Hospital district	Health care, unit level ROP. (Large group). Had been used for 2 years.	For all employees of the unit whose salaries are paid by the unit (n=130). One level of measurement: unit level performance.	46	Maximum of 5 % of annual pay. Maximum is set as a percentage of pay. Paid annually.	13 criteria from four strategic perspectives: e.g., costs of activities, queue time, process development, and employee well-being activities.
Private service sector systems					
Insurance company A	Organization and unit level ROP added with a possibility of individual level variation. (Individual). Had been used for 6 years.	For all employees of the organization either this ROP or the more individual ROP (n=590). Three levels of measurement: company and unit level and a possibility for supervisors to allocate bonuses also according to small group or individual performance.	96	Maximum bonus equals to 1,5 months' pay. Maximum is given as percentage of pay. Paid annually.	Criteria from balanced scorecard type perspectives: general purpose of the company, financial success, customer, internal effectiveness, and learning and development.
	Organization and individual level ROP. (Individual). Had been used for 6 years.	For management, supervisors, and experts. Two levels of measurement: company	46	Maximum bonuses vary according to organizational level, most the maximum is 1,5 months' pay.	Criteria from balanced scorecard type perspectives: general purpose of the company, financial success, cus-

		and individual level.		Maximum is given as percentage of pay. Paid annually.	tomor, internal effectiveness, and learning and development.
Insurance company B	Organization, unit, and team level ROP. (Small group). Had been used for 5 years.	For all employees of the organization either this ROP or the individual level ROP (n=245). Three levels of measurement: company, unit, and team level.	30	Maximum bonus equals to 1,5 months' pay. Maximum is given as percentage of pay. Paid annually.	Organizational level results, e.g., market share and capital adequacy, determine the amount of maximum bonuses. Unit and team level criteria from various perspectives determine the amount of bonuses achieved. E.g., processing time, quality of services, amount of activities, etc.
	Organization, unit, and individual level ROP (Individual). Had been used for 5 years.	For management, supervisors, and experts. Three levels of measurement: company, unit, and individual level measurement.	39	Maximum bonus equals to 1,5 months' pay. Maximum is given as percentage of pay. Paid annually	Organizational level results, e.g., market share and capital adequacy, determine the amount of maximum bonuses. Unit and individual level criteria from various perspectives determine the amount of bonuses achieved. E.g., keeping the standard of services, re-organizing internal processes, etc.
Insurance company C	Organization, unit, team, and individual level ROP. (Individual). Had been used for 3 years.	For all employees (n=400). Four levels of measurement: organization, unit, team, and individual level.	97	Maximum bonus equals to 1 month's pay. Maximum is given as percentage of pay. Paid annually	Multiple criteria from Balanced scorecard type of perspectives: financial, customer, effectiveness, and learning and development. E.g., capital adequacy, customer satisfaction, efficiency of actions, and supervisor feedback from employees.
B to B service company	Business unit, team, and individual level ROP, provision emphasized (individual). Had been used for 7 years.	For sales personnel (n=74). Three levels of measurement: business unit and team level for ROP, individual level provisions of sales.	53	No maximum for provisions. Bonuses are determined as euros achieved. ROP maximum is given as a set amount of euros / position. Provisions paid monthly, parts of ROP paid annually.	Provisions calculated from sales of diverse products. ROP criteria, e.g., unit net sales, and turnover development.
	Business unit, team, and individual level ROP. (individual). Had been used for 7 years.	For other office personnel than direct sales (n=130). Three levels of measurement: business unit, team, and individual level.	74	Maximum bonus equals to 1,5 months' pay. Maximum is given as a set amount of euros / position. Part of it is paid four times a year and part is paid annually.	ROP criteria, e.g., unit net sales, customer care plan realization, and turnover development.
Daily consumer goods trade company	Company, business unit, and individual level ROP (individual). Had	For managers and experts of the company (n=127). Three	58	Maximum bonus varies by position, most commonly between one and two	Excelling budget level of diverse criteria, e.g., company and business unit turnover, which

	been used for two years.	levels of measurement: company, business unit, and individual level.		months' pay. Maximum is given as percentage of pay. Paid annually.	also serve as a threshold for bonuses. Examples of other criteria: sales development in own unit, and employee survey results.
Wholesale trade company	Company and individual level ROP (Individual). Had been used for 8 years.	For sales employees (n=12). Two levels of measurement: company and individual level.	12	Maximum bonuses vary according to position; can be several months' pay for sales people. Maximum is given as Euros. Part of the bonus is paid monthly.	E.g., on company level operating profit and on individual level team co-operation level, and individual sales margin.
IT service company	Company and individual level ROP (Individual). Had been used for 2 years.	For management and supervisors (n=31). Two levels of measurement: Half of the bonus is dependent of company level and half of individual level measurement.	23	Maximum bonuses vary; most often 1,5 month's pay. Maximum is given as percentage of pay. Bonuses are paid annually	Balanced score-card type of perspectives: finances, customer, processes and personnel. E.g., interest group satisfaction, cost budget, project success rate, supervisor work quality.
Trade company, two units	Company and unit level ROP (large group). Had been used for 2 years.	For all employees of the two units (n=210). Two levels of measurement: 20 % is dependent on company level and 80 % on unit level measurement.	105	Maximum bonuses are 6 % of annual pay. Maximum is given as percentage of pay. Bonuses are paid annually.	Operating profit is measured on company level. Unite level criteria include unit operating profit, sales targets, and amount of loyal customers.
Publishing company unit	Company level ROP and unit and individual level ROP (Individual). Had been used for 6 years.	For all unit personnel (n=320). Three levels of measurement: Company, unit and individual level.	67	Maximum bonuses are all together little less than two month's pay. Maximum is given as percentage of pay. Bonuses are paid twice a year.	Company level ROP criteria are financial, e.g., turnover. Unit and individual level criteria reflect both quantity and quality of actions: e.g., on unit level net sales and circulation, and on individual level, e.g., amount of calls and customer satisfaction.
Private industry sector					
Chemical industries company	Higher ranking employees ROP (Individual). Had been used for 10 years.	For all higher ranking employees of the company. Number of measurement levels varied: company level, division / business unit / group level, and individual level measurement. Individual level criteria should determine not more than 50% of the bonus.	67	Maximum bonuses varied according to position, most often less than two months' pay. Maximum is given as a percentage of pay. Paid once a year.	Criteria on company level measure financial success, e.g., EPS and cash flow. Other levels include financial and operational criteria, e.g., net sales, delivery reliability, and project success.
	Higher ranking employees ROP in plant x	For higher ranking employees at plant x (n=75). One	14	Maximum of 14% of annual pay. Maximum is	Criteria include: ROCE, amount of production, and costs to production.

	(Large group). Had been used for three years, history for more than 30 years.	level of measurement: plant.		given as a percentage of pay. Paid four times a year.	
	Salaried employees ROP (Individual). Had been used for varying time in different locations, usually more than 6 years.	For salaried employees not directly working in production. Three to four measurement levels: company, division/ business unit, and individual.	31	Maximum amount of bonuses varied between 10 and 15 % of annual pay. Maximum is given as a percentage of pay. Paid once a year.	Company level financial success, e.g., EPS and cash flow. Other levels include financial and operational criteria, e.g., net sales, delivery reliability, customer satisfaction and project success.
	Salaried employees ROP (Large group). Had been used for varying time in different locations, usually more than 6 years.	For salaried employees working directly in production. One level of measurement: plant.	37	Maximum amount of bonuses varied between one month's pay and 14 % of annual pay. Maximum is given as a percentage of pay. Paid four times or twelve times year.	Typical plant level bonus system included criteria such as costs, production amount, work safety, and operation disturbances.
	Blue collar employees ROP (Large group). Had been used for varying time in different locations, usually more than 6 years.	For all blue collar employees. One level of measurement: plant.	36	Maximum set as an amount of euros. Paid every two weeks or monthly.	Criteria can include, e.g., amount of production / hour, work safety, and production quality.
	All employees ROP in plant x (Large group) Had been used for three years, history for more than 30 years.	For blue collar employees in plant x (n=395). One level of measurement: plant.	27	Maximum is between one and two months' pay. Maximum set as an amount of euros / hour. Paid every two weeks.	Criteria include: ROCE, amount of production, and costs to production.
Forest industry company A	Salaried employees ROP (Individual). Had been used for 6 years.	For all salaried employees of the company. Two to three levels of measurement: company, plant, individual.	66	Maximum is 16 % of annual pay. Maximum is given as a percentage of pay. Paid annually.	Criteria include on company level ROCE. Individual level criteria vary greatly according to position, e.g., costs of repairs.
	Blue collar employees ROP (Large group). Had been used for 6 years.	For all blue collar employees, except for plant x. Two levels of measurement: company (1/3) and plant (2/3).	41	Maximum is 16 % of annual pay. Maximum is given as a percentage of pay. Paid annually.	Company level ROCE. Plant criteria can include, e.g., level of production, operation time, product quality, cost effectiveness, work safety, and environmental effects.
	Blue collar employees ROP in plant x (small group). Had been used for 6 years.	For all blue collar employees of plant x. Three levels of measurement: company (1/3), plant (1/3), and team (1/3).	18	Maximum is 16 % of annual pay. Maximum is given as a percentage of pay. Paid annually.	Company level ROCE. Plant criteria include, e.g., level of production, product quality, costs, and work safety. Team criteria vary, e.g., cleanliness of the plant, and development targets.

Forest industry company B	Organization level ROP (Large group). Had been used for 9 years.	For all employees of the company. One level of measurement: company	83	Maximum is approximately little less than two months' pay. Maximum varies depending on the base pay, the maximum is set as an equal amount of euros for all. Paid four times a year.	Criteria include: production, unit costs, zero-accidents, air quality.
Electronic industry company	Salaried and higher ranking employees ROP (Individual). Had been used for three years in this form, 13 years of ROP history.	For all salaried and higher ranking employees (n=173) of the company. Two to five measurement levels (most of ten three): all have company level measures and then some of the following: process, project, group, and individual.	67	Maximum varies between 20 to 25 % of annual pay. Maximum is given as a percentage of pay. Paid annually.	Company level Ebita, other levels criteria vary according to position, e.g., customer satisfaction, creating production cost monitoring, and productivity of the unit.

## APPENDIX B. Confirmatory factor analysis results for independent measures

	Chi-square	df	$\chi^2/df$	IFI	CFI	RMSEA	NFI
4-factor final model with modifications that allow selected error-terms to co-variate.	647,6	138	4,70	0,98	0,98	0,046	0,97
4-factor model (before modifications)	1523,9	147	10,37	0,94	0,94	0,073	0,93
3-factor model (1. Perceived fit between ROP and organizational goals and perceived importance of ROP, 2. Perceived knowledge of ROP, 3. Perceived fairness of ROP procedures)	1731,3	149	11,62	0,93	0,93	0,077	0,93
2-factor model (1. Perceived fit between ROP and organizational goals + perceived importance of ROP + Perceived knowledge of ROP, 2. Perceived fairness of ROP procedures)	3446,1	151	22,8	0,86	0,86	0,11	0,85
1-factor model (all items)	5234,5	152	34,4	0,78	0,78	0,14	0,77

## APPENDIX C. Factor-loading matrix of outcome measures

	Component		
	1 – ROP satisfaction	2 – Perceived ROP effect on organizational performance	3 – Perceived ROP effect on co-operation
customer satisfaction	.127	.767	.159
quality of service and products	.112	.801	.160
efficiency of operations	.157	.799	.196
economic / business success	.097	.667	.224
implementation of strategy	.084	.664	.323
development of operations	.169	.687	.313
co-operation between units	.105	.206	.853
co-operation between groups and teams	.109	.228	.866
co-operation between individuals	.095	.234	.829
helping of coworkers	.114	.323	.691
organizational climate	.235	.381	.601
I am satisfied with my most recent bonus	.836	.064	.054
I am satisfied with the bonuses I have received lately	.857	.099	.058
I am satisfied with the bases determining my bonus	.840	.151	.103
I am satisfied with the influence that others have on my bonus	.735	.103	.182
I am satisfied with the indicators used in the results-oriented pay system	.781	.160	.135
I am satisfied with the extent to which my own input has an effect on my bonus	.807	.151	.091

Principal components analysis, Varimax rotation.



## APPENDIX D. Correlations in organizational level (n = 18) and ROP system level (n = 35)

Table 32. Means, Standard Deviations, Intercorrelations (Pearson Correlation) in aggregated data (N = 18 organizations)

	Mean	SD	1	2	3	4	5	6	7	8	9					
1 Pay	2847,30	925,53	1													
2 Amount of ROP %	5,12	4,17	0,30	1												
3 Perceived importance of ROP	4,11	0,51	-0,02	0,03	1											
4 Knowledge of ROP	3,43	0,29	0,27	0,11	0,50	*	1									
5 Perceived fit between ROP and organizational goals	3,45	0,46	0,08	0,14	0,78	**	0,46	1								
6 Perceived fairness of ROP procedures	3,14	0,38	-0,01	-0,54	*	0,02	0,09	0,20	1							
7 ROP satisfaction	2,92	0,48	-0,16	-0,29	0,43	0,36	0,68	**	0,71	**	1					
8 Perceived ROP effect on organizational performance	3,69	0,22	0,07	-0,31	0,72	**	0,49	*	0,79	**	0,37	0,70	**	1		
9 Perceived ROP effect on co-operation	3,12	0,30	-0,28	-0,53	*	0,56	*	0,27	0,48	*	0,42	0,62	**	0,73	**	1

Note. ROP = results-oriented pay.  
\*p < .05, two-tailed. \*\*p < .01, two-tailed.

**Table 33.** Means, Standard Deviations, Intercorrelations (Pearson Correlation) in aggregated data (N = 35 ROP systems)

	Mean	SD	1	2	3	4	5	6	7	8	9				
1 Pay	2801,22	890,92	1												
2 Amount of ROP %	5,10	4,11	0,30	1											
3 Perceived importance of ROP	4,20	0,46	0,03	0,27	1										
4 Knowledge of ROP	3,38	0,37	0,27	0,32	0,31	1									
5 Perceived fit between ROP and organizational goals	3,42	0,43	0,01	0,18	0,56	**	0,49	**	1						
6 Perceived fairness of ROP procedures	3,14	0,49	-0,07	-0,39	*	-0,08	0,38	*	0,36	*	1				
7 ROP satisfaction	2,89	0,57	-0,16	-0,21	0,16	0,45	**	0,70	**	0,76	**	1			
8 Perceived ROP effect on organizational performance	3,69	0,20	0,11	0,04	0,63	**	0,50	**	0,70	**	0,48	**	1		
9 Perceived ROP effect on co-operation	3,18	0,32	-0,21	-0,10	0,47	**	0,45	**	0,53	**	0,45	**	0,77	**	1

Note. ROP = results-oriented pay.  
\*p < .05, two-tailed. \*\*p < .01, two-tailed.

## APPENDIX E. Descriptive results by context and characteristics of ROP systems

**Table 34.** Means and standard deviations of model variables in local government sector, private service sector, and manufacturing sector ROP systems.

	Public sector (12 ROP systems)			Private service sector (12 ROP systems)			Manufacturing (11 ROP systems)		
	Mean	N	SD	Mean	N	SD	Mean	N	SD
Organizational tenure	12,14	581	10,06	10,90	691	10,33	17,00	482	11,37
Base pay	2183,39	543	854,77	2729,25	570	1468,73	3096,79	457	1119,78
Amount of bonuses achieved (%)	2,31	453	1,46	5,50	492	5,51	6,24	379	4,86
Perceived importance of ROP	3,83	582	1,22	4,24	688	1,01	4,41	479	0,84
Knowledge of ROP	3,24	584	0,86	3,49	692	0,94	3,52	486	0,81
Perceived fit between ROP and organizational goals	3,26	546	1,18	3,51	644	1,11	3,43	453	1,14
Perceived fairness of ROP procedures	3,43	538	0,97	3,17	649	0,91	2,95	456	0,92
ROP satisfaction	3,11	569	1,02	2,96	678	0,99	2,68	486	1,01
Perceived ROP impact on organizational performance	3,56	572	0,57	3,71	675	0,58	3,76	467	0,60
Perceived ROP impact on co-operation	3,18	571	0,65	3,08	672	0,70	3,26	467	0,71

**Table 35.** Means and standard deviations of model variables in large group bonuses, small group bonuses, and individual level bonuses.

	Large group bonuses (> 50) (9 ROP systems)			Small group bonuses (< 50) (11 ROP systems)			Individual level bonuses (14 ROP systems)		
	Mean	N	SD	Mean	N	SD	Mean	N	SD
Organizational tenure	16,12	447	12,17	10,90	500	9,01	12,54	807	10,70
Base pay	2453,32	421	1085,06	2206,25	461	847,05	3061,85	688	1406,96
Amount of bonuses achieved (%)	4,09	365	4,38	2,30	380	1,46	6,48	579	5,36
Perceived importance of ROP	4,28	443	1,00	3,81	498	1,22	4,28	808	0,95
Knowledge of ROP	3,33	446	0,89	3,27	502	0,86	3,55	814	0,89
Perceived fit between ROP and organizational goals	3,50	415	1,22	3,18	466	1,16	3,48	762	1,08
Perceived fairness of ROP procedures	3,04	416	0,94	3,49	475	0,96	3,09	752	0,91
ROP satisfaction	2,83	446	1,10	3,01	484	0,99	2,94	803	0,98
Perceived ROP impact on organizational performance	3,75	439	0,59	3,55	489	0,59	3,70	786	0,58
Perceived ROP impact on co-operation	3,29	437	0,72	3,20	488	0,64	3,07	785	0,69

**Table 36.** Means and standard deviations of model variables in ROP systems with diverse amounts of maximum bonuses.

	5 % of annual pay or less (10 ROP systems)			5 - 8 % of annual pay (5 ROP systems)			8 - 16 % of annual pay (17 ROP systems)			> 16 % of annual pay (3 ROP systems)		
	Mean	N	SD	Mean	N	SD	Mean	N	SD	Mean	N	SD
Organizational tenure	13,45	418	10,43	10,09	399	10,31	14,90	808	11,28	8,50	129	7,00
Base pay	2221,49	386	944,23	2085,97	374	812,10	3205,97	689	1412,71	2561,36	121	592,68
Amount of bonuses achieved (%)	2,00	321	1,28	3,96	330	3,33	5,25	561	4,52	10,93	112	7,30
Perceived importance of ROP	4,00	419	1,16	3,95	393	1,17	4,30	805	0,95	4,29	132	1,00
Knowledge of ROP	3,21	421	0,87	3,41	396	0,91	3,48	813	0,88	3,69	132	0,82
Perceived fit between ROP and organizational goals	3,34	391	1,19	3,41	368	1,13	3,39	759	1,14	3,65	125	1,07
Perceived fairness of ROP procedures	3,21	386	0,91	3,59	374	0,91	3,05	760	0,93	2,82	123	0,95
ROP satisfaction	3,01	414	1,04	3,26	384	0,92	2,74	803	1,00	2,88	132	1,07
Perceived ROP impact on organizational performance	3,57	412	0,55	3,69	393	0,59	3,72	778	0,61	3,65	131	0,59
Perceived ROP impact on co- operation	3,17	410	0,63	3,18	392	0,67	3,18	778	0,72	2,99	130	0,73







Firms and organizations use incentive systems that are meant to motivate employees and boost their performance – but often their impact is not quite what was expected. This thesis sheds light on how results-oriented pay (ROP) systems influence employees' satisfaction with the system, performance, and co-operation as perceived by the employees. Positive outcomes on these dimensions emerged when the employees experienced that the results-oriented pay systems made sense so that they could see a clear link between the ROP system and organizational goals and knew the system well, and had sensibility so that the employees were treated fairly. Altogether 1778 employees belonging to 35 ROP systems in 18 Finnish firms and organizations participated in the study. Three functionally different incentive systems were identified where the generation of outcomes was unique. Understanding the context of incentive systems is a key to finding out powerful ways to make strategy work in practice.



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