HRM, Employee Well-being and Organizational Performance: A Balanced Perspective

Karina van de Voorde

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Promotor:	Prof. dr. J. Paauwe
Copromotor:	Dr. M.J.P.M. van Veldhoven
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1

Introduction

1.1 Introduction

The impact of activities associated with the management of people in firms (HRM) on organizational performance has become one of the major topics (or even the dominant topic) in HR research (Boxall & Purcell, 2008; Bowen & Ostroff, 2004; Guest, 1997; Paauwe, 2004; Paauwe, 2009; Wright & Gardner, 2003). Starting with the ground-breaking study of Huselid (1995), which claims that HRM has a substantial impact on financial performance, a large body of empirical research has shown that HRM positively impacts organizational performance in the last 20 years. Meta-analyzing 92 empirical studies Combs, Liu, Hall and Ketchen (2006) conclude that the influence of HRM on performance is significant (they found a correlation of .20), and managerially relevant. Most of the theoretical perspectives have provided macro-frameworks, clarifying the determinants of HRM and their consequences at firm level, such as resource dependence theory, institutional theory, and resource-based view (Wright & Gardner, 2003). However, empirical studies linking HRM and performance at company-level, and macro-level theories do not provide theoretical understanding of how HRM works (i.e. the underlying mechanisms), nor do they provide relevant managerial information (with regard to workforce scorecards) on how human resources (employees) within organizations add value in terms of financial performance (Becker & Gerhart, 1996; Purcell & Kinnie, 2007; Wright & Gardner, 2003). Guest stated in 1997: *Moving on to a possible broader framework linking HRM and outcomes, the starting point should be the recognition that the distinctive feature of HRM is its assumption that improved performance is achieved through the people in the organization* (page 269). Hence, a better understanding of the role of employees in linking HRM to firm performance is needed both from a theoretical and practitioner viewpoint.

Lower-range specific behavioral theories rooted in organizational behavior (OB) and organizational psychology have been integrated in the HRM-performance linkage to explain the underlying attitudinal and behavioral processes (Guest, 2001). One of the original HRM models used to explain the underlying processes is the 'Behavioral Perspective', which states that employment activities are adopted to elicit and control employee behaviors which contribute to overall organizational performance (Wright & MacMahan, 1992). Moreover, employee attitudes and behaviors have been increasingly included in explanatory models of the link between HRM and performance (e.g. Appelbaum, Bailey, Berg & Kalleberg, 2000; Becker, Huselid, Pickus & Spratt, 1997; Guest, 1997; Paauwe & Richardson, 1997; Truss & Gratton, 1994; Vandenberg,

Richardson & Eastman, 1999; Wright & Snell, 1998). Besides, the AMO-theory, which states that HRM positively influences individual and organizational performance by building ability (A) and motivation (M) to perform, and by providing opportunity to participate and perform (O) is frequently used as mechanism in conceptual models and in empirical research as well (Appelbaum et al., 2000; Boselie, Dietz & Boon, 2005; Boxall & Purcell, 2008; Purcell & Kinnie, 2007). Although the importance of employee attitudes and behaviors in explanatory models of the link between HRM and performance emerged, there is a much smaller body of empirical research on the effects of HRM on employees (Boselie et al., 2005; Purcell & Kinnie, 2007; Nishii & Wright, 2008; Wood, 2009). Purcell and Kinnie (2007) noted: *At the centre of the chain are employee attitudes and behavior and it is this which raises the most vital question in the HR-performance debate* (page 540).

A first extension on the model which depicted the influence of HRM on performance via employee attitudes and behaviors has been introduced by Ostroff and Bowen (2000). Ostroff and Bowen (2000) present a meso-framework, which includes a mediating role of individual and shared employee perceptions and expectations. Building on communication and attribution theories they propose that a strong HRM system (high in distinctiveness, consistency and consensus) results in the emergence of shared employee perceptions (referred to as organizational climate) which subsequently are responsible for improved performance. Secondly, Nishii and Wright (2008) present a process model of HRM. Nishii and Wright (2008) argue that: *In essence, we have hitherto failed to explicitly recognize the many ways in which individuals and groups may experience and respond differently to HR systems within organizations* (page 226). Their model delineates the HRM-performance linkage as follows: intended HRM (policies developed by decision makers) influence actual HRM (implemented HRM practices), employees perceive these practices (perceptions of HRM) and react to them (employee outcomes), and these employee outcomes result in organizational performance. Finally, building upon these two models Boxall and Purcell (2008) and Purcell and Kinnie (2007) also emphasize the central role of employee perceptions of HRM (preceding employee attitudes and behaviors): they are proposed as a linking mechanism within the company between intended HRM at company-level and organizational performance (see Figure 1). However, employee perceptions of HRM remain an underdeveloped research area in need of exploration (Guest, 1999; Nishii & Wright, 2008; Purcell & Kinnie, 2007). Paauwe (2009) recently noted: *Bringing employees back into the equation between HRM and various kinds of both individual*

and organizational level outcomes, including financial performance, is a 'conditio sine qua non' for advancing the field as a respected discipline (page 134).

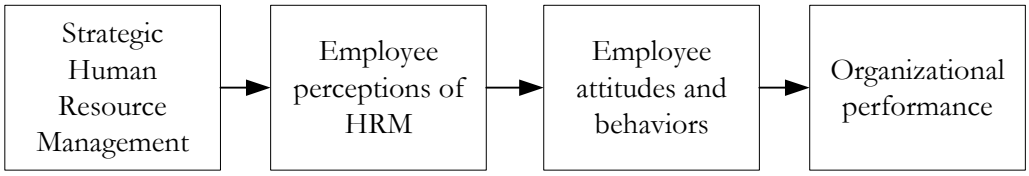

Figure 1. The role of employees in the SHRM-organizational performance linkage.

Paauwe (2009) among others (e.g. Boxall, Purcell & Wright, 2007; Gerhart, 2005) argue to examine the effects of HRM on employee outcomes and organizational outcomes. The majority of theories and conceptual models on HRM and performance assume that employers (in terms of organizational performance) and employees (in terms of employee outcomes) both benefit from HRM. Employee attitudes and behaviors are important mechanisms for explaining performance effects of HRM (as described above and depicted in Figure 1). However, critical scholars argue that HRM pays off in terms of organizational performance, but has no or even a negative impact on employee interests (e.g. Legge, 1995; Ramsay, Scholaris & Harley, 2000). In this thesis we focus on employee attitudes and refer to these as employee well-being. Integration of employee well-being is an important theoretical research issue as two competing views stand out with respect to the position of employee well-being in the area of HRM - performance research (Paauwe, 2009; Peccei, 2004; Appelbaum, 2002). Moreover, employee well-being is an important outcome in its own right (Peccei, 2004).

This thesis seeks to enhance our understanding of the complex and dynamic pathways through which HRM (mainly from an employee perspective: perceptions of HRM and climate) influences employee well-being and organizational performance. The majority of studies on HRM, employee well-being and performance is conducted at the organization-level of analysis (see Chapter 2 of this thesis for an overview). However, the empirical chapters of this thesis (Chapter 3 through 6) are conducted at the business unit level (see Figure 2). On the basis of two types of reasons (conceptual and practice-oriented), it was decided to examine relationships between perceptions of HRM, climate, employee well-being and organizational performance at the business unit level.

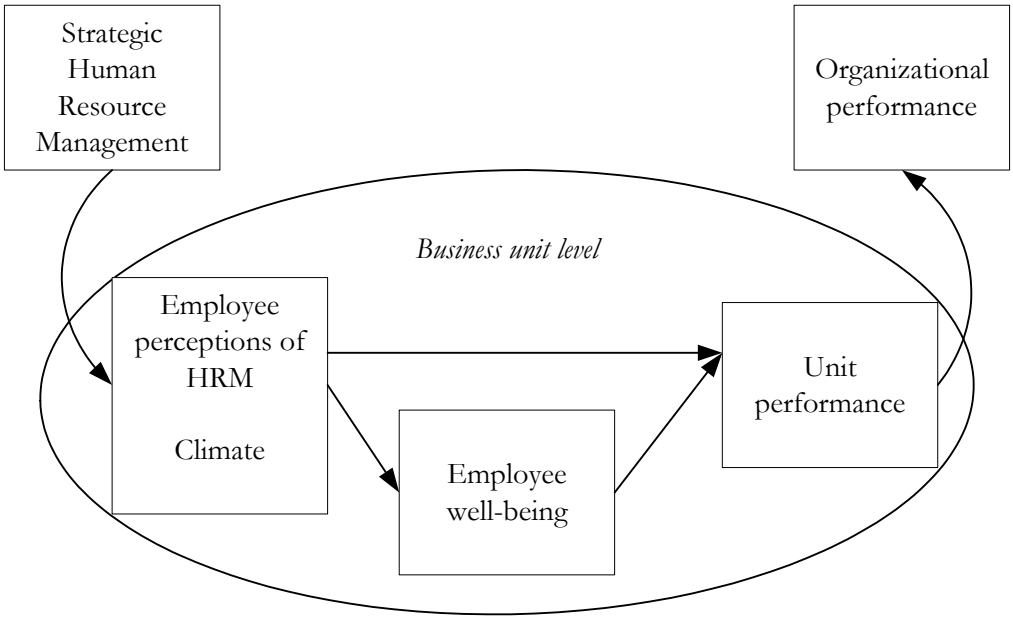

Figure 2. HRM, climate, employee well-being and performance at the business unit level.

First, the concepts of employee perceptions of HRM, climate and employee well-being have their roots at the individual-level of analysis. In addition, the performance of an organization is largely determined by the performance of the business units within an organization (Gelade & Ivery, 2003). Within large organizations, differences might exist between designed HRM at corporate levels and the implemented practices and employees' perceptions and reactions, and performance across business units (as described above). Therefore, the business unit seems an appropriate level to integrate the HRM, climate and employee-well being literature into the HRM-performance research.

A second reason is practice-oriented. Workforce Scorecard and Balanced Scorecard approaches are implemented at business unit level. HRM processes within business units and their effects upon critical business unit outcomes are examined in these systems. Studies at business unit level provide managers with information on business processes that are taking place within the unit for which they are responsible. Based on that kind of information they - amongst others - generate insights on how to influence behavior of employees towards the goals of that unit.

Moreover, making use of data collected in such workforce scorecard systems has proven to be an ideal way of collecting relevant data for HR research, especially in the financial service sector where the empirical work of this dissertation is also situated (e.g. Bartel, 2004; Gelade & Ivery, 2003; Ryan, Schmit & Johnson, 1996; Van Veldhoven, 2005). In the next section the concepts of employee perceptions of HRM, climate, and employee well-being are shortly introduced.

1.2 The Concepts of Employee Perceptions of HRM, Climate and Well-being

Employee perceptions of HRM are argued to be a crucial mediator in the relationship between HRM and employee attitudes and behaviors in four conceptual models (Boxall & Purcell, 2008; Nishii & Wright, 2008; Ostroff & Bowen, 2000; Purcell & Kinnie, 2007). However, the conceptualization of employees' perceptions of HRM differs across the four models. Nishii and Wright (2008) refer to this phase as perceived HR practices, and further specified these as employee perceptions and experiences (by referring to psychological contract and climate literature), and attributions of HRM. Ostroff and Bowen (2000) distinguished between psychological and organizational climate (shared perceptions). Boxall and Purcell (2008) distinguish two processes: (a) management implements HR policies aiming to build ability, motivation and opportunity to perform which are perceived by employees, (b) management articulates values to influence individual and collective employee perceptions. Finally, Purcell and Kinnie (2007) identified perceived HR practices classified using the AMO model, perceptions of overall work climate, and added employees' job experience (e.g. pace, autonomy).

These concepts show a division in employee perceptions of HRM. The first type is focusing on the perception and experiences of HR practices / policies aimed at building ability, motivation and opportunity (Boxall & Purcell, 2008; Nishii & Wright, 2008; Purcell & Kinnie, 2007). The second type refers to the message that HRM communicates to employees. Employees perceive or interpret the goals of the organization through HRM (attributions - Nishii and Wright (2008); organizational climate - Ostroff and Bowen (2000); management articulated values - Boxall and Purcell (2008); overall work climate - Purcell and Kinnie (2007)). Both types are included in this thesis (Chapter 5), because they reflect both employee experiences of implemented HRM. What these four conceptual models further share, is that they all refer to organizational climate theory for explaining how employees experience HRM. Therefore, the concept of organizational climate is introduced below.

Initially, organizational climate was conceptualized as a global construct (James, Choi, Ko, McNeil, Minton, Wright & Kim, 2008; Kuenzi & Schminke, 2009). Schneider (1990) defined organizational climate as employees' shared perceptions of the types of behaviors and actions that are rewarded and supported by the organization's policies, practices, and procedures. A recent approach in the climate literature is the 'climate for something' approach (James et al., 2008; Kuenzi & Schminke, 2009) introduced by Schneider (1975), the so-called facet-specific climates (Kuenzi & Schminke, 2009). This

'something' refers to the focus of interest, any strategic business goal, e.g. a climate for service. The literature has been inconsistent on which climate (facet-specific or global) is most predictive of employee well-being and organizational performance (Kuenzi & Schminke, 2009; Ostroff, Kinicki & Tamkins, 2003). Hence, global and facet-specific climates are included in this thesis.

Kopelman, Brief and Guzzo (1990) argued how five global climate dimensions act as performance resources of the working environment needed for organizational performance. Additionally, all the five dimensions are highly relevant from an HR perspective as Kopelman et al. (1990) and others (Sparrow, 2001; Tesluk, Hofmann & Quigley, 2002) explicitly described how HRM influence these climate dimensions. Therefore, we included goal emphasis, means emphasis, reward orientation, task support and socio-emotional support as common elements of an organizational climate (Kopelman et al., 1990) (Chapter 4). Besides, two-facet specific climate types are included in this thesis. This thesis focuses on climate for service and for efficiency, respectively (Chapter 6).

Employee well-being is distinguished as the next box in the HR-performance chain after perceived HRM and or climate (Boxall & Purcell, 2008; Bowen & Ostroff, 2000; Nishii & Wright, 2008; Purcell & Kinnie, 2007). This thesis includes employee well-being at work measures, as it aims to examine linkages between 'work' related concepts of management activities (HRM) and organizational performance. Employee well-being at work can broadly be described as the overall quality of an employee's experience and functioning at work (Warr, 1987). Hence, employee well-being can be viewed as evaluative, in contrast to the descriptive construct of perceptions of HRM (climate) (Lafolette & Sims, 1975; Patterson, Warr & West, 2004).

In this thesis we investigate three types of work-related well-being in more detail: health (physiological or psychological indicators related to employee health), happiness (subjective experiences of employees i.e. their psychological well-being) (Danna & Griffin, 1999) and relationships well-being (quality of relations between employees and their employer and colleagues) (Grant, Christianson & Price, 2007) (Chapter 2 includes all three types, Chapter 6 includes only happiness well-being). All three types are frequently used in theory, conceptual models and empirical research in the HRM and climate literature, in particular the happiness component (e.g. Appelbaum et al., 2000; Boxall & Purcell, 2008; Kopelman et al., 1990; Nishii & Wright, 2008; Ostroff et al., 2003; Paauwe & Richardson, 1997; Purcell & Kinnie, 2007; Quinn & Rohrbaugh, 1983;

Ramsay et al., 2000; Sparrow, 2001; Tesluk et al., 2002). Including all three dimensions in the review study is important for the reason that it is possible for tradeoffs to exist between different dimensions of well-being (Grant et al., 2007).

1.3 Challenges in HRM, Employee Well-being and Performance Research

The HRM literature is dominated by a number of dualities and balance issues, recently summarized by Boselie, Brewster and Paauwe (2009). This Ph.D. thesis aims to examine relationships between HRM, employee well-being, and organizational performance. Four challenges facing researchers and managers when integrating the employee perspective into the HRM-performance linkage are identified by reviewing research on HRM, employee well-being and performance (Chapter 2), and on the basis of other critical reviews of HRM and climate literature (e.g. Boselie et al., 2009; Boxall, Purcell & Wright, 2007; Kuenzi & Schminke, 2009; Ostroff et al., 2003; Wall & Wood, 2005; Wright & Gardner, 2003). These four challenges are addressed in this thesis, and are presented below.

1.3.1 Challenge 1: Bridging Research Traditions

Research on HRM has been characterized by a split along level of analysis (Boselie et al., 2009; Ostroff & Bowen, 2000; Wright & Boswell, 2002). On the one hand 'micro' research reflects a more functional view and focuses on the effect of HRM on individuals. On the other hand 'macro' research reflects the more strategic HRM view and focuses mainly on the linkages between HRM and organizational performance. The breaking down of barriers between 'macro' and 'micro' research is highly recommended, in particular the integration of 'micro' organizational psychology / organizational behavior theories is needed to progress the HRM-performance field (Guest, 2001; Bowen & Ostroff, 2000; Wright & Boswell, 2002). This thesis aligns the organizational psychology / organizational behavior orientation towards the topic of SHRM and performance, with the more business-oriented perspective in three ways.

First, this thesis examines relationships between employee perceptions of HRM and organizational performance. Employee perceptions play a central role in the recently developed process models of HRM (Boxall & Purcell, 2008; Nishii & Wright, 2008; Ostroff & Bowen, 2000; Purcell & Kinnie, 2007): they are proposed as a linking mechanism between intended HRM at company-level and organizational performance. In addition, by exploring relationships at the business unit level in contrast to studies at

the organization level this thesis focus on within – organization variability in (employee perceptions on) HRM (Nishii & Wright, 2008).

Secondly, by integrating climate literature this thesis bridges 'macro' and 'micro' research. Organizational climate has its foundation in organizational psychology, and is often depicted as mediating mechanism between HRM and collective employee attitudes, and organizational performance in conceptual models (Bowen & Ostroff, 2000; Boxall & Purcell, 2008; Ostroff et al., 2003). Gelade and Ivery (2003) and Takeuchi, Chen and Lepak (2009) confirmed that the relationship between HRM and organizational performance, and between HRM and employee attitudes, respectively, was mediated by organizational climate.

Thirdly, this thesis integrates the organizational psychology / OB perspective into the ('macro') SHRM-performance linkage by focusing on the role of employee well-being (a 'micro' related outcome) in this relationship (Chapter 2). Two competing views based on conceptual models and theories founded in organizational psychology and OB are tested. This issue is presented in more detail below (challenge two).

1.3.2 Challenge 2: Balancing Managerial and Employee Interests

The second challenge that will be addressed in this thesis is how to balance managerial (organizational performance) and employee interests (employee well-being). In the HRM and climate literature two competing views stand out on the role of employee well-being in the HRM / climate - performance relationships (Appelbaum, 2002; Boselie et al., 2009; Boxall & Macky, 2009; Kopelman et al., 1990; Paauwe, 2009; Peccei, 2004; Quinn & Rohrbaugh, 1983). The optimistic approach assumes that HRM / climate enhances employee well-being and organizational performance (mutual gains), whereas the pessimistic or skeptical approach assumes that HRM / climate pays off in terms of organizational performance, but at the same time has no or even a negative effect on employee well-being (conflicting outcomes) (Peccei, 2004). Hence, the mutual gains perspective expects that both employees and employers benefit from HRM / climate, the conflicting outcomes perspectives expects that employers benefit from HRM / climate while employees do not.

The mainstream view holds that HRM is beneficial for employees; the general idea is that HRM fosters employee well-being resulting in improved financial performance and competitive advantage (see the explanatory models of the link between HRM and performance discussed in the introduction). However, this approach neglects that employee well-being and organizational performance might be two goals influenced by

different sets of HR practices (Boxall & Purcell, 2008). Besides, this approach neglects the possible exploitive nature of HRM (Legge, 1995), i.e. HRM is at the cost of employee well-being. Few studies have examined the two alternative interpretations of the role of well-being, most of the studies have formulated single hypotheses (Wall & Wood, 2005; Wood, 2009) mainly the mutual gains perspective. Exceptions are studies by Orlitzky and Frenkel (2005) and Ramsay et al. (2000). However, Orlizky and Frenkel (2005) conclude that both models had explanatory power, while Ramsay et al. (2000) conclude that both models were wanting.

A similar discussion can be found in the organizational climate literature. Here, it is also argued that employee well-being (mainly happiness / work satisfaction) function as intermediary between organizational climate and organizational performance (Kopelman et al., 1990; Ostroff & Bowen, 2000; Ostroff et al., 2003; Tesluk et al., 2002). However, an organization may not be able to achieve both employee well-being and organizational performance to the same extent, and need to make a trade-off in terms of which outcome to achieve. The competing values framework implies that organizations characterized by a rational goal and internal structure climate focus primarily on achieving performance, while organizations characterized by a human relations and open system climate focus primarily on achieving employee well-being (Quinn & Rohrbaugh, 1983). To date there has been little research on the effects of multiple types of climate on outcomes in different performance domains (Kuenzi & Schminke, 2009; Ostroff et al., 2003; Schulte, Ostroff, Shmulyian & Kinicki, 2009).

Hence there is a need to pit the mutual gains versus the conflicting outcomes perspectives both in the HRM and climate literature. Only this type of research can test whether HRM / climate results in improved organizational performance to the simultaneous advantage or at the cost of employee well-being. This thesis applies a balanced approach (including employer and employee interests): by means of examining which of the competing theoretical perspectives, mutual-gains or conflicting outcomes provides a better fit for the role of employee well-being in the relationship between HRM (Chapter 2) / climate (Chapter 6) and organizational performance.

1.3.3 Challenge 3: Focusing on Practical Relevance

The gap between research and practice in HRM has been debated in presidential addresses (e.g. Rousseau, 2006), special issues (e.g. Academy of Management Journal, 7, 2007; Point-Counterpoint (Journal of Management Studies, 3, 2009), and books (e.g. Boxall et al., 2007). In the last decade attempts to bridge the gap have evolved (Rynes,

Giluk & Brown, 2007) in the form of 'evidence-based management' (Rousseau, 2006) and 'analytical HRM' (Boxall et al., 2007). Evidence-based management is concerned with 'translating principles into practices that solve organizational problems' (Rousseau, 2006, page 256). Analytical HRM is described as 'identifying and explaining what happens in practice' (Boxall et al., 2007: 4).

Both approaches highlight the need to provide managers with information on causal processes that are taking place within their company between HRM designed at corporate level on the one hand and organizational performance on the other (Becker & Gerhart, 1996; Purcell et al., 2007; Rynes et al., 2007). Increasingly, organizations are relying on measurement approaches, such as workforce scorecards to gain insights in these processes (e.g. Huselid, Becker & Beatty, 2005). Related to this, organizations are also increasingly using employee surveys as a source of information on work and organizational factors nowadays (Ulrich, 1997).

This thesis adopts a pragmatic perspective: it pays attention to how organizations can make better use of employee survey and performance data in the context of workforce scorecards. It provides an illustration of how organizations can monitor the effects of HRM-related change processes using employee surveys by tackling three challenges practitioners face. First, by discussing how individual employee survey information can be used to provide meaningful information on HRM processes at business unit level (Chapter 3 and 5). Secondly, by explaining how to make temporal inferences between HRM indicators and business outcomes (Chapter 5). Finally, by showing how established relationships can be translated into relevant management information (Chapter 5).

1.3.4 Challenge 4: Improving Research Methods

Research on the influence of HRM and organizational climate on performance has experienced major growth. Despite this, scholars have noted methodological concerns with existing HRM and organizational climate research (Becker & Gerhart, 1996; Boselie et al., 2009; Gerhart, 2007; Kuenzi & Schminke, 2009; Paauwe, 2009; Wall & Wood, 2005; Wright & Gardner, 2003). Because theoretical progress (and making meaningful policy recommendations) depends on the quality of methods used in empirical research, it is just as important to focus on methodology improvement as on theory development (Edwards, 2008; Gerhart, 2007; Paauwe, 2009).

First, HRM and climate research has been criticized for an over-reliance on cross-sectional designs, and in addition poorly understood causal relations between HRM and

organizational climate on the one hand and organizational performance on the other (e.g. Ostroff et al., 2003; Wright, Gardner, Moynihan & Allen, 2005). The most prevalent research design in the literature is one where organizational climate or HRM measures are taken from the same period and are coupled with overlapping or even preceding financial performance data (Ostroff et al., 2003; Patterson et al., 2004; Wright et al., 2005). However, this type of design does not allow any conclusions on directions of causality, since temporal precedence of the cause is a necessary condition for causal inference (Cook & Campell, 1979; Wright et al., 2005). This paucity of longitudinal research is problematic in HRM and organizational climate-performance research, since several explanations for reversed or reciprocal causation have been proposed, such as investments in HRM (Paauwe & Boselie, 2005; Siehl & Martin, 1990) and signaling effects (Paauwe & Boselie, 2005; Schneider, Hanges, Smith & Salvaggio, 2003). Related to temporal issues, little is known about how HRM and organizational climate influences employee well-being and organizational performance across time, i.e. lag effects (Purcell & Kinnie, 2007; Wright & Haggerty, 2005). Hence, longitudinal research is needed. In particular, repeated measures of HRM, climate and performance are recommended to test whether a change in HRM or climate is associated with a change in organizational performance (Gerhart, 2007; Guest, Michie, Conway & Sheehan, 2003; Wall & Wood, 2005).

Related to this, a second methodological issue concerns the lack of sophistication of techniques used to analyze longitudinal (repeated) data. Few studies used structural equation modeling, the preferred technique to test longitudinal data. Structural equation approaches are superior to bivariate correlations or regression analyses, because structural equation models allow simultaneous estimation of causal relationships between variables (Zapf, Dormann & Frese, 1996). Applied to HRM and climate research, structural equation modeling enables analyzing the effects of HRM and climate on performance while controlling for temporal stabilities in HRM, climate and performance, and inverse causation (performance influences climate and HRM).

The third methodological issue is the over-reliance on single source self-report survey data on HRM, (employee well-being) and performance (Wall & Wood, 2005). Many studies have used surveys sent to senior HR manager or chief executive to rate the HR practices in use and to estimate the performance relative to others in their sector (Purcell & Kinnie, 2007). Here, data on the independent (HRM) and dependent (organizational performance) variable are collected from the same source. This design is

subject to common method variance and rater bias (Gerhart, 2007). Doty and Glick (1998) concluded that common method variance results in more than 25 percent bias in observed relationships. Even in a situation where information regarding organizational performance is collected from a different source, reliance on a single respondent might bias the estimated relationships, as respondents hold implicit HRM-performance theories (Gardner & Wright, 2009). Furthermore, the reliance on a single HR professional or line manager is highly questioned in terms of reliability and validity (Boswell, Colvin & Darnold, 2008; Gerhart, Wright, McMahan & Snell, 2000; Gerhart, Wright & McMahan, 2000; Guest, 2001). Questions have been raised as to whether a single HR professional or line manager can provide an accurate description of the implemented practices in a branch.

Related to the previous issue, the fourth issue concerns the over-reliance on subjective or partial outcome measures. Perceptual measures of performance are prone to common subject variance, in case the data on HRM are collected from the same source (Gerhart, 2007). If HRM data are collected from a different source, these data are still subject to respond bias (Guest, 2001). The second point of this fourth issue concerns the reliance on partial objective outcome measures. In much organizational climate research performance is only partially or indirectly measured (e.g. non-controllable costs or customer satisfaction). The full productivity ratio (outputs and inputs) is seldom assessed in the climate literature (Kopelman et al., 1990).

Finally, a fifth methodological issue is the overemphasis on organizational-level of analysis (Becker & Gerhart, 1996; Wright & Gardner, 2003). Comparing HRM, climate and performance across companies in different industries is problematic, as organizations provide different products and services, and operate under different business conditions (Wright & Gardner, 2003).

In order to overcome the identified methodological shortcomings of prior research, innovative research methodologies are applied in the empirical chapters of this thesis. This thesis extends previous empirical HRM and climate research in five methodological ways: the application of longitudinal design and analyses (structural equation modeling), the combination of data from multiple raters (employees) and sources (employees and objective indicators), and the comparison of business units within one organization.

1.3.5 The Four Challenges Addressed in this Thesis

The contribution of this thesis consists of tackling the four challenges facing researchers and managers when integrating the employee perspective into the HRM-

performance linkage. 1. How to bridge 'macro' business-oriented and 'micro' OB / organizational psychology perspectives towards the topic of HRM and performance? 2. How to balance managerial and employee interests: which of the competing perspectives, mutual-gains or conflicting outcomes provides a better fit for the role of employee well-being in the relationship between HRM and performance? The first two challenges are mainly theoretical in nature. This thesis aims to do research of theoretical and practical relevance. Therefore, the third identified challenge focuses on practical relevance: 3. How can organizations make better use of employee surveys on HRM processes and performance data in the context of workforce scorecards? If we are to draw conclusions regarding theory (challenge 1 and 2) and practice (challenge 3), it is important to focus on research methods, therefore the fourth challenge is on methodology in the literature on HRM and performance. 4. How to improve the methodological rigor and quality of HRM and performance research? The four challenges and our approach to address these are summarized in Table 1.

1.4 Thesis Structure

The four identified research issues will be addressed in chapters 2 to 6. To start with, chapter two covers a review on relationships between HRM, employee well-being, and organizational performance. In the literature, two competing views stand out with respect to the position of employee well-being in the area of HRM-performance research. In the first view, employers and employees both benefit from HRM (so-called mutual gains perspective). In contrast, in the second view authors argue that HRM pays off in terms of overall performance, but have no or even a negative impact on employee interests (so-called conflicting outcomes perspective). By means of a review of 41 studies, the two competing hypotheses are tested.

The following four chapters (3 to 6) are based on archival longitudinal survey data obtained from more than 14,000 employees and objective productivity figures of 171 branches of a large financial services organization in the Netherlands. Although the use of this archival dataset (which can be seen as an expanded case study) has a number of advantages (see our challenge on improving research methods) the use of archival data collected in ongoing business practice limits the range of issues which could be studied in this dissertation.

Table 1. Overview of Key Challenges

Key challenge	Approach to address the challenges	Chapter
1. Bridging research traditions	Aligning the OB orientation towards the topic of SHRM and performance, with the more business oriented perspective, by integrating climate, perceptions of HRM and employee well-being literature	2 – 6
2. Balancing managerial and employee interests	Testing which of the competing perspectives, mutual-gains or conflicting outcomes provides a better fit for the role of employee well-being in the relationship between HRM and performance	2,6
3. Focusing on practical relevance	Description of how organizations can make better use of employee survey and performance data in the context of workforce scorecards	3,5
4. Improving methods	Improvement of methodological quality:	
	a. Longitudinal design and analyses	4 – 6
	b. Sophistication of techniques used to analyze longitudinal data	4 – 6
	c. Multiple sources (employees and objective indicators)	4 – 6
	d. Multiple raters (employees)	3 – 6
	e. Within company design	3 – 6

The content of the dataset was decided in 2000; i.e. before this dissertation project started. At that time it was decided to focus on happiness well-being only, rather than on health or relationships well-being, and to focus on HRM measures through employee surveys only, rather than combining this type of information with key informant interviews. We discuss these restrictions in more detail in the empirical chapters and the discussion chapter of this thesis.

Chapter three explores theoretically and methodologically the possibility for aggregating individual perceptions of HRM, climate and well-being to construct meaningful business unit-level constructs. Five criteria for evaluating aggregation possibilities are developed: emergence processes, referent type, intraclass correlations coefficients and interrater agreement. Subsequently, these five criteria are applied to survey data used in the three remaining chapters (4, 5, and 6) of this thesis.

The fourth chapter is a two-wave cross-lagged study (average interval of two years) on time precedence in the relationship between organizational climate and organizational performance. It is argued that four HR-induced organizational climate dimensions influence organizational performance. Additionally, it is also hypothesized that high organizational performance influences the four organizational climate dimensions through investments in HR practices and through signaling effects. Finally, it is reasoned that possibly both processes are present simultaneously.

Chapter five examines how organizations can make sense of employee surveys on HRM-related change processes in the context of workforce scorecards. In particular this chapter deals with three challenges corporate HR managers and HR researchers face in setting up and making use of workforce scorecards, i.e. finding appropriate HRM indicators, establishing temporal relationships, and providing useful management information. The three challenges are dealt with in this chapter by using employee survey data as an indicator of factors driven by HRM-related interventions, using two waves of data to test the assumed temporal relationship, and using an extrapolation method to translate our findings (estimates) into relevant management information (in this case: Euro increase in profits).

The sixth chapter of this thesis tests which of the competing perspectives, work satisfaction as intermediary or work satisfaction as outcome indicator, is more appropriate to describe the role of work satisfaction in the relationship between climate for efficiency, climate for service and productivity. Work satisfaction is depicted as an intermediary mechanism, i.e. both strategic climate types positively influence productivity

through increased work satisfaction. However, an alternative approach suggests that work satisfaction and productivity are different outcome indicators: a climate for efficiency leads primarily to the achievement of productivity, while a climate for service leads primarily to the achievement of work satisfaction.

In chapter seven a discussion of the results is presented along the four identified key issues. Strengths and weaknesses of the research are discussed. Finally, implications and suggestions for future research are presented.

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2

HRM, Employee Well-being and Organizational Performance: A Systematic Review of the Literature

This chapter is based on: Van De Voorde, K., Paauwe, J. & Van Veldhoven, M. HRM, Employee Well-being and Organizational Performance: A Systematic Review of the Literature. *Manuscript under Review*.

Abstract

In the literature, two competing views stand out with respect to the position of employee well-being at work in HRM - performance research. Employee well-being is described here according three dimensions: happiness, health, and relationships. This review examines which of the competing perspectives, 'mutual gains' or 'conflicting outcomes' is more appropriate to describe the role of these three employee well-being components as found in empirical research. It covers 41 studies published from 1995 to 2008. Based on the quality of the studies and the consistency of the study findings, it is concluded that employee well-being in terms of happiness and relationships function as mutual gain with performance. Health-related well-being, however, seems to function as conflicting outcome with performance. Directions for future research and theoretical development are suggested.

2.1 Introduction

Starting with the ground-breaking study of Huselid (1995) which claimed that Human Resource Management (HRM) has a substantial impact on financial performance, a large body of research examining the impact of HRM on organizational performance has been published in the last decade (e.g. Boselie, Dietz & Boon, 2005; Combs, Liu, Hall & Ketchen, 2006). In this context HRM refers to: 'All those activities associated with the management of people in firms' (Boxall & Purcell, 2008: 1). Lately there have been calls to focus more on employee-centered outcomes and not only on the effects of HRM on organizational performance (Guest, 1999; Nishii & Wright, 2008). Boxall and Makcy (2009) described this emergent research interest as: *We find ourselves in the midst of a lively debate over the impacts of HRM on firms and on workers. Some scholars see benefits for both... wile others question the gains for firms... or for workers... and some, quite properly, question the value for both parties...* (page 4).

In the literature, two competing views stand out with respect to the position of employee outcomes in the area of HRM – organizational performance research. In the first view, employers and employees both benefit from HRM (Appelbaum, Bailey, Berg & Kalleberg, 2000; Guest, 1997) (so-called mutual gains perspective). In contrast, in the second view authors argue that HRM pays off in terms of organizational performance, but has no or even a negative impact on employee interests (e.g. Legge, 1995; Ramsay, Scholaris & Harley, 2000) (so-called conflicting outcomes perspective). Capturing this emerging research interest, the current study examines which of the competing perspectives, 'mutual gains' or 'conflicting outcomes', is more appropriate. Given the emerging importance of employee well-being in explanatory models of the link between HRM and performance on the one hand (e.g. Nishii & Wright, 2008; Paauwe & Richardson, 1997) and the importance of employee well-being as an important outcome in its own right on the other (Peccei, 2004), we study employee interests in terms of employee well-being at work in this study.

Prior reviews of empirical research on the HRM - performance linkage (Becker & Gerhart, 1996; Becker & Huselid, 1998; Boselie et al., 2005; Combs et al., 2006; Ferris, Arthur, Berkson, Kaplan, Harrell-Cook & Frink, 1998; Wall & Wood, 2005; Wood, 1999; Wright & Boswell, 2002; Wright, Gardner, Moynihan & Allen, 2005) as well as reviews of empirical research on the effects of HRM on employee well-being at work (Appelbaum, 2002; Peccei, 2004) have provided us with useful information. Combs et al. (2006) concluded that HRM is positively related to performance; on the other hand Appelbaum

(2002) found that it is difficult to draw any definitive conclusions about the effects of HRM on employee well-being. Unfortunately, evidence on relationships between the concepts of HRM, employee well-being and organizational performance were reviewed separately. As far as we know, an updated review in which evidence on linkages between HRM, employee well-being, and organizational performance is searched and synthesized in a critical manner has not yet been conducted. Hence, the current study provides a review of quantitative studies relating HRM, employee well-being, and organizational performance.

The contribution of this review is to examine which of the competing theoretical perspectives (Wall & Wood, 2005), mutual gains or conflicting outcomes, provides a better fit for the role of employee well-being. By reviewing studies on the effects of HRM on employee well-being and performance at the same time, this study contributes to further understanding on the effects of HRM on multiple stakeholders by including management as well as employee-centered outcomes. This is an important issue as the practical implications of these two lines of thought differ. Evidence for mutual gains implies that adopting HRM activities increases performance and at the same time increases employee well-being. However, if the conflicting outcomes perspective is more valid, HRM activities positively affect organizational performance, but have a detrimental effect on employee well-being. To start with, first we clarify our approach to the concepts of employee well-being, HRM and organizational performance. Subsequently, we elaborate on the mutual gains and conflicting outcomes perspectives, resulting in two competing hypotheses.

2.2.1 Employee Well-being

Although employee well-being has become an important topic in scholarly research journals, there is considerable variation in the conceptualization of well-being (Danna & Griffin, 1999). A first distinction can be made between people's overall well-being or happiness and more specific domains of well-being such as family or work (Diener, Suh, Lucas & Smith, 1999). In this review the interest is on well-being at work, as the aim of this review is to examine linkages between two 'work' concepts of management activities (HRM), and organizational performance. Employee well-being at work can broadly be described as the overall quality of an employee's experience and functioning at work (Warr, 1987).

Secondly, different dimensions of employee well-being at work are distinguished in the literature, for example, job satisfaction and job stress. Within the organizational

context, two general types of employee well-being are differentiated (Danna & Griffin, 1999; Grant, Christianson & Price, 2007). In the first type, employee well-being is focused on subjective experiences and functioning at work. This refers to job-related experiences as overall job satisfaction, facet specific work satisfaction (e.g. satisfaction with pay, promotion opportunities), and organizational commitment. On the other hand work-related health is distinguished. Health in the workplace encompasses both physiological and psychological indicators related to employee health (Danna & Griffin, 1999), for example job strain, or job stress. In sum, both dimensions are defined as properties of the individual employee.

More recently, Grant et al. (2007) added social well-being as an important third dimension. It should be noted that this dimension is somewhat distinct from the dimension of subjective experiences and the health dimension. Whereas these latter dimensions are individual focused, this dimension is focused on interactions that occur between employees or between employees and their supervisor or the organization they are working for (e.g. trust, cooperation, morale). We decided to include this dimension on relationships as well, for the reason that this dimension is frequently used in conceptual models (e.g. social exchange literature, HRM process models, competing values model of organizational culture and climate) and empirical studies (e.g. Bartel, 2004; Gelade & Ivery, 2003; Guerrero & Barraud-Didier, 2004; Mathieu, Gilson & Ruddy, 2006).

It is important to make a distinction between these dimensions of well-being at work, because in most of the conceptual models linking HRM to performance, different dimensions of employee well-being are included. For example job satisfaction (Appelbaum et al., 2000; Guest, 2001; Paauwe & Richardson, 1997) and job stress (Appelbaum et al., 2000; Guest, 1999). Moreover, it is possible for trade-offs to exist between different dimensions of well-being (Grant et al., 2007). For example work redesign practices can enhance job satisfaction, but can also cause physical strain at the same time (Campion & McClelland, 1993). Appelbaum (2002) also argued that HRM might have contradictory effects; HRM might positively influence commitment, satisfaction and trust, but this might be at the cost of increased stress levels.

Hence, in this review study, empirical articles are classified by the following three types of work-related well-being: health, happiness and relationships well-being (Grant et al., 2007). The operationalizations of employee well-being widely differ across empirical research (Danna & Griffin, 1999). Therefore, the above introduced categorization serves

as an a priori guiding framework, and the three dimensions will be further classified during the reviewing process (the examples provided below are for illustrative purposes).

The happiness component refers to subjective experiences of employees i.e. their psychological well-being, for example job satisfaction and organizational commitment. The second component, health, encompasses physiological or psychological indicators related to employee health (Danna & Griffin, 1999), like organizational stress and need for recovery. The relationships component of employee well-being, social well-being, focuses on the quality of relations between employees and their employer and colleagues, for example: trust, social support and cooperation (Grant et al., 2007). In this way the conceptualization of our well-being constructs accords with the well-being types distinguished in prior literature on the difference between happiness and health-related well-being (Danna & Griffin, 1999), while social well-being (Grant et al., 2007) is in accordance with current HRM research. All three dimensions are incorporated in the HRM literature on mutual gains and on conflicting outcomes.

2.2.2 Human Resource Management

According to Boxall and Purcell (2008) HRM refers to: 'All those activities associated with the management of people in firms' (page 1). In this definition, HRM is defined as management activities. Therefore, studies on the effectiveness of the HR function (e.g. Wright, McMahan, Snell & Gerhart, 2001) are excluded in this review. The effectiveness of the HR function does not focus on the management activities itself, but on the role or function of the HR department in delivering management activities. Secondly, this definition stresses the incorporation of multiple management activities, in contrast to focusing on the effects of a single management activity isolated from other management activities. It is important to combine multiple management activities, as employee and organizational outcomes are influenced by multiple management activities rather than by a single management activity (Wright & Boswell, 2002). Hence, only studies with multiple management activities are included in this review.

Whereas there remains conceptual unclarity on which management activities should be labeled as HRM (Arthur & Boyles, 2007), and this divergence is manifested in the different labels given to and measurements of the sets of management activities investigated in HRM studies, more recently a stream of work conceptualizes HRM along levels of analysis. In a comprehensive multi-level model Ostroff and Bowen (2000) conceptualize shared employee perceptions of HRM (defined as organizational climate) as crucial mediating phase between HRM systems and employee attributes. Nishii and

Wright (2008) describe the HR-performance linkage as follows: intended HR practices (developed HR policies by decision makers) influence actual HR practices (implemented HR practices), employees perceive these practices (perceived HR practices) and react to them (employee outcomes), and these employee outcomes result in organizational performance. Along similar lines Boxall and Purcell (2008) conceptualize HRM as management intended and implemented HR policies aiming to build ability, motivation and opportunity to perform at individual level, and aiming to build workforce capabilities, work organization and work attitudes at collective level, and third management articulate values to influence employee perceptions.

Hence, this review includes a broad range of management activities at different levels of analysis, e.g. organization orientation to employees (Miller & Lee, 2001); formal and implemented HRM activities (Chandler, Keller & Lyon, 2000; Khilji & Wang, 2006) employee perceptions of activities and underlying goals (Bartel, 2004; Nishii, Lepak & Schneider, 2008; Paul & Anantharaman, 2003; Van Veldhoven, 2005).

2.2.3 Organizational Performance

Organizational performance is a multifaceted concept (Paauwe, 2004). Within the HRM literature, Dyer and Reeves (1995) use four dimensions to describe indicators of organizational performance: human resource outcomes, organizational outcomes, financial or accounting outcomes and stock-market performance indicators. Human resource outcomes are the most proximal outcomes to HRM for example employee attitudes, employee absenteeism, turnover. A second group of performance indicators are labeled organizational outcomes, such as productivity, quality and service. Thirdly, financial or accounting outcomes refer to financial indicators like return on invested capital or return on assets. A fourth group concerns stock-market performance indicators, as measured by stock value or shareholder return.

This review attempts to pit the two competing perspectives on the effects of HRM on employee well-being and organizational performance against one another. Including HR outcomes as an organizational performance category would result in conceptual unclarity in this study. Hence, in this review we include organizational, financial and stock-market performance measures as indicators of organizational performance, but skip HR outcomes.

2.2.4 Mutual Gains Perspective

The mainstream perspective on the effects of HRM on both employee well-being and organizational performance holds that HRM has positive outcomes for the

organization and for the workers as well. Peccei (2004) describes this as 'optimistic perspective' in his typology on the impact of HRM on employee well-being (see also Dorenbosch, 2009). Central to this perspective is the idea that HRM is mutually beneficial both for employees (employee well-being) and employers (organizational performance) (see Figure 1).

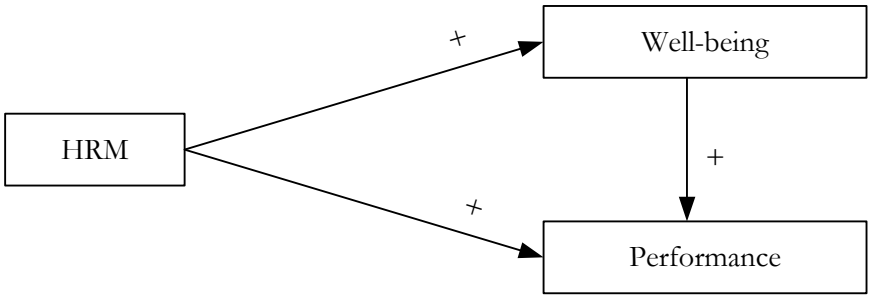

Figure 1. Mutual gains perspective

One of the original HRM models used to explain a positive effect of HRM on employee attitudes and behaviors is the 'Behavioral Perspective', which stated that employment activities are adopted to elicit and control employee behaviors which contribute to overall organizational performance (Wright & MacMahan, 1992). Another widely used theory to explain the positive effect of HRM on the happiness and relationships component of employee well-being is the social exchange theory by Blau (1964). Employees interpreted management activities as indicative of the organizational support and care for them, and reciprocate accordingly in commitment, satisfaction and trust (Whitener, 2001). A more detailed explanation for a positive effect of HRM on the three distinguished well-being components is provided by Appelbaum et al. (2000). According to Appelbaum et al.'s (2000) conceptual model the adoption of management activities (e.g. training, job design, compensation, promotion, and information-sharing) increases employees' skills, provides opportunities to participate, and increases motivation (so-called AMO theory). Subsequently, this process has a positive effect on employee well-being; it increases job satisfaction, commitment and trust, and on the other hand it reduces stress levels. More recently, Nishii and Wright (2008) presented an expansion of the model linking HRM, employee well-being and organizational performance, to which they added the notion of actual HR practices and employee perceptions of HR practices. According to this process model, intended HR practices might differ from actual practices due to the implementation phase, and employees perceive the actual HR practices and process the HRM information in a way that brings about positive attitudinal, cognitive and behavioral reactions.

The behavioral perspective, the process model by Nishii and Wright (2008) and Appelbaum et al.'s (2000) model imply that HRM has a positive effect on employee well-being via individual-level mechanisms. Ostroff and Bowen (2000) presented a multi-level model of HRM. Following this multi-level model a strong HRM system can reinforce shared employee perceptions (organizational climate) which positively affect shared employee attitudes and behaviors.

In brief, the general underlying idea is that HRM fosters employee well-being (happiness, health and relationships) resulting in improved financial performance and competitive advantage. Hence, the mutual gains perspective sees both employees (in terms of employee well-being) and employers (in terms of organizational performance) benefiting from HRM.

2.2.5 Conflicting Outcomes Perspective

An alternative view on the role of employee well-being in the relationship between HRM and performance is the conflicting outcomes perspective. According to this perspective HRM has no effect on employee well-being, or HRM has a negative effect on employee well-being, according to Peccei's (2004) typology the 'pessimistic' and the 'skeptical view', respectively (see also Dorenbosch, 2009) (see Figure 2).

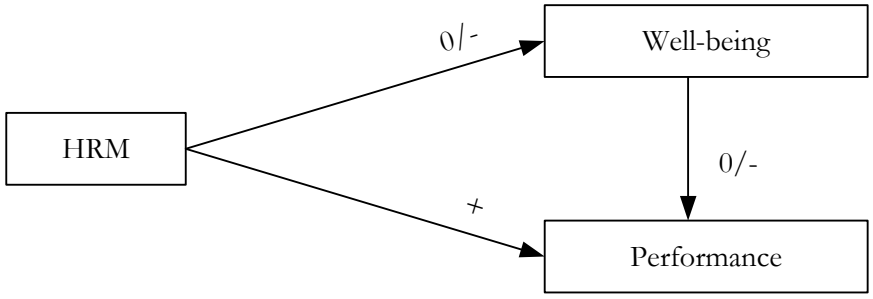

Figure 2. Conflicting outcomes perspective

The skeptical view can be clarified by the notion of organizational performance as a multidimensional construct (Paauwe, 2004). Employee well-being is characterized as a parallel organizational outcome next to financial performance. Boxall and Purcell (2008) argued that employee well-being and organizational performance are two goals influenced by different sets of HR practices. According to Peccei (2004) HR practices that maximize employee well-being, might not be the ones that maximize organizational performance. Hence, organizations may need to make a trade-off in terms of which outcome to achieve with priority, and focus on this outcome. Based on this competing-outcome notion Quinn and Rohrbaugh (1983) developed the competing values framework. Their competing values framework implies that organizations characterized

by a rational goal and internal structure climate focus primarily on achieving productivity, while organizations characterized by a human relations and open system climate focus primarily on achieving employee well-being (Quinn & Rohrbaugh, 1983). Following this reasoning, management activities focused on achieving high organizational performance have no impact on employee well-being.

A more critical implication (the pessimistic view) of employee well-being and financial performance both as outcomes is the idea of a trade-off between employee well-being and organizational performance: enhancements in organizational performance are achieved at the cost of reduced employee well-being. Based on labor process theory Godard (2001) concluded that the benefits of work practices tend to decline or even to diminish, because of higher stress levels. In an organization aimed at financial performance employees can experience lower levels of employee well-being as a result of increasing work intensification and job strain (Ramsay et al., 2000). Central to this view is the exploitative nature of HRM (Legge, 1995); HRM has a positive effect on financial performance established through negative employee well-being effects.

In brief, the general underlying idea is that HRM results in improved financial performance and competitive advantage, however workers do not benefit from HRM. Hence, the conflicting outcomes perspective sees employers (in terms of organizational performance) benefiting from HRM, however, HRM is not beneficial and in fact maybe harmful for employees (in terms of employee well-being).

2.2.6 Competing Hypotheses

This study aims to test which of the competing perspectives (Wall & Wood, 2005), 'employee well-being and organizational performance as mutual gains' or 'employee well-being and organizational performance as conflicting outcomes', is more appropriate to describe the role of employee well-being in the relationship between HRM and organizational performance. The mutual gains perspective stated that HRM is beneficial for organizations and for workers; hence HRM is expected to have a positive effect on employee well-being. However, the conflicting outcomes perspective argued that HRM has no or even a negative effect on employee well-being. HRM results in no or (un) favorable outcomes in terms of employee well-being. The two competing perspectives depicted in Figure 1 and 2 were translated into the following research question:

Research question 1: Is there more empirical support in the research literature for mutual gains (i.e. positive effect of HRM on well-being) or is

there more support for conflicting outcomes (i.e. no or a negative effect of HRM on well-being)?

According to the two perspectives, HRM has a positive effect on organizational performance and at the same time has a negative, no, or positive effect on employee well-being. The underlying idea of the mutual gains perspective holds that the relationship between HRM and organizational performance is established through increased employee well-being. Similarly, the pessimistic view (conflicting outcomes perspective) states that the relationship between HRM and organizational performance is established through decreased employee well-being. Evidence for this type of reasoning requires studies that include HRM, and employee well-being, and organizational performance. Hence, only studies that include HRM, well-being as well as performance indicators were included in this review. In addition, evidence for the type of reasoning we laid down in the introduction presumes a positive effect of HRM on organizational performance. We therefore formulated a second research question to explore the effects of HRM on well-being provided when there is or is not a positive effect of HRM on organizational performance:

Research question 2: To what extent is the evidence for mutual gains and conflicting outcomes (research question 1) dependent on a positive effect between HRM and organizational performance?

2.3 Method

2.3.1 Literature Search and Selection

A systematic literature search in international refereed journals in management, organizational behavior, work and organizational psychology, applied psychology, as well as other journals known for their explicit HRM-related focus was conducted. We completed our literature search by cross checking this list with the reference sections of 11 review studies (i.e. Appelbaum, 2002; Becker & Gerhart, 1996; Becker & Huselid, 1998; Boselie et al., 2005; Combs et al. 2006; Ferris et al., 1999; Peccei, 2004; Wall & Wood, 2005; Wood, 1999; Wright & Boswell, 2002; Wright et al., 2005). Only articles published from 1995 to 2008 were searched. The year 1995 is chosen as the earliest date of interest because it was in 1995 that Huselid published his peer reviewed empirical milestone study about HRM and performance. We only included studies using multiple management activities, employee well-being measures, and organizational performance

measures. To select as many articles as possible, we decided to include studies designed for other purposes as well (e.g. studies focusing not only on the effects of HRM on well-being and performance), provided the inclusion of HRM, well-being and organizational performance measures. This review omits studies with a limited number of HRM activities (e.g. Brown, Sturman & Simmering, 2003), and studies that focus on HRM activities, but do not examine effects of HRM on employee- as well as organizational outcomes simultaneously (e.g. Wood, 1999). A last inclusion criterion concerned originality of the study. Hence, no reviews or opinion articles were included.

2.3.2 Methodological Quality Assessment

In order to assess the quality of the included studies four key criteria recognized for their relevance in the HR field (Becker & Huselid, 1998; Gerhart, 2007; Guest, 2001; Wall & Wood, 2005; Wright et al., 2005; Wright & Gardner, 2003) against which to judge the studies were identified. These four criteria are: (a) sample size and response rate; (b) quality of research design; (c) reliability and validity of the HRM, well-being and performance measures, and (d) the adequacy of the statistical test performed. On the basis of the four criteria a system was developed to rate the overall methodological quality of a study. Studies obtained a score for each criterion.

Concerning sample size and response rate we distinguished: small sample size (below 50) and no information on or low response rate (under 30 percent) (1); no information on or low response rate combined with medium sample size (between 50 - 100) and low sample size combined with high response rate (above 30 percent) (2); no information on or low response rate combined with large sample size (above 100) and medium sample size combined with high response rate (3); large sample size combined with high response rate (4). As regards design, we classified studies into post-predictive (1); contemporaneous (2); predictive (3); or longitudinal (4) design. Concerning the validity and reliability of measures (HRM, well-being and performance) we made a distinction between the use of subjective, single source data (1); subjective data and psychometrics reported for only one or two measurements (2); subjective data and all measurements psychometrics reported or objective outcome and psychometrics not reported (3); and objective outcome and psychometrics reported (4). As regards adequacy of statistical test performed we distinguished between: no test (1); correlational research (2); multiple regression or analysis of variance (3); multi-level analysis or structural equation modeling (4).

Studies were classified as excellent quality studies when they had a score of 3 or 4 on all four identified criteria. Studies that scored 1 on two (or more) criteria; or scored 1 and 2 on two (or more) criteria were classified as average quality studies. The remaining in between studies: studies that did not fall into category average or excellent were labeled as good quality studies.

2.3.3 Synthesis of Evidence

Based on the quality of the studies and the consistency of the observed findings, the level of evidence for the research questions is assessed. We checked the effects reported between HRM and employee well-being outcomes. We based our conclusions on the effects of the most advanced analysis reported in the study. If effects between HRM and employee well-being components were not explicitly reported, we relied on descriptive statistics instead of more advanced analyses. If more than one well-being dimension or more than one measure of a single well-being type was examined, results were reported separately in terms of data points. In case of multiple linkages reported between separate HRM activities and outcomes, we decided to base our conclusion on the results of the majority of reported effects. In case of studies reporting both effects of separate HRM activities and effects of an overall HRM index, we included the effects of the index. We elaborate on the differences found between separate and index effects in the discussion. In case of multiple outcomes, we based our conclusion on the most proximal organizational outcome reported. In addition, we checked for and report on differential effects of HRM on different outcome types.

To answer our first research question we calculated the ratio of data points supportive of each perspective to the total number of data points per well-being dimension. Furthermore, we checked whether the results of the excellent quality studies were in line with the outcome of this ratio. Besides, to shed light on the extent to which the results are dependent on HRM - organizational performance effects (reflecting our second research question), we reported the ratio of data points supportive of each perspective provided there is a positive effect of HRM on organizational performance.

2.4 Results

2.4.1 Description of the Studies

The literature search resulted in 41 studies. A considerable number of studies were published in HR-focused journals, e.g. the International Journal of Human Resource Management and the Human Resource Management Journal. Other studies were

published in journals in management (e.g. British Journal of Management) as well as in psychology (e.g. Journal of Applied Psychology, Personnel Psychology).

Table 1 gives information on the nature and size of the study population, the measurement of HRM, employee well-being and organizational performance, and the quality rating. Nine studies could be classified as excellent quality studies; 16 studies as good quality studies and 16 studies as average quality studies. Table 2 gives information on the measurements of the three well-being components.

Three studies by Harter, Schmidt and Hayes (2002), Schneider, Hanges, Smith and Salvaggio (2003) and Benkhoff (1998) included both HRM and happiness measures, however they did not report on relationships between these two concepts. Therefore these studies were not taken into account in testing our research question, and are not reported in Table 2.

Table 1. Description of Studies

Reference	Sample	Resp. rate	Design	HRM	Well-being			Performance	Val. and Rel.	Stat. test	Quality
					Ha	He	Re				
1.Ahmad (2003)	107 manufacturing plants	60	CO	HR practices: security, hiring, teams, decentralization, compensation, training, status difference, sharing information	√			Perceived organizational performance (cost, quality, delivery, flexibility, speed of product introduction)	3	3	GQ
2.Bartel (2004)	150 branches of service organization	45	LO	HR indices: skill, performance and reward, communication			√	Growth rate of deposits Growth rate of loans	4	3	EQ
3.Benkhoff (1998)	34 branches of German bank	53	CO	HR concepts: integration, quality, flexibility	√√			Branch target reached	3	3	GQ
4.Chandler (2000)	23 manufacturing enterprises	28	PP	Formalized HR practices: incentives, job descriptions, performance appraisal, training, recruitment, discipline system, orientation for new employees, employee participation		√		Perceived firm profitability Perceived sales growth last 2 years	2	3	AQ
5.Collins (2006)	136 high technology firms	34	PR	Commitment based HR: selection, incentive, training and development policies			√√	Revenue from new products and service One year sales growth	4	3	EQ
6.Frenkel (2005)	2001 Australian workplaces	80	PP	Supportive employment practices: training, job security, decentralized management, employee participation, fair pay, fair procedures, good benefits			√	Perceived change in labour productivity	2	4	AQ
7.Fulmer (2003)	50 best companies to work for compared with 50 companies	50	LO	People practice inventory: participation in problem solving and decision making, collaboration, intention to stay in organization, personal goals achievement			√	ROA Stock returns	4	2	GQ
8.Gelade (2003)	137 branches of retail bank	NA	PR	HRM components: staffing level, overtime, professional development			√	Sales against target Customer satisfaction	4	4	EQ
9.Godard (1998)	141 Canadian workplaces	48	PP	Reform categories: participative, socio-technical, compensation	√			Perceived organizational outcomes: costs and output improvement	1	3	AQ
10.Godard (2001)	78 Canadian workplaces	35	PR	HRM conditions: teamwork, empowerment, participatory values, progressive HR, training, performance pay, job security	√			Perceived organizational outcomes: costs and output improvement	1	3	GQ
11.Gould-Williams (2003)	191 employees in public sector	65	CO	HR practices: training, information sharing, status difference, job variety, team working, selection process, job security, internal promotion, pay for performance, involvement in decision	√√		√√	Perceived organizational performance	1	3	AQ

12.Guerrero (2004)	180 French companies	12	PR	High-involvement practices: empowerment, compensation, communication and training and skill development			√	Economic profitability	3	4	EQ
13.Guest (2001)	54 firms in UK	23	PP	Partnership practices: participation, job design and quality focus, performance management, communication, share ownership	√			Perceived internal (productivity, quality and innovation) Perceived external performance (sales, customer and profits)	3	3	AQ
14.Harter (2002)	7939 business units in 36 companies	NA	PR	Employee perceptions of 12 processes and issues that are actionable at the work group's manager	√			Customer satisfaction Productivity Profitability	4	4	EQ
15.Hoque (1999)	209 hotels in UK	35	CO	HRM practices: terms and conditions, recruitment and selection, training, job design, quality issue, communication and consultation, pay system	√√			Perceived labour productivity Perceived quality of services Perceived financial performance	1	3	AQ
16.Katou (2006)	178 Greek manufacturing companies	30	PP	Two HRM factors: resourcing and development, reward and relations	√			Perceived organizational performance	1	3	AQ
17.Khilji (2006)	12 banks in Pakistan	67	PR	Implemented HRM: recruitment, training and development, performance evaluation, rewards and compensation, job design	√			Percentage increase in profits, market share and deposit base	3	3	GQ
18.Lambooij (2006)	10 Dutch organizations	NA	CO	Organization focused internal fit, job focused internal fit, organization focused strategic fit, job focused strategic fit based on HRM practices: employment security, remuneration, job description, participation, internal career opportunities and training			√	Returns	4	4	AQ
19.Mathieu (2006)	121 Canadian customer service teams	NA	PR	Team empowerment: team-based HR practices, external team leadership, organizational support, work design			√	Quantitative performance Customer satisfaction	4	4	EQ
20.Miller (2001)	129 Korean manufacturing companies	37	CO	Organizational commitment to employees: how much organization cares about employees , and how much organization invests in education and development and compensation			√	ROA	4	3	GQ
21.Nishii (2008)	362 supermarket departments	NA	CO	HR attributions of HR practices: service quality, cost reduction, well-being, exploitation, compliance with union	√			Customer satisfaction	3	4	GQ
22.Orlitzky (2005)	2001 Australian workplaces	NA	CO	HPWS: selection, training and development, participation, equal employment opportunity/affirmative action Employment practices: training, job security, decentralized management, employee participation, fair pay and procedures, good benefits	√	√√	√	Perceived labour productivity	2	4	GQ

23.Park (2003)	52 Japanese multinational subsidiaries in US and Russia	NA	CO	HRM system: performance oriented, strategic alignment and employee skills practices	√			Perceived performance (operating service, quality, service and profitability)	1	3	AQ
24.Paul (2003)	35 Indian software companies	76	PP	Perceptions of HR practices: selection, induction, training, job design, work environment, performance appraisal, compensation, career development, incentives	√		√	Perceived operational performance Perceived financial performance	3	3	AQ
25.Ramsay (2000)	Around 1400 workplaces in UK	80	CO	HPWS: profit related pay, employee share ownership, employee consultation, TQM, problem solving groups, team autonomy, job control, IP accreditation, upward communication, job security, internal labour market and induction	√	√		Perceived financial performance, Perceived labour productivity Perceived quality	2	3	GQ
26.Riordan (2005)	92 insurance companies in US and Canada	90	PR	Employee involvement climate: participative decision making, information sharing, training, performance-based rewards	√√			ROA NPW (net income divided by net premiums) ROS	4	3	EQ
27.Rogg (2001)	351 small franchise businesses of automotive manufacturer	30	CO	HR practices: hiring, job description, performance review, training, policy, legal			√	Customer satisfaction index	3	4	GQ
28.Ruiz-Moreno (2007)	202 European firms	14	PP	Management support		√	√	Perceived performance (financial, operative and organizational)	1	4	AQ
29.Salanova (2005)	114 service units of restaurants and hotels in Spain	NA	CO	Organizational resources: training, job autonomy, technology Service climate	√			Employee performance Customer loyalty	3	4	GQ
30.Schneider (2003)	35 companies	NA	LO	Employee perceptions on empowerment, job fulfilment, pay, work group, security, work facilitation	√			ROA EPS (earnings per share)	4	4	GQ
31.Schuster (1997)	single Canadian dairy products company	NA	LO	Corporate strategy, communication, participation, compensation, evaluation and rewards			√	Operating income	3	2	AQ
32.Takeuchi (2007)	76 Japanese business units	46	PP	HPWS (job rotation, empowerment, incentives, selection, training, appraisal, compensation) index rated by managers and employees			√	Perceived performance	3	3	GQ
33.Truss (2001)	single company compared with six other companies	NA	LO	Recruitment and selection, promote and develop from within, total quality control, self development scheme, rewards, career management		√	√	ROA Profit per employee	3	2	AQ

34.Tzafrir (2005)	104 companies in Israel	38	PP	HRM practices: compensation , participation, internal labour market, training		√√√	Perceived organizational Perceived market performance	1	4	AQ
35.Vanden-berg (1999)	49 life insurance companies	NA	PR	HR practices: work design, incentives, flexibility, training opportunities, direction setting	√		Effectiveness: ROI and turnover	4	4	GQ
36.Vanhala (2006)	91 companies in Finland	NA	LO	HR practices: formality, recruitment, development, motivation and reward, flexibility, team working and participation, communication	√	√	Profit margin Perceived performance Competitiveness Customer satisfaction	2	3	GQ
37.Varma (1999)	39 organizations	3	CO	HPWS create change in practices: team based and non-financial rewards, internal reward, selection, competency	√		Perceived operational performance Perceived financial performance	1	3	AQ
38.Van Veldhoven (2005)	223 business units of Dutch financial service organization	62	LO	Employee perceptions on: leadership, cooperation, pay satisfaction, work speed and quantity, career possibilities, job security	√	√	Productivity	4	3	EQ
39.Wright (2003)	50 business units of food service cooperation	NA	PR	HR practices: selection and staffing, training, pay for performance, participation	√		Operational performance: quality, shrinkage, productivity Expenses Profits	3	2	AQ
40.Wright (2005)	45 business units of food service cooperation (62 data points)	NA	LO	HR practices: selection and staffing, training, pay for performance, participation	√		Operational performance: quality, shrinkage, productivity Expenses Profits	3	2	GQ
41.Zeng Zhou (2008)	108 Chinese manufacturing firms	70	PR	Marketing orientation culture (customer orientation, competitor orientation, interfunctional coordination), leadership quality	√		Perceived product quality ROA	4	4	EQ

Notes: NA = information is not available; PP = post-predictive; CO = contemporaneous; PR = predictive; LO = longitudinal; Val. and rel. = validity and reliability of measures (HRM, well-being and performance) used in the study (1 = subjective, single source data; 2 = subjective data, psychometrics reported for only one or two measurements; 3 = subjective data all measurements psychometrics reported or objective outcome psychometrics not reported; 4 = objective outcome and psychometrics reported); Statistical test = adequacy of statistical test used in the study (1 = no test; 2 = correlations; 3 = multiple regression or (M)ANOVA; 4 = multi-level analysis or structural equation modeling); Quality = the number of quality criteria that are fulfilled (AQ (average) = score 1 on two (or more) criteria; or scored 1 and 2 on two (or more) criteria; EQ (excellent) = score 3 or 4 on all four criteria; GQ (good) = studies that do not fall into category average or excellent).

Table 2. Description of Well-being Components

Well-being type (number of data points)	Operationalization (number of studies)	First author study (reference number)
Happiness (25)	Satisfaction	Riordan (26) Zeng Zhou (41) Khilji (17) Vanhala (36) Gould-Williams (11) Hoque (15) Varma (37)
	Commitment	Riordan (26) Van Veldhoven (38) Wright (39) Ahmad (1) Paul (24) Ramsay (25) Wright (40) Gould-Williams (11) Hoque (15)
	Commitment combined with satisfaction	Nishii (21) Orlitzky (22) Vandenberg (35)
	Engagement	Salanova (29)
	Attitudes	Godard (9) Godard (10) Katou (16) Park (23) Guest (13)
Relationships (22)	Trust	Tzafrir (3x)(34) Collins (5) Orlitzky (22) Frenkel (6) Gould-Williams (2x) (11)
	Work climate	Bartel (2) Gelade (8) Guerrero (12) Rogg (27) Ruiz-Moreno (28) Fulmer (7) Schuster (31)
	Morale	Truss (33)
	Cooperation	Collins (5) Lambooij (18)
	Team / Company processes	Mathieu (19) Miller (20) Paul (24)
	Social exchange	Tackeuci (32)
Health (8)	Strain	Van Veldhoven (38) Orlitzky (22) Ramsay (25)
	Workload	Chandler (4) Ruiz-Moreno (28) Truss (33)
	Work intensification	Orlitzky (22)
	Emotional exhaustion	Vanhala (36)

In a total of 22 studies associations between HRM and happiness well-being were investigated, resulting in 25 data points (three studies included more than one measurement of happiness: Riordan et al. (2005), Gould-Williams (2003), and Hoque (1999)). Associations between HRM and relationships well-being were examined in 18 studies, resulting in 22 data points (three studies included more than one measurement of relationships: Collins and Smith (2006), Gould-Williams (2003), Tzafrir (2005)). Relationships between HRM and health well-being were reported in only seven studies. Orlitzky and Frenkel (2005) included two measurements of health-related well-being, resulting in eight data points for this well-being type.

Below, the results of the studies examining relations between HRM and employee well-being are discussed. A distinction is made between the happiness, relationships and health component of well-being. A summary is presented in Table 3.

Table 3. Results of Synthesis of Evidence

Effect of HRM on:	Number of data points: first author (reference number)	Association: reference number	Evidence
Happiness	*4 EQ:* Riordan (2x) (26), Van Veldhoven (38), Zeng Zhou (41) *10 GQ:* Ahmad (1), Godard (10), Khilji (17), Nishii (21), Orlitzky (22), Ramsay (25), Salanova (29), Vandenberg (35), Vanhala (36), Wright (40) *11 AQ:* Godard (9), Gould-Williams (2x) (11), Guest (13), Hoque (2x) (15), Katou (16), Park (23), Paul (24), Varma (37), Wright (39)	*Positive:* 26, 26, 38, 41, 1, 17, 21, 22, 25, 29, 35, 40, 11, 11, 15, 15, 16, 23, 37, 39 *Negative:* -- *No:* 36, 10, 24, 13, 9	*Mutual gains:* 80 percent positive effect High quality studies positive effect No negative effects reported
Relationships	*6 EQ:* Bartel (2), Collins (2x) (5), Gelade (8), Guerrero (12), Mathieu (19) *5 GQ:* Fulmer (7), Miller (20), Orlitzky (22), Rogg (27), Tackeuci (32) *11 AQ:* Frenkel (6), Gould-Williams (2x) (11), Lambooij (18), Paul (24), Ruiz-Moreno (28), Schuster (31), Truss (33), Tzafrir (3x) (34)	*Positive:* 2, 5, 5, 8, 12, 19, 7, 20, 22, 27, 32, 6, 11, 11, 28, 31, 34 *Negative:* 33 *No:* 18, 24, 34, 34	*Mutual gains:* 77 percent positive effect All high quality studies positive effect
Health	*1 EQ:* Van Veldhoven (38) *4 GQ:* Orlitzky (2x) (22), Ramsay (25) Vanhala (36) *3 AQ:* Chandler (4), Ruiz-Moreno (28), Truss (33)	*Positive:* 28 *Negative:* 22, 22, 25, 4, 33 *No:* 38, 36	*Conflicting outcomes:* 88 percent no or negative effect

2.4.2 HRM and Happiness Well-being

In a total of 25 data points relationships between HRM and a type of happiness well-being were examined. The happiness well-being measures varied from general work attitudes to more specific satisfaction, commitment, and engagement measures. Most of the studies included measures on satisfaction and or commitment.

The three excellent quality studies established positive effects of HRM on happiness. Zengh Zhou, Li, Zhou and Su (2008) found significant positive relations of leadership quality and market orientation culture on satisfaction in 180 Chinese firms. Van Veldhoven (2005) established positive relations between employee perceptions of leadership, cooperation, pay satisfaction and job security, and commitment in a sample of 223 branches of a financial service organization. Riordan et al. (2005) found positive effects of employee involvement climate on satisfaction and commitment using a sample of insurance companies. Sixteen data points from average and good quality studies also showed positive associations between HRM measured by intended, implemented, perceived HR practices and HRM systems, and a variety of happiness outcomes (e.g. employee attitudes, commitment, satisfaction, engagement).

Five data points did not show significant relationships between HRM and happiness (measured by satisfaction, commitment and attitudes). Although these studies showed positive associations between some of the included HRM factors and happiness, the majority of linkages studied between HRM factors and happiness were found to be non-significant here. Vanhala and Tuomi (2006) found that three out of sixteen included HR measures were related to satisfaction. Guest and Peccei (2001) established no significant relationships between most of the included HRM components and employee attitudes. Likewise, Paul and Anantharaman (2003) found that most of the HRM practices were not associated with organizational commitment. For most of the HRM related reform programme dimensions Godard (1998 and 2001) also established no improved attitude effects. No studies indicated a negative relationship between HRM and happiness.

In short, there is moderate to strong evidence that HRM is related to happiness: eighty percent of all data points (20/25) indicate a positive association. The indicated high-quality studies also showed a positive effect of HRM on happiness well-being. Hence, the results are in line with a mutual gains perspective.

2.4.3 HRM and Relationships Aspects of Employee Well-being

The relationship between HRM and relationships well-being was examined in 22 data points. Within this outcome category, measures of trust, climate, cooperation, team processes, morale and social exchange were included.

Five excellent quality studies all established positive effects of HRM on relationships well-being. Bartel (2004) established positive relations between three HRM indices of skills, performance and reward and communication, and climate using branches in a financial service organization. Similarly, Gelade and Ivery (2003) found support for a

positive effect of HRM dimensions staffing, overtime, and professional development on climate in a sample of 137 branches. High involvement practices were also found to be positively related to work climate in a sample of 180 French organizations (Guerrero & Barraud-Didier, 2004). Collins and Smith (2006) showed that commitment-based HR practices were positively related to trust and cooperation in a field study of 136 technology firms. Finally, Mathieu et al. (2006) established a positive effect between team empowerment practices (e.g. HR practices, work design, leadership) and team processes. Eleven data points from average and good quality studies showed also positive associations between HRM measured by intended, implemented, perceived HR practices and HRM systems, and a variety of relational outcomes (i.e. trust, cooperation, team processes and climate). Only Truss (2001) found in a case-study that morale decreased over a two-year time period in which a number of HR practices were implemented.

The remaining four data points failed to show significant associations between HRM and relationships well-being. Tzafrir (2005) showed positive relationships between HR practices and three types of trust, however the majority of HR practices were not significantly related to two out of three trust types. Likewise, Paul and Anantharaman (2003) found that most of the HR practices were not related to teamwork. Lambooij, Sanders, Koster and Zwiers (2006) established no significant relationships between HRM and cooperation.

In short, the studies show that HRM is predominantly positively associated with relationships aspects of employee well-being. We found that 77 percent (17/22) of the included data points provided evidence for a mutual gains perspective; moreover results of all five excellent quality studies were also in line with a mutual gains perspective.

2.4.4 HRM and Health- related Well-being

Relatively few studies included a health-related component. Only seven studies investigated relationships between HRM and a health-related well-being measure (i.e. workload pressure, job strain, emotional exhaustion, work intensification). One study by Orlitzky and Frenkel (2005) included two types of health-related well-being. Support for a negative association between HRM and health-related well-being was found for five data points. It was found that HRM is related to increased strain, workload and work intensification. Van Veldhoven (2005) and Vanhala and Tuomi (2006) both found some significant relationships between included HRM factors and strain and emotional exhaustion, however, the majority of relationships between HRM factors and health were found to be non-significant. Only Ruiz-Moreno, Garcia-Morales and Llorens-Montes

(2007) established a positive effect between management support and workload in a sample of 202 organizations.

Summarized, 88 percent (7/8) of the included data points show no or a negative relationship between HRM and health-related well-being. The largest part 63 percent (5/8) of the data points showed that HRM is negatively associated with health-related well-being. Due to the small number of studies including health-related well-being, the findings should be interpreted with caution.

2.4.5 Dependency of HRM and Well-being Effects on Relationships between HRM and Performance

Our second research question concerned the extent to which the evidence for mutual gains or conflicting outcomes depends on a positive relationship found between HRM and organizational performance. We found that in almost thirty percent of the 38 included studies no relationship was established between HRM and performance. In case of multiple linkages reported between separate HRM activities and outcomes, we based our conclusion on the results of the majority of reported effects.

As regards happiness well-being, for 80 percent of the data points (20/25) we found evidence that HRM is positively associated with organizational performance. In addition, except one all data points also showed at the same time a positive relationship with happiness well-being. For 18 (out of 22) data points of relationships employee well-being we found evidence that HRM is positively associated with organizational performance. The results of the majority of these data points are in line with a mutual gains perspective. Only Truss (2001) found a positive performance and negative relationships well-being effect. Paul and Anantharaman (2003) found that the majority of HR practices were related to performance, and not related to relationships well-being. Tzafrir (2005) also found that the majority of HR practices had a positive effect on organizational performance and on one dimension of trust. However Tzafrir (2005) also found that the majority of HR practices was not related to two other dimensions of trust. Hence, for happiness and relationships well-being we found even stronger evidence for mutual gains provided a positive relationship between HRM and performance: 95 and 78 percent of the data points showed a positive relation between HRM and well-being, respectively.

For employee health, a significant relationship between HRM and performance was only established in three out of eight data points (Ramsay et al., 2000; Ruiz-Moreno et al., 2007; Truss, 2001). Ramsay et al. (2000) and Truss (2000) concluded that HRM was positively related to organizational performance, however at the same time negatively related to health-related well-being. In contrast, Ruiz-Moreno et al. (2007) found that

HRM was positively associated with performance and health-related well-being. The evidence obtained for health-related well-being as conflicting outcome is less strong, provided there is a relationship between HRM and performance.

2.5 Discussion

This chapter contributes to the HRM literature by exploring the effects of HRM on management- as well as on employee-centered outcomes. In this review a distinction has been made between two hypotheses in research on relationships between HRM, employee well-being and organizational performance. In particular, this review tested which of the two competing perspectives, mutual gains or conflicting outcomes best described the role of employee well-being. Three types of employee well-being were distinguished: happiness, relationships and health.

The main result of this review is that the appropriate role of employee well-being depends on the well-being type studied. For the well-being types happiness and relationships we found more support for mutual gains than for conflicting outcomes. In contrast, for health we found more support for conflicting outcomes than for mutual gains. This implies that there are differential effects present: HRM is positively associated with happiness and relationships well-being (in line with the mainstream optimistic HRM-performance view), and negatively associated with health (in line with the pessimistic view). HRM is beneficial for employee happiness and relationships, but at the same time might be detrimental for employee health. This result is in line with studies by Ramsay et al. (2000), and Orlitzky and Frenkel (2005). These studies simultaneously examined and confirmed the 'positive' and 'negative' consequences of the same set of HRM activities on multiple employee well-being types. Hence, there might be two effects at work at the same time: mutual gains for happiness and relationships well-being, and as a side effect conflicting outcomes for health. Investigating the effects on all three types simultaneously could provide further validation of this result.

By including only studies that investigated effects between HRM, employee well-being and performance, we can elaborate on the findings provided HRM is associated with organizational performance. First, both perspectives (mutual gains and conflicting outcomes) expect a positive effect of HRM on performance. Although, a minority of HRM activities could have an effect on performance in studies reporting linkages between separate HRM activities and performance, we found that in thirty percent of the 39 included studies no relationship was established between HRM and performance. This result questions the idealized notion of a 'high-performance' work system, which takes a

positive relation of HRM on performance for granted. Secondly, for happiness and relationships aspects of employee well-being the results obtained provided a positive relationship between HRM and performance, were even more supportive of a mutual gains perspective. This provides initial support for the idea that the relationship between HRM and organizational performance is (partly) established through its effect on employee happiness and relationships well-being. In three out of eight data points of the health component of employee well-being, a significant relationship between HRM and performance was established. For only one data point it was found that HRM influenced performance partly via health employee well-being, the other two data points reported no relations between employee health and performance. Hence, the reasoning that HRM has a positive effect on financial performance which is established through negative employee well-being effects does not seem to hold here. Employee health-related well-being and organizational productivity seem to function more as parallel organizational outcomes.

Three other observations are worth mentioning. The first concerns the difference between 'average' and 'excellent' quality studies. In terms of results, the excellent studies all contribute to our conclusion on the role of employee well-being. Interesting are the results of the two 'excellent' quality longitudinal studies included in this review. Both Schneider et al. (2003) as well as Van Veldhoven (2005) found reversed causation between performance, HRM and employee well-being. Organizations with high profits might reveal a greater willingness to invest in HRM than those that do not have high profits (Paauwe & Boselie, 2005; Siehl & Martin, 1990). In addition, high performance signals that the organization is performing well and has financial resources, and thus might be perceived by employees as a positive signal as regards employment security (Paauwe & Boselie, 2005), again having an upward influence on employee well-being.

A second issue involved the level of analysis. Twenty-five studies examined relationships at the organizational level, 8 at business unit- or plant level (Ahmad & Schroeder, 2003; Bartel, 2004; Gelade & Ivery, 2003; Park et al., 2003; Salanova et al., 2005; Van Veldhoven, 2005; Wright et al., 2003 and 2005), one at team level (Mathieu et al., 2006) and one at individual level (Gould-Williams, 2003). Three studies used a combination of levels, the individual- and organization level (Lambooij et al., 2006; Vanhala & Tuomi, 2006) and the individual- and business unit- or plant level (Nishii et al., 2008). The over-reliance on organizational-level of analysis is remarkable for this field of research. Different HRM activities are created and operating at different levels, e.g.

formal and implemented HRM activities, employee perceptions of HRM (Nishii & Wright, 2008). In addition, the effects of HRM on employee well-being are mainly explained by mechanisms operating at the individual level.

The third issue is the inclusion of multiple measurements of HRM (single practices or an index) as well as performance (the inclusion of multiple types). Differences are found between effects of single practices and indices of practices. For example Mathieu et al. (2006) found that an overall team empowerment construct is positively associated with performance through relationships well-being. The components of this team empowerment construct, however, showed differential relationships with employee well-being and performance. Nishii et al. (2008) also confirmed differential effects, in their study exploitation attributions were negatively related to commitment and satisfaction, whereas quality enhancement attributions were positively related. As regards measurement of performance, a number of studies included multiple performance outcomes, i.e. a combination of organizational outcomes, financial or accounting outcomes and stock-market performance indicators. Significant relationships were found between different outcome types (e.g. Guest & Peccei, 2001; Paul & Anantharaman, 2003; Wright et al., 2003 and 2005). These authors concluded that HRM and well-being had more impact on more proximal (organizational) outcomes than on distal (financial) outcomes.

2.5.1 Limitations

The first limitation of this review study concerns the choice of quality criteria applied in this review. The four criteria used: (1) sample size and response rate; (2) quality of research design; (3) reliability and validity of the HRM, well-being and performance measures, and (4) the adequacy of statistical test, reflect common insights obtained from research in the field of HRM (Becker & Huselid, 1995; Gerhart, 2007; Guest, 2001; Wall & Wood, 2005; Wright & Gardner, 2003; Wright et al., 2005). However, other criteria are also possible. One such criterion concerns the inclusion of control variables. It has been argued that especially in cross-sectional research there is the need to control for third factors, for example organizational size or trade union involvement (Wall & Wood, 2005). Another related quality criterion is whether interaction effects are tested for. It would be interesting to see under which conditions the effects of HRM on well-being and organizational performance are strengthened or weakened.

This review is narrative in nature; a meta-analysis has not been conducted. By meta-analyzing the empirical studies, the size of the relationships could be more accurately

estimated, and the hypothesized models could be tested more directly. However, at this point in time, we decided to perform a narrative review. This type of review makes it possible to include all the empirical studies (also the average quality studies), thereby giving a representative view of the whole body of research on HRM, employee well-being and organizational performance. Besides, given the enormous variance in HRM, well-being and performance measures, as well as in level of analysis of the studies, aggregating the results of the studies using meta-analysis does not seem suitable at this stage. Furthermore, given that our hypotheses are tested for three well-being types, using a limited number of studies, meta-analysis results would be biased due to the small number of data points.

Third, although a considerable number of studies on the effects of HRM on happiness and relationships well-being and performance were found, the number of studies on the effects of HRM on health-related well-being and performance was small. This restricted the opportunity to make strong inferences about the role of health-related well-being in the relationship between HRM and performance. Hence, the findings from health-related well-being should be interpreted with caution.

A final limitation of this review is that we included results from a number of the included studies multiple times (studies with multiple measures of a single well-being component or studies that reported effects of multiple well-being types). From the 38 studies included in this review, 13 studies provided more than one data point. The total number of data points for all well-being types together was 55. A related limitation is that some of the studies were partly based on the same data set (e.g. Godard, 1998 and 2001; Wright et al., 2003 and Wright et al., 2005). This implies that inclusion of these studies and the inclusion of multiple data points out of one study do not provide independent evidence regarding our research question on the effects of HRM on employee well-being.

2.5.2 Recommendations for Future Research

On the basis of this review we identified three issues that need more attention in future research on relationships between HRM, employee well-being and organizational performance.

1. *Longitudinal research.* More longitudinal research is needed. First, whereas it is widely acknowledged that performance might influence HRM and well-being (the possibility of reversed causation) (Wall & Wood, 2005; Wright et al., 2005), most of the empirical studies are cross-sectional in nature. This type of research design does not allow any conclusions on temporal order. Secondly, the true impact of substantial HRM

changes on worker- and organizational outcomes (improvement or decline) may only be visible over a longer period. Hence, further longitudinal research with repeated measures should investigate the dynamic interplay between HRM, employee well-being and performance. In line with this recommendation, a longitudinal design is applied in chapters 4 through 6 of this thesis.

2. *Testing competing hypotheses.* More research should test competing hypotheses. Rather than formulating and testing a single hypothesis which can induce confirmation bias, studies should pit competing perspectives against one another empirically (Wall & Wood, 2005). Research that examines the role of health-related well-being in the relation between HRM and organizational performance in particular, is scarce. More research is needed that pits the mutual gains versus the conflicting outcomes perspectives by testing models that include HRM, health-related well-being as well as organizational performance. Only this type of research can test whether HRM results in improved organizational performance while at the same time being beneficial or detrimental to employee health well-being. In addition, more research is needed on differential effects of HRM on worker and organizational outcomes. In particular, some management activities might have a positive effect on employee well-being, and at the same time have no or a negative effect on organizational performance, while other management activities might have a positive effect on organizational performance, but have no or a negative effect on employee well-being. The differential effects of climate on employee well-being and organizational performance is tested in chapter 6 of this thesis.

3. *Multi-source / Multi-rater research.* Finally, more research is needed that includes multi-source and multi-rater data. With regard to multi-source data, future research could benefit by using separate informants for HRM, well-being and organizational performance measurements. In particular, research using single managers reporting on HRM, and on their perceptions of employee well-being and organizational performance is subject to common method bias and to rater biases (Gerhart, 2007). In particular, research using managers' self-reports on HRM and organizational performance makes it difficult to evaluate the role of happiness and relationships aspects of well-being. A related issue concerns the reliance on single informants. This raises validity questions. However, this is not only a methodological issue, as employees understand, perceive and respond differently to HRM (Bowen & Ostroff, 2004; Nishii & Wright, 2008). Hence, future research should address such questions, to obtain a fuller understanding of how employees perceive and react to HRM. In the remaining five chapters of this thesis multi-

rater data from employees are used. In addition, multi-source data are used in chapters 4 through 6.

2.5.3 Conclusion

This review investigated the role of employee well-being in the relationship between HRM and performance. In sum, we find more evidence for the optimistic than for the pessimistic or skeptical view. The effects of HRM on happiness and relationships well-being are in line with a mutual gains perspective. Health, however, seems to function more as a conflicting outcome. In terms of practical implications this implies that adopting HRM activities positively impacts relationships and happiness employee well-being. On the other hand HRM activities might have a detrimental effect on health-related employee well-being. From a management perspective implementing HRM activities is beneficial for employees in terms of happiness and relationships well-being and for the performance of the organization as well. However, management also needs to pay attention to the possible negative side effects on employee health; this can become costly both for employees and organizations in the long run in terms of absenteeism and turnover.

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3

Development and Application of Criteria for Aggregating Survey Data to the Business Unit Level

This chapter is based on: Van De Voorde, K., Van Veldhoven, M. & Paauwe, J. Development and Application of Criteria for Aggregating Survey Data to the Business Unit Level. *Manuscript in Preparation for Submission.*

Abstract

This chapter explores both theoretically and methodologically the possibility for aggregating individual perceptions of HRM, climate and well-being to construct meaningful business unit-level measures. Five criteria for evaluating aggregation possibilities are developed: emergence processes, referent type, two types of intraclass correlations coefficients and interrater agreement. Subsequently, these five criteria are applied to survey data on HRM, climate and well-being used in the three remaining chapters of this thesis. The chapter is concluded by presenting and discussing the support found for aggregation of individual survey data into meaningful business unit-level constructs.

3.1 Introduction

Employee surveys constituting a source of information on work and organizational factors and processes are periodically available in many organizations nowadays (Ulrich, 1997), and are increasingly included in measurement approaches, such as balanced and workforce scorecards (e.g. Becker, Huselid & Ulrich, 2001; Huselid, Becker & Beatty, 2005; Mayo, 2001; Philips, Stone & Philips, 2001). The underlying idea of implementing measurement approaches is finding out in a cause-and-effect logic the key processes of how human resources (employees) within an organization add value (financial performance) (e.g. Huselid et al., 2005; Kaplan & Norton, 2001).

Implemented workforce scorecards facilitate comparison of work and organizational factors and processes by means of employee surveys and outcomes within companies, and provided the system remains in use; such systems facilitate comparison of scores across time. Implemented measurement approaches provide business unit managers with management information which enables them to keep track of work and organizational factors and processes within their business unit and their effects upon critical business unit outcomes. This type of information is of great importance, as management activities usually occur at the business unit level, and critical outcomes for which managers are accountable are often located at this level. Consequently, managers within companies tend to focus more on information at the business unit level than at the individual level.

Because workforce systems provide information at departmental-, business unit level, or even at higher levels within an organization, individual survey information has to be aggregated to scores at the higher levels within the organization to enable inclusion of this type of information in measurement systems. Collecting and aggregating individual survey data to measure group-level phenomena has been discussed widely from a methodological angle in multilevel literature (e.g. Chan, 1998; House, Rousseau & Thomas-Hunt, 1995; Klein, Dansereau & Hall, 1994; Klein & Kozlowski, 2000; Morgeson & Hoffman, 1999; Rousseau, 1985). For example Klein and Kozlowski (2000: 15) stated: *Many phenomena in organizations have their theoretical foundation in the cognition, affect, behavior and characteristics of individuals, which -through social interaction, exchange and amplification- have emergent properties that manifest at higher levels.*

Higher level constructs emerged from individual survey data on cognitions and affect have been explored especially in three subfields of OB and HRM literature: the research traditions of organizational climate, perceptions of HRM and employee well-being. Organizational climate is defined as shared perceptions of the types of behaviors

and actions that are rewarded and supported by the organization's policies, practices, and procedures (Schneider, 1990; Glick, 1985). Facet-specific climates were also developed such as: justice climate, as an emergent and collective phenomenon (e.g. Colquitt, Noe & Jackson, 2002; Naumann & Bennett, 2000; Roberson, 2006), work group climate for innovation as shared perceptions hypothesized to be related to work group innovation (Anderson & West, 1998), safety climate as agreement among employee's perceptions regarding safety (Zohar, 1985), and service climate as shared perceptions about the priority of service (Schneider, 1990). As regards HRM literature, (shared) employee perceptions of HRM (sometimes referred to as organizational climate) are increasingly incorporated in conceptual models describing the HRM-performance linkage (Boxall & Purcell, 2008; Nishii & Wright, 2008; Gerhart, 2005). Chen and Bliese (2002) conceptualized leadership as a shared group-level (climate) variable indicating the extent to which group leaders provide task-related direction as well as support. As regards the happiness component (Grant, Christianson & Price, 2007) of employee well-being, George (1990), and Mason and Griffin (2002) defined group affective tone, and group task satisfaction, respectively, in terms of shared attitudes. George (1996: 78) for example defined group affective tone as consistent or homogeneous affective reactions within a group. Likewise, in the field of occupational health, a number of authors investigated the effects of aggregated perceptions on environmental factors on health-related outcomes (Semmer, Zapf & Greif, 1996; Van Veldhoven, De Jonge, Broersen, Kompier & Meijman, 2002; Van Yperen & Snijders, 2000).

More important, in the light of identifying the key processes between HRM and critical outcomes, numerous studies found significant relationships between the higher level cognitive and affective constructs and group-, departmental-, business unit- and organizational-level outcomes. To illustrate, within the field of organizational climate the relationship between organizational climate and performance has been largely confirmed (e.g. Ashkanasy, Wilderom & Peterson, 2000; Ostroff, Kinicki & Tamkins, 2003; Schneider, 1990). A number of studies confirmed that employee perceptions and evaluations of HRM are related to unit- or company performance (Khilji & Wang, 2006; Paul & Anantharaman, 2003; Takeuchi, Lepak, Wang & Takeuchi, 2007; Wright, Gardner, Moynihan & Allen, 2005). Relationships between leadership (climate) and performance have also been established at the group level (e.g. Bass, Avolio, Jung & Berson, 2003; Chen, Kirkman, Kanfer, Allen & Rosen, 2007; Sivasubramaniam, Murry, Avolio & Jung, 2002). As regards employee well-being, Ostroff (1992) concluded that

aggregated satisfaction, commitment and job stress was related to performance at the organization-level of analysis.

In sum, relationships between climate, employee perceptions of HRM and employee well-being are related to outcomes at a higher level than the individual-level of analysis. However, before aggregating individual survey data into meaningful business-unit level constructs, researchers and practitioners face two challenges. The first challenge is of theoretical / conceptual nature: i.e. what is the meaning of the higher level construct, and how do individual properties emerge into a higher level construct (e.g. Chan, 1998; Klein & Kozlowski, 2000; Morgeson & Hoffman, 1999). The second one is of methodological nature. Here, the appropriateness of aggregating individual-level data into higher level constructs is evaluated on the basis of statistical procedures (e.g. Bliese, 2000; Lebreton & Senter, 2008; Klein, Bliese, Kozlowski, Dansereau, Gavin, Griffin et al., 2000; Van Mierlo, Vermunt & Rutte, 2008).

The purpose of this chapter is to develop and test a framework for evaluating the suitability of aggregating individual survey data on work and organizational factors to construct meaningful business unit-level constructs. This chapter is organized around the two challenges researchers and practitioners face when working with aggregated survey data on perceptions of HRM, climate and happiness well-being. First, we elaborate on the conceptual meaning of higher level constructs. Secondly, we introduce statistical procedures to evaluate empirically the possibility of aggregating individual scores into business unit-level scores. On the basis of these considerations, five criteria are developed to assess aggregation possibilities. We then apply these developed criteria to the survey scales on perceptions of HRM, climate and employee well-being, which will be used in the main empirical chapters (4, 5, and 6) of this thesis. These survey scales pertain to topics which are commonly captured in employee survey research in organizations, thus making our example relevant for a wider audience. Subsequently, the results of the evaluation of these survey scales on the basis of the developed aggregation criteria are presented, and discussed in the light of the three research traditions (HRM, climate and well-being). We conclude by discussing implications for practice and consequences for the remaining chapters of this thesis (4 through 6).

3.2 Development of Criteria: Theoretical Issues

Two theoretical issues need to be resolved before aggregating individual-level data. First, we address the issue of the conceptual meaning of higher level constructs based on individual-level data on perceptions of HRM, climate and happiness well-being.

Subsequently, we elaborate on how these individual perceptions and experiences emerge into higher level constructs as explained in the three research traditions of HRM, climate and happiness well-being.

3.2.1 Conceptual Meaning

Employee perceptions of HRM have their roots in the individual employee who perceives and experiences his or her work situation. Perceptions of HRM are conceptualized at the individual-level of analysis (Boxall & Purcell, 2008; Nishii & Wright, 2008; Ostroff & Bowen, 2000; Purcell & Kinnie, 2007). However, Nishii and Wright (2008), Boxall and Purcell (2008) and Ostroff and Bowen (2000) emphasize that individual perceptions of HRM can be shared within a unit or organization. Boxall and Purcell (2008) propose that HRM policies are implemented to build collective workforce capabilities, work organization and work attitudes, and that HRM communicates values resulting in shared employee perceptions of HRM. In addition, Ostroff and Bowen (2000) argue that HRM can result in shared employee perceptions of HRM (in their model referred to as organizational climate).

Climate research examines employee perceptions of their work environment. Psychological climate reflects an individual assessment of the work environment in terms of the psychological meaning to the individual (James & James, 1989). In comparison, organizational climate refers to employees' shared perceptions of the types of behaviors and actions that are rewarded and supported by the organization's policies, practices, and procedures (Schneider, 1990). Whereas psychological climate reflects individual perceptions, organizational climate represents shared perceptions among members of the same unit (e.g. Glick, 1985; Kuenzi & Schminke, 2009). Organizational climate may have either a global or strategic focus (global climate versus facet-specific climate) (e.g. James, Choi, Ko, McNeil, Minton, Wright, Kim et al., 2008; Kuenzi & Schminke, 2009). Kopelman, Brief and Guzzo (1990) identified the following five dimensions: goal emphasis means emphasis, reward orientation, task support and socio-emotional support, as common elements of an organizational climate. In contrast, Schneider (1975) introduced the 'climate for something' approach. This 'something' refers to the focus of interest, any strategic business goal. This line of organizational climate literature focuses on specific climates, such as climate for safety (Zohar, 1985), climate for service (Schneider, 1990), climate for innovation (Anderson & West, 1998).

Likewise, although well-being is theoretically defined as a characteristic of individuals, individual affective attitudes can have emergent properties at higher levels of

analysis (Klein & Kozlowski 2000). The group's shared affective attitude can be identified as a group-level characteristic which shapes unique group processes and outcomes (Mason & Griffin, 2002). Two shared happiness well-being constructs are proposed in the literature. George (1996: 78) defined group affective tone as consistent or homogeneous affective reactions within a group. Similarly, Mason and Griffin (2002: 284) defined group task satisfaction as the group's shared attitude towards its task and the associated work environment. There is an important difference between group task satisfaction and group affective tone, however. Group task satisfaction tends to be more concerned with work-related satisfaction, whereas group affective tone does not necessarily have a specifically work-related origin: it is the affect that matters, not its causes in the work context.

An important measurement consideration is how to represent the upper-level constructs of perceptions of HRM, climate and happiness well-being based on the responses at the lower level (individual perceptions and feelings). Chan (1998) introduced a typology of composition models which specify the functional relationships among constructs at different levels of analysis. These are additive, direct-consensus, referent-shift, dispersion and process models. The additive, direct-consensus and referent-shift models are most relevant to our discussion of perceptions of HRM, climate and happiness well-being, and we introduce only these models.

An additive composition model averages lower level scores regardless of the level of agreement within the unit. Chan (1989) reasoned that in this model the variance of lower levels units is of no theoretical concern for aggregating the individual-level construct to represent a unit-level construct. However, shared perceptions and attitudes are the foundations of unit perceptions of HRM, organizational climate and unit attitudes. The direct-consensus model and the referent-shift model both require agreement within scores before aggregation. These models differ in the frame of reference used (the business unit, the leader or self). In the direct-consensus model individuals respond as to their own perception or attitude, whereas in the referent-shift model individuals respond as to their perceptions or attitudes of a unit or leader. In this way, unit HRM perceptions, climate and happiness well-being composed of shared perceptions and attitudes are conceptually distinct even though they are derived from individual perceptions and attitudes (Chan, 1998).

A standard for referent-shift or direct-consensus has not emerged yet in the literature on perceptions of HRM (Arthur & Boyles, 2007), climate (Kuenzi & Schminke,

2009) and happiness well-being (Mason & Griffin, 2002). However, according to Glick (1985), using referent-shift typology improves the accuracy and constructs validity. In this case respondents are treated as key informants, describing their work environment and not their own experiences. Similarly, Mason and Griffin (2002) argued that group-level satisfaction should apply to and be shared by all group members, and accordingly items should be framed with a group referent. Hence, to test the aggregation possibilities of the included survey scales the type of reference (self, leader or business unit) will be examined in this chapter.

3.2.2 Emergence Processes

Both shared perceptions of HRM, organizational climate and happiness well-being emerge from homogenous perceptions and attitudes of unit members. Both the direct-consensus and referent-shift model define within group agreement as prerequisite for shared perceptions and attitudes. Therefore, a second theoretical issue addressed here concerns the emergence of higher level constructs. Different explanations have been offered about how individuals' perceptions and attitudes are transformed into higher level unit constructs (so-called emergence processes) (e.g. Ashforth, 1985; Bowen & Ostroff, 2004; George, 1996; Mason & Griffin, 2002; Nihsii & Wright, 2008; Ostroff et al., 2003; Schneider, 1987).

The process models of HRM (Boxall & Purcell, 2008; Nishii & Wright, 2008; Purcell & Kinnie, 2007) suppose that actual practices (practices that are implemented) result in employee perceptions of those practices. In this process the role of leaders is crucial (Den Hartog, Boselie & Paauwe, 2004; Purcell & Hutchinson, 2007). Leaders are the implementers of HRM practices, and thereby influence shared perceptions of and shared reactions to HR practices (Nishii & Wright, 2008). In addition to the more functional / instrumental role of implementing HR practices, leaders also communicate to employees the nature of the firm, their value and the behaviors that are expected (Boxall & Purcell, 2008; Purcell & Hutchinson, 2007; Purcell & Kinnie, 2007). Nishii and Wright (2008) propose that social interaction among unit members and common experiences of HRM lead to the development of shared perceptions. Furthermore, Nishii and Wright (2008) rely on the ASA-principle (Schneider, 1987) to explain the development of shared perceptions. Bowen and Ostroff (2004) propose that when employees experience an HR system that is high on distinctiveness, consistency and consensus, this will result in shared perceptions (referred to as climate). Besides, based on climate literature, Bowen

and Ostroff (2004) also delineate leadership and social relationships as determinants of shared perceptions.

Schneider and Reichers (1983) made a typology of the theoretical processes for the emergence of climate. They distinguished a structuralist, the ASA-framework and social interaction approach. In the structuralist perspective, climate arises out of structural characteristics of an organization such as size, organizational structure, and leadership. As regards leadership, transformational leadership is mentioned in the literature as important antecedent of climate perceptions (Ostroff et al., 2003; Zohar & Tenne-Gazit, 2008). The underlying idea is that transformational leaders are able to introduce a common interpretation among unit members, because they communicate and interact more frequently. Secondly, Schneider's (1987) ASA- framework suggests that an organization is likely to consists of employees with similar views as a consequence of selection, attraction and attrition processes, and this results in shared work environment perceptions. Finally, it is argued that shared perceptions evolve from interaction between unit members. In addition, with regard to social interaction processes, social information processing theory (Salancik & Pfeffer, 1978) argues that employees use information from others in their working environment to form judgments about their working environment. Social interaction thus explains the transition form individual perceptions into shared perceptions, turning an individual-level construct into a unit-level construct (Klein, Conn, Smith & Sorra, 2001).

As regards the emergence of shared affective attitudes (the happiness component of employee well-being) Mason and Griffin (2002) and George (1996) provided several explanations. First, a contextual explanation for expecting 'shared happiness well-being' is that members of the same organizational unit are subject to the same work environment and leader (Mason & Griffin, 2002). The fact that work environment and leaders, which are likely to influence subjective experiences, will be shared among group members also supports the idea that group members' subjective experiences of satisfaction should be similar. Walter and Bruch (2008) argued that charismatic leadership facilitates positive group affect spirals. Furthermore, Schneider's (1987) ASA-framework suggests that processes of selection into the organization, attraction to the organization, and attrition from the organization, result in homogeneous employee affective experiences within an organization. In addition, with regard to social interaction processes, social information processing theory (Salancik & Pfeffer, 1978) argues that employees use information from others in their working environment to form judgments

about their working environment. Moreover, through group socialization processes members of a work setting learn what is appropriate in a setting, resulting in consistency in affect and behaviors (George, 1996). Finally, emotional contagion, the process of mimicking each others feelings is put forward as a factor that will result in homogeneity of experiences within a group (Mason & Griffin, 2002).

To explore the suitability of aggregating individual perceptions of HRM, climate and happiness well-being to business unit-level measures one needs to examine relationships with factors that are expected to create consensus in individual perceptions of HRM, climate and happiness well-being. In this paper we focus on three such factors. First, based on structural and contextual explanations and prior empirical research (Gonzalez-Roma, Peiro & Tordera, 2002; Kozlowski & Doherty, 1989; Luria, 2008; Zohar & Tenne-Gazit, 2008) we expect that inspirational leadership is positively related to consensus. Secondly, based on Schneider's (1987) ASA-framework we investigate the effect of turnover on the emergence of shared perceptions and experiences. We expect that when the turnover rate is high within a business unit, there is less room for consensus development. Third, we expect that social interaction is positively related to shared perceptions and experiences. Several studies found a positive link between social interaction and consensus (Gonzalez-Roma, Peiro & Tordera, 2002; Luria, 2008; Mason, 2006; Zohar & Tenne-Gazit, 2008).

3.3 Development of Criteria: Methodological Issues

To justify the aggregation of individual-level survey data to group-level constructs two types of indices are commonly used in the multilevel literature (Bliese, 2000; LeBreton & Senter, 2008; Van Mierlo et al., 2008). The first set of indices is referred to as 'group-level reliabilities'. The second set of indices is referred to as 'interrater agreement'. Both indices address questions on whether or not scores from one rater are 'similar' to scores of one or more other raters; however they differ in the definition of interrater similarity (Lebreton & Senter, 2008). The group-level reliability indices take the consistency in responses of members of the same group compared to members of different groups, while interrater agreement indices take the degree to which group members provide similar ratings (Van Mierlo et al., 2008). To illustrate the difference between the two types assume the following case. Ratings furnished by members of the same group are to a large extent similar, and the means vary little from group to group. In this case a researcher using interrater agreement measures concludes that aggregation is justified, given high interrater similarity. However a researcher using group-level

reliability measures concludes that aggregation is not justified, given the lack of differences between groups. Hence, to test the aggregation possibilities of the included survey scales both types will be examined in this chapter.

3.3.1 Group-level Reliability

In the OB literature reliability of group means is commonly assessed by means of intraclass correlation coefficients (ICC1, ICC2) calculated from a one way random effects ANOVA. The ICC1 can be defined as the amount of variance in individual employee scores attributable to the group (Bliese, 2000). ICC1 is defined as (Bliese, 2000: 355):

$$ICC\ 1 = \frac{MSB\ - MSW}{MSB\ + \left[(k-1) * MSW\ \right]}$$

In the formula, *MSB* is the between-group mean square, *MSW* is the within-group mean square, and *k* is the group size. The ICC2 parameter can be interpreted as the reliability of comparisons between mean group scores (Bliese, 2000). ICC2 is defined as (Bliese, 2000: 356):

$$ICC\ 2 = \frac{MSB\ - MSW}{MSB}$$

To justify aggregation ICC1 should yield significant values, and ICC2 should yield acceptable values (Van Mierlo et al., 2008). The significance of the ICC1 measure is assessed with an F-test (of the ANOVA used to calculate ICC1 and ICC2 scores): a significant F-test indicates that the between-group variance is larger than the within-group variance (Bliese, 2000). It should be noted that low to modest ICC1 values are in themselves not problematic if the N of cases is large enough (Klein et al., 2000). As regards acceptable values of ICC2, ICC2 values can be interpreted as any other reliability measure. As regards ICC2, Klein et al. (2000) indicated that ICC2 values above .70 are acceptable, values between .50 and .70 are marginal, and values below .50 are poor.

3.3.2. Interrater Agreement

The most frequently used measure of interrater agreement is James, Demaree and Wolf's (1984) Rwg and Rwg (J) indices (Bliese, 2000; LeBreton & Senter, 2008). The first mentioned Rwg is designed for a single item; the second mentioned Rwg (J) is designed for multi-item scales. The Rwg (J) indices are assessed by comparing the observed variance within a group with the expected variance if group members would respond randomly (James et al., 1984). An Rwg (J) score can be computed for each group.

To justify aggregation based on Rwg (J) scores, researchers should make judgments based on the magnitude and the pattern of the Rwg (J) values (Lebreton & Senter, 2008).

A common rule of thumb is that Rwg (J) values above .70 justify aggregation (Klein et al., 2000). Lebreton and Senter (2008) made a distinction between five levels: lack of agreement (.30 and under), weak agreement (.31 - .50), moderate agreement (.51 - .70), strong agreement (.71 - .90), and very strong agreement (.91 - .100). Besides the magnitude of Rwg (J) values, the pattern of Rwg (J) values needs to examined. In particular the percentage of Rwg (J) estimates that are below a cut point a researcher sets to justify aggregation and the range of Rwg (J) estimates should be reported.

3.4 Criteria for Assessing Aggregation Possibilities

In sum, five criteria were discussed above to assess the aggregation characteristics of individual-level survey data into group-level constructs based on insights of multilevel literature. These criteria are: emergence processes, referent type, two types of intraclass correlations coefficients and interrater agreement. On the basis of these five criteria a framework is presented in Table 1 to rate the appropriateness of aggregation (see Table 1). A survey scale could obtain 1 star (lack of support) to 4 stars (strong support) for emergence processes, type of referent, interrater agreement and ICC1 and ICC2 values. Concerning validation of emergence processes, the number of significant relationships with the three hypothesized antecedents (turnover, cooperation, leadership) was defined as criterion. For referent type a distinction was made between self, business unit or leader. As regards ICC1 values survey scales received either 1 star (lack of support) or four stars (strong support) referring to the (non) significance of the F-test. The next section provides an application of these five criteria.

Table 1. Criteria for Evaluating the Appropriateness for Aggregation

Criteria	*Lack of support	**Weak support	***Moderate support	****Strong support
Emergence processes	No relations	Relationship with 1 antecedent	Relationship with 2 antecedents	Relationship with all antecedents
Referent type	Self	Mixed: majority self	Mixed: majority business unit Leader	Business unit
Reliability of group	Non-significant F-test.			Significant F-test
ICC1				
ICC2	.30 and under	.31 - .50	.51 - .70	.71 and above
Interrater agreement (Rwg)	.30 and under	.31 - .50	.51 - .70	.71 and above

3.5 Application of Criteria: Methods

3.5.1 Research Context

This thesis uses data from a large financial services organization in the Netherlands. The largest part of this organization consists of approximately 300 local branches with 35,000 employees. It is only the local branches in the Netherlands which participate in this thesis. The sphere of activity of each branch is limited to its geographical area. Each branch is responsible for the shaping of policies, procedures and practices within it.

In 2000 the organization introduced a balanced scorecard type of management system for three major areas: finance, customer and employee (Kaplan & Norton, 1996; Payne, Holt & Frow, 2001), in order to provide branches with suitable management information. In this scorecard finance and control information is derived from objective registrations of financial transactions, customer information is derived from routine market research activities, and employee information is gathered by means of survey research and objective registrations on personnel. This system provided us the unique opportunity to a collection of data across five years, and thereby enabling us to use a longitudinal design in the remaining three empirical chapters of thesis. All chapters use a two-wave design: survey dimensions and outcomes are each measured twice. Below the details of the survey information are described.

In the employee survey system 171 branches participated on two occasions between 2000 and 2005 (43 percent of the total population, data as of 2003). At time point 1 (T1) questionnaire data on 14,477 employees were available. The average response rate in the employee surveys at the branch level was 77.5 percent. The average number of participants per branch was 84.7. At time point 2 (T2) questionnaire data on 14,860 employees were available. At the branch level the average response rate in the employee surveys was 84.7 percent. The average number of participants per branch was 86.9.

Although branch participation in the survey system is not compulsory, participation is strongly promoted by the supra-local organization and can be seen as part of the regular way of managing employees within this organization. To exclude selectivity of the sample, we checked the representativeness of the sample (T1 data as of 2001, T2 data as of 2003) at both the branch and the individual level. At branch level, representativeness of the sample for the total population in the organization was checked in terms of region in the Netherlands, and branch size. At the individual level, representativeness was checked in terms of age class (five levels: 25 years and under, 25-35 years, 35-45 years, 35-45 years, 45-55 years and 55 years and older) number of working hours/week (under

36 hours, 36 hours, over 36 hours), and gender. We found that the sample could be regarded as representative for the total organization at both levels and both time points in terms of the variables mentioned; the difference between our sample and the population was at a maximum five percent for each category of the above-mentioned variables.

3.5.2 Survey Scales

The employee survey covers a wide range of topics on HRM, organizational climate, work attitudes, and psychosocial job conditions capturing the three research traditions of HRM, climate and well-being. In accordance with the research questions covered in chapter 4 through 6, a limited number of survey scales are used.

For the organizational climate field, scales on quality orientation, goal effectiveness orientation, customer service orientation, information sharing, people oriented leadership, pace and amount of work, and pay satisfaction are selected. As perceived HRM activities pay satisfaction, development, job security, information sharing, goal effectiveness orientation and quality orientation are included. As regards well-being, a work pleasure scale and a job satisfaction item are selected (reflecting the happiness component of employee well-being (Grant et al., 2007)). Some scales are referred to both as HRM factor and as organizational climate factor; this reflects the increasing conceptual overlap between these two research traditions (Boxall & Purcell, 2008; Nishii & Wright, 2008; Ostroff & Bowen, 2000). Moreover, this overlap reflects an integrated, pragmatic framework for data collection and analysis as promoted in balanced and workforce scorecards (Van Veldhoven, 2005). Table 2 contains sample questions for all the survey scales and indicates the chapter(s) in which the survey scales are included. The survey scales are described below.

1. Quality orientation is a three-item scale based on the Dutch FOCUS questionnaire (Van Muijen, Koopman, De Witte & Bast, 1996) which measures organizational climate. This instrument is based on Quinn's competing values approach (Quinn & Rohrbaugh, 1983). Item content is comparable to the quality scale in the Organizational Climate Inventory inspired by the same competing values model (Patterson et al., 2005). Respondents rated each of the items on a five-point scale ranging from 'I completely agree' to 'I completely disagree'. Cronbach's alpha scores for this dimension are .76 (T1) and .74 (T2).

2. *Goal effectiveness orientation* is assessed with a three-item scale. Content is comparable to the Dutch FOCUS questionnaire (Van Muijen et al., 1996), and the reflexivity scale of

the Organizational Climate Inventory (Patterson et al., 2005), both of which are based on Quinn's competing values approach (Quinn & Rohrbaugh, 1983). Five-point response scales were used to indicate the extent of agreement with a statement (I completely agree, I somewhat agree, Neutral, I somewhat disagree, I completely disagree). Cronbach's alpha scores for this dimension are .75 (T1) and .73 (T2).

3. *Customer service orientation* is measured with a nine-item scale based on the Dutch FOCUS questionnaire (Van Muijen et al., 1996). Item content is comparable to the outward focus scale in the Organizational Climate Inventory (Patterson et al., 2005), and climate for service defined by Schneider (1990). Respondents rated each of the items on a five-point scale ranging from 'I completely agree' to 'I completely disagree'. Cronbach's alpha scores for this dimension are .91 (T1) and .90 (T2).

4. *Information sharing* is assessed with a five-item scale also based on the Dutch FOCUS questionnaire (Van Muijen et al., 1996) which measures organizational climate. Item content is comparable to the clarity of organizational goals scale in the Organizational Climate Inventory (Patterson et al., 2005). Respondents rated each of the items on a five-point scale ranging from 'I completely agree' to 'I completely disagree'. Cronbach's alpha for this scale are .78 (T1) and .79 (T2).

5. *People-oriented leadership*. This five-item scale measured the extent to which employees are treated with respect by their supervisors by showing individualized consideration. The scale is based on Den Hartog (1997), who adapted it from the MLQ by Bass and Avolio (1989). Employees are asked to comment on the general tendency of their leader to give them personal attention and to stimulate them. Five-point response scales were used to indicate the extent of agreement with a statement (I completely agree, I somewhat agree, Neutral, I somewhat disagree, I completely disagree). Cronbach's alpha for this scale is .92 at both time points.

6. *Pay satisfaction*. This five-item scale was constructed by Van Veldhoven and Meijman (1994). Item content is derived from Smith, Kendall and Hulin (1969) and Hackman and Oldman (1975). Using a four-point response scale (Always, Often, Sometimes, and Never), respondents are asked to evaluate current pay in several ways, including social comparison. Cronbach's alpha for this scale are .83 (T1) and .85 (T2).

Table 2. Sample Questions

Scale	Sample question	Chapter
1. Quality orientation	This company aims at achieving high quality products for our internal and external customers Within this branch improvement of quality is evidently worked on	4,5
2. Goal effectiveness orientation	In general, it is assessed to what extent goals have been achieved Within this branch it is common to review branch objectives	4,5,6
3. Customer service orientation	This branch is continually assessing customer needs Within this branch customers are considered top priority	6
4. Information sharing	Within this branch important information about activities of competitors is shared I am sufficiently informed about branch goals	5
5. People-oriented leadership	My leader treats me as an individual rather than just a member of the group My leader listens to my concerns	4
6. Pay satisfaction	Do you think that you are fairly paid in comparison with others in this organization Do you think that your branch pays good salaries	4,5
7. Development	My organization offers me training My leader stimulates the development of employee talents	5
8. Job security	Do you need more certainty that your current branch will still be in existence in one year's time Do you need to be more confident that you will still be working in one year's time	5
9. Pace and amount of work	Do you work under time pressure constraints Do you have to work very fast	4
10. Work pleasure	I enjoy my work Mostly, I am pleased to start my day's work	6
11. Work satisfaction	All things considered, I am satisfied with working for this branch	6

7. *Development* consists of two items. The first item asks respondents to rate the general tendency of their leader to stimulate the development of their talents on a five-point response scale (I completely agree, I somewhat agree, Neutral, I somewhat disagree, I completely disagree). The second item concerns the extent to which the organization offers opportunities for work-related training. This item was assessed using a four-point response scale (Always, Often, Sometimes, and Never). Standardized (between 0 and 100) item scores, were averaged to get a development dimension score. The correlation between these two items are .39 (T1) and .38 (T2).

8. *Job security* is measured with a four-item scale constructed by Van Veldhoven and Meijman (1994). The scale asks respondents to rate their need for more security with regard to several job attributes, such as the continuity of their contract or their job status. Four-point response scales were used for an evaluation in terms of frequency (Always, Often, Sometimes, and Never). Cronbach's alpha for this scale is .94 at both time points.

9. *Pace and amount of work*. This 11-item scale is constructed by Van Veldhoven and Meijman (1994), based on earlier work by Karasek (1985). Item content is dedicated to psychosocial job demands, but only in a quantitative sense: how much work is there, and in how much time does it have to be done? More research on this scale can be found in studies of De Croon, Sluiter, Blonk, Broersen and Frings-Dresen (2004) and Van Yperen and Janssen (2002). This scale had two-point answering categories of the Yes/No type. Cronbach's alpha is .89 at both time points.

10. *Work pleasure* is measured with a 9-item work pleasure scale (Van Veldhoven & Meijman, 1994). This scale had two-point answering categories of the Yes/No type. Cronbach's alpha for this scale are .71 (T1) and .72 (T2).

11. *Work satisfaction* is assessed with a single item. Respondents were asked to comment on the question: 'All things considered, I am satisfied with working for this branch' on a five-point response scale. A single item measure of overall satisfaction has acceptable reliability of at minimum .67 (Wanous, Reichers & Hudy, 1997).

3.5.3 Additional Measures

For the purpose of testing the emergence of unit-level constructs, (see criterion 1) two scales and one objective indicator were used. *Interaction within a business unit* was measured with 6-item cooperation between departments scale. This scale indicates how well employees within a branch are working together to achieve collective goals. Items were measured on a Likert-type scale that ranged from 1 (strongly agree) to 5 (strongly disagree). A sample statement is: 'Employees work well together to get the job done'.

Cronbach's alpha are .87 (T1) and .88 (T2). *Inspirational leadership* was measured with a 9-item leadership scale. Employees are asked to comment on the general tendency of their leader to provide a vision and inspire them. The scale is based on Den Hartog (1997), who adapted it from the MLQ by Bass and Avolio (1989) and the VBLQ by House, Delbecq and Taris (1997). A sample statement is: 'My leader creates the feeling that we work towards an important goal / mission'. Cronbach's alpha is .95 at both time points. *Turnover* was defined as the outflow of FTE's during a year. This number was calculated by dividing the number of FTE that left the branch in a year by the number of FTE in a branch at the end of a year.

3.6 Application of Criteria: Results

To validate the aggregation of the individual-level survey scales to unit-level constructs, first, we examined relationships between cooperation between departments, inspirational leadership and turnover, and the extent to which employee survey dimensions are shared within a unit (measured by Rwg (J) values). Table 3 depicts bivariate correlations between the three predictors and the Rwg (J) values for each scale. We calculated correlations at both time points, so the results can be considered as results of two separate samples, one for each time point. At both time points, employee survey data and the hypothesized predictors were coupled contemporaneously.

Table 3. Results of Emergence Processes

Scale	Turnover		Cooperation		Leadership	
1. Quality orientation	-.241*	-.087	.543*	.352*	.271*	.186*
2. Goal effectiveness orientation	-.085	-.181*	.304*	.323*	.299*	.245*
3. Customer service orientation	-.286*	-.169*	.578*	.519*	.239*	.296*
4. Information sharing	-.211*	-.103	.603*	.353*	.502*	.464*
5. People-oriented leadership	-.254*	-.094	.455*	.330*	.573*	.606*
6. Pay satisfaction	-.095	-.042	.249*	.033	.176*	.025
7. Development	-.133	-.064	.394*	.318*	.479*	.536*
8. Job security	.097	.004	.187*	.070	.002	.058
9. Pace and amount of work	-.110	-.040	.327*	.128	.132	.084
10. Work pleasure	-.228*	-.197*	.412*	.180*	.304*	.305*
11. Work satisfaction	-.088	-.226*	.443*	.421*	.267*	.397*

Notes * $p < 0.05$ N = 171

The results indicate that turnover is negatively related to five and four employee survey dimensions at time point 1 and time point 2, respectively. Customer service orientation and work pleasure are correlated at both time points. For quality orientation, goal effectiveness orientation, information sharing, people-oriented leadership and work

satisfaction significant correlations are found at one time point. For the remaining survey dimensions no significant relationships were established. For cooperation between departments, the second hypothesized antecedent, more support was found. At time point 1 all survey dimensions showed positive relationships with cooperation between departments. At time point 2 pay satisfaction, job security and pace and amount of work had no relationship with cooperation between departments. Finally, inspirational leadership was positively related to nine and eight employee survey dimensions at time point 1 and time point 2, respectively. No relationships were found for the survey scales on job security, pace and amount of work (both time points) and pay satisfaction (time point 2).

The second criterion concerned the type of referent used. Here we made a distinction between self, leader, or business unit (see Table 4).

Table 4. Referent Type

Referent	Scale
Business unit	Quality orientation, goal effectiveness orientation, information sharing, customer service orientation
Leader	People-oriented leadership
Mixed, majority business unit	Development
Mixed, majority self	Pay satisfaction
Self	Job security, pace and amount of work, work pleasure, work satisfaction

It was found that the items of the survey dimensions quality orientation, goal effectiveness orientation, information sharing, and customer service orientation used business unit as referent. Respondents were asked to provide ratings of their business unit. For leadership, although respondents are asked about their own situation (e.g. my leader treats me, and listens to my concerns), respondents are asked to rate their leader. Therefore, the leader was used as referent for the items of this scale. Pay satisfaction and development, used a mix of business unit- and self-referenced items. For development, one item was on the general tendency of the leader to stimulate the development of their talents, the other item concerned the extent to which the business unit offers opportunities for work-related training. For pay satisfaction, respondents were asked to evaluate their pay. Respondents were asked to rate their business unit (2 items) and their

own situation (3 items). The majority of items were self referenced. The survey scales on job security, pace and amount of work, work pleasure, work satisfaction included self-referenced items. Respondents were asked to rate their own situation or feelings regarding work.

The final set of criteria applied concerned statistical procedures to assess the appropriateness for aggregation. The first measures calculated were the intraclass correlation coefficients (ICC1 and ICC2), which indicate the reliability of the business unit-mean scores (see Table 5).

Table 5. Intraclass Correlation Coefficients

Scale	ICC1		F-test		ICC2	
	T1	T2	T1	T2	T1	T2
Quality orientation	.071	.070	7.48*	7.44*	.87	.87
Goal effectiveness orientation	.070	.072	7.37*	7.63*	.86	.87
Customer service orientation	.084	.054	8.72*	5.95*	.89	.83
Information sharing	.127	.102	13.26*	10.79*	.92	.91
People-oriented leadership	.040	.039	4.52*	4.44*	.78	.77
Pay satisfaction	.047	.024	5.15*	3.12*	.81	.68
Development	.041	.044	4.62*	4.91*	.78	.80
Job security	.040	.034	4.52*	3.99*	.78	.75
Pace and amount of work	.036	.047	4.17*	5.22*	.76	.81
Work pleasure	.039	.035	4.48*	4.11*	.78	.76
Work satisfaction	.013	.013	2.16*	2.09*	.54	.52

Note: * $p < 0.05$

As show in Table 5, all the F-tests are significant. This indicates that the business unit variance is larger than the within- business unit variance for all survey dimension. The ICC1 values were between 1 and 13 percent.

These values are not high, however the F-test indicated that the variance components attributable to the business unit were statistically significant. The ICC2 values were between .52 and .92. ICC2 values obtained for quality orientation, goal effectiveness orientation, customer service orientation and information sharing showed good reliability (the scores were above .80). For people-oriented leadership, development, job security, pace and amount of work, and work pleasure acceptable reliability scores were found (the scores ranged between .70 and .80). Pay satisfaction showed good reliability at time point 1 (.81), however at time point 2 the reliability dropped to .68. For the single satisfaction item we found marginal values of .52 and .54.

Last, we calculated an interrater agreement measure (Rwg (J)) for all survey dimensions (see Table 6).

Table 6. Interrater Agreement

Scale	Rwg mean		Rwg min.		Rwg max.		Percentage above .70	
	T1	T2	T1	T2	T1	T2	T1	T2
Quality orientation	.86	.88	.69	.77	.93	.95	99.4	100
Goal effectiveness orientation	.78	.80	.52	.62	.88	.92	85.3	98.2
Customer service orientation	.96	.96	.89	.91	.98	.97	100	100
Information sharing	.90	.91	.82	.80	.95	.95	100	100
People-oriented leadership	.83	.84	.30	.59	.94	.95	94.2	97.7
Pay satisfaction	.80	.82	.68	.62	.90	.89	98.8	98.2
Development	.70	.69	.39	.38	.87	.85	55.6	53.8
Job security	.49	.51	.00	.00	.94	.81	19.9	12.3
Pace and amount of work	.96	.96	.93	.93	.98	.98	100	100
Work pleasure	.95	.96	.88	.87	.98	.99	100	100
Work satisfaction	.72	.67	.01	.23	.89	.87	71.3	49.1

For quality orientation, goal effectiveness orientation, people-oriented leadership, pay satisfaction, we found strong agreement (Rwg (J) > .71). Very strong agreement (Rwg (J) > .91) was demonstrated for customer service orientation, information sharing, pace and amount of work and work pleasure. The percentage of business units with Rwg (J) estimates that are below a cut point of .70 was at a maximum fifteen percent for each category of the above-mentioned variables. Moderate agreement was found for work satisfaction (.72 and .67) and development (.70 and .69). For job satisfaction at time point 1 around thirty percent and at time point 2 around fifty percent of the business units scored below the cut point of .70. For development it was found that 55.6 (T1) and 53.8 (T2) percent of the business units had at least an Rwg (J) score of .70. Finally, weak to moderate agreement was found for job security (.49 and .51). Only 19.9 (T1) and 12.3 (T2) percent of the business units had at least an Rwg (J) score of .70. Using a cut point of .50 around forty percent of the business units scored below this point.

3.7 Evaluation and Conclusion

This chapter developed and applied five criteria for assessing the aggregation possibilities of individual survey data on perceptions of HRM, climate and employee well-being into meaningful business-unit level constructs: emergence processes, referent type, two types of intraclass correlations coefficients and interrater agreement. Table 7 presents the support found for aggregating the individual-survey scales to business unit-level constructs on the basis of the five criteria.

Table 7. Evaluation of the Appropriateness of Aggregation

Scale	Emergence	Referent	ICC1	ICC2	Rwg
1. Quality orientation	(T1)**** (T2)***	****	****	****	****
2. Goal effectiveness orientation	(T1)*** (T2)****	****	****	****	****
3. Customer service orientation	****	****	****	****	****
4. Information sharing	(T1)**** (T2)***	****	****	****	****
5. People-oriented leadership	(T1)**** (T2)***	***	****	****	****
6. Pay satisfaction	(T1)*** (T2)*	**	****	****	****
7. Development	***	***	****	****	(T1)**** (T2)***
8. Job security	(T1)** (T2)*	*	****	****	(T1)** (T2)***
9. Pace and amount of work	(T1)** (T2)*	*	****	****	****
10. Work pleasure	****	*	****	****	****
11. Work satisfaction	(T1)*** (T2)****	*	****	***	(T1)**** (T2)***

In this chapter we applied the criteria twice (time point 1 and time point 2), the results can be considered as results of two separate samples. Some survey dimensions received different ratings at time point 1 and time point 2. This is reflected in the assignment of two scores (the time point is given between parentheses). Table 7 presents the scores of the eleven survey dimensions on the five criteria. The number of stars varied across the developed criteria, except for ICC1. All the survey scales had significant ICC1 values, indicated by the significance of the F-test. To interpreted these values we decided to compare the magnitude of the ICC1 values found in this chapter with ICC1 values found in prior empirical work on perceptions of HRM, organizational climate and happiness well-being. The eleven survey dimensions could broadly be divided in three categories based on the five evaluation criteria: social organizational factors, work- and job level-related aspects and job attitudes.

3.7.1 Evaluation of the Appropriateness of Aggregation to the Business Unit Level

The first set of survey dimensions obtained four stars on almost all five criteria, indicating strong support for aggregation. These are the survey dimensions indicating social organizational factors: quality orientation, goal effectiveness orientation, customer service orientation, information sharing and people-oriented leadership. As expected

from organizational climate theory, we found that inspirational leadership, social interaction and a lack of turnover were positively related with the emergence of these constructs at business unit level. Besides, except for people-oriented leadership for all these survey dimensions the referent was the business unit. The values of the ICC1, ICC2 and Rwg (J) indicated strong support for aggregation. We found that the average ICC1 for the first five scales (except people-oriented leadership) is .09 at T1 and .07 at T2. The ICC1 values are on the low side compared to the .12 average reported by James (1982). However, James' average ICC1 might be upwardly biased, as James (1982) equated eta-squared and ICC1 (Bliese, 2000). The average ICC1 value is also lower than Patterson et al.'s (2005) reported average ICC1 value of .14 for comparable scales of the Organizational Climate Inventory. However, Patterson al.'s (2005) ICC1 values are based on variance attributable to the organization, while our ICC1 values are based on variance attributable to the business unit. Our ICC1 measures at branch level may be lower than ICC1 measures at organizational level (as reported by Patterson et al., 2005) because by comparing business units we exclude organizational-level variance. The ICC1 value of people-oriented leadership was around .04, which is on the low side compared with ICC1 values reported by Chen et al. (2007). Compared with values reported by Chen and Bliese (2002) for first-line supervisors in combat units (ICC1 was .02), however, these values seemed reasonable. Bass et al. (2003) and Sivasubramaniam et al. (2002) reported only Rwg (J) values, these values were comparable with Rwg (J) values reported in this chapter.

As second set of survey dimensions: scales on pay satisfaction, development, job security and pace and amount of work can be grouped together. These dimensions reflect work- and job level-related aspects. Again, the values of the ICC1, ICC2 and Rwg (J) indicated moderate to strong support for aggregation. In comparison with the first set of scales, less significant relationships were found between inspirational leadership, social interaction and a lack of turnover and the emergence of these constructs. In contrast to the first set of survey dimensions, the referent in use was a mixture of the business unit and self or only self. For pay satisfaction and development average ICC1 values of .04 were found. Compared with Takeuchi et al. (2007) this value is on the low side, they found an ICC1 for their HPWS index of .23. However, Takeuchi et al.'s (2007) value is based on variance attributable to the organization. Wright et al. (2005) compared business units on four HR practices: selection, pay, training and participation, an average item ICC1 value of .06 was reported in this study. Schneider, Hanges, Smith and

Salvaggio (2003) reported an ICC1 value of .15 for a satisfaction with pay scale, however, this was again based on variance attributable to the organization. Compared with Rwg (J) values reported by Ryan, Schmidt and Johnson (1996) for satisfaction with training (Rwg (J) was .68), the Rwg (J) value found for development in this chapter seemed reasonable. The Rwg (J) scores for pace and amount of work showed very strong agreement, whereas the Rwg (J) scores for job security showed weak to moderate agreement. These relatively low scores (.49 and .51) might be caused by the limited number of items and answer categories for the job security scale. The ICC1 values found for pace and amount of work (average is .04) are on the low side compared to the .12 reported by Ostroff (1992). However, compared with Rwg (J) values reported by Ryan et al. (1996) for work stress (Rwg (J) was .71), the Rwg (J) value found for pace and amount of work in this chapter is relatively high. For job security the average ICC1 value was .04. Compared with the ICC1 value of .19 reported by Schneider et al. (2003) for the satisfaction with security scale this is on the low side. As indicated above, a first explanation is possibly the research setting, in this chapter survey scores are aggregated into business unit constructs, in Schneider et al.'s (2003) study surveys are aggregated into organization scores. Secondly, in this chapter the referent for all the job security items was self, we asked respondents how they feel about, and if they need more security regarding a number of job attributes. In contrast, Schneider et al. (2003) asked respondents to rate their company in providing job security. Research has shown that using an organization referent versus a me referent resulted in greater within group agreement and more between-group variability (Klein et al., 2001).

Finally, the work pleasure scale and the work satisfaction item could be grouped together. Both showed moderate support for aggregation. Both scales showed support for aggregation in terms of significant ICC1 values and significant relationships between turnover, leadership and cooperation, and the emergence of these constructs. The Rwg (J) scores for work pleasure and the ICC2 values showed strong support for aggregation, whereas the Rwg (J) and ICC2 scores for job satisfaction showed moderate support for aggregation. These relatively low scores for job satisfaction might be caused by the use of a single item. The ICC1 values of work pleasure and job satisfaction (.037 and .013, respectively) are on the low side compared to prior work by Schneider et al. (2003), Mason and Griffin (2005), and Van Veldhoven et al. (2002). The ICC1, however, is comparable with intraclass correlations as reported in a study by Marklund, Bolin and Von Essen (2008).

3.7.2 Conclusion

This chapter developed a framework for evaluating the suitability of aggregating individual-survey data into meaningful branch-level constructs. Subsequently, this framework was tested on survey scales on perceptions of HRM, climate and happiness employee well-being.

First, the results showed that the perceptions of HRM and climate could broadly be divided into two groups. The first group showing strong support for aggregation is on social organizational aspects: quality orientation, goal effectiveness orientation, customer service orientation, and information sharing and leadership. The second group contains work- and job level-related aspects: development and pay satisfaction, job security and pace and amount of work. This group showed less support for aggregation than prior HRM studies by Tackeuchi et al. (2003) and Wright et al. (2005). However, we need to take into account that the measures of Takeuchi et al. (2007) and Wright et al. (2005) focused on employee perceptions. They asked employees to provide a description of practices enacted and implemented in their organization or business unit, respectively, whereas the scales on HRM perceptions asked for description ànd an evaluation of the practices. This might be indicating that these scales are conceptually better suited to the individual or job rather than the business unit level, as these scales explicitly asked for employees' personal experiences. In this research context it is reasonable to expect that different employee groups, for example tellers and line managers perceive and experience work factors differently.

As regards happiness well-being, we found moderate support for aggregation (for work pleasure and job satisfaction). Although the two components of happiness well-being showed significant relationships with expected predictors, and showed good ICC2 and Rwg (J) values, the ICC1 values were on the low side. An explanation might be that in the present chapter the focus is on branch scores derived from employee judgments about individual jobs (the referent is the individual). On this point, our interpretation differs from that of Mason and Griffin (2002) who define group task satisfaction as the group's attitude towards its work environment. However, although Mason and Griffin (2002) argued that group task satisfaction functions differently from mean level job satisfaction, this was not confirmed in relation to group performance (the outcome of interest in the remaining chapters of this thesis).

Individual survey information is frequently aggregated to scores at higher levels within the organization to enable inclusion of this type of information in workforce

systems. In this chapter five criteria are presented that can be used for developing employee surveys and for analyzing survey information at the business unit level. A first recommendation is the inclusion of measures on social organizational factors which ask employees to rate their unit on the unit goals or their leader. As regards the work- and job level-related aspects, and the employee well-being components, a recommendation could be to ask the employee to rate his or her business unit, and not to provide information on his or her own experience. This would probably results in homogenous assessments of whether HRM practices, climate dimensions or well-being exists in the business unit as a whole. However, the same type of questions could probably be answered by first line managers. More importantly, this would reduce the richness of information on how employees perceive, experience, and interpret factors in their work and job environment, and on how they feel about their work. Another option is to study these concepts and their effects at job level. Literature on job characteristics and HRM (e.g. Karasek & Theorell, 1990; Lepak & Snell, 2002) emphasize the importance to study work and organizational factors and their consequences at the job level. Furthermore, it is important to methodologically check the appropriateness of aggregation by calculating two types of indices before reporting and interpreting mean scores and linkages between these scores and outcomes.

In the remaining three empirical chapters (4 through 6) of this thesis we aggregate longitudinal survey data on HRM, climate and well-being to the business unit level in order to study relationships with objective business unit outcomes. Overall, to a great extent the findings in this chapter support the use of aggregated survey scales to measure meaningful business unit-level constructs. Strong support was found for the survey scales on climate and for the majority of HRM perceptions, moderate support (as regards ICC1 values) was found for job security, pace and amount of work, work pleasure and job satisfaction. However, based on ICC2 and Rwg (J) values we concluded that aggregation was also justified for these scales.

3.8 References

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4

Time Precedence in the Relationship between Climate and Performance: A Cross-lagged Study at the Business Unit Level

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Abstract

This chapter presents a two-wave cross-lagged study (average interval of two years) on time precedence in the relationship between organizational climate and organizational performance in 171 branches of a financial services organization in the Netherlands. It is argued that four HRM-induced organizational climate dimensions influence organizational performance. Additionally, it was also hypothesized that high organizational performance influences the four organizational climate dimensions through investments in HR practices and through signaling effects. Finally, it was reasoned that possibly both processes are present simultaneously. Results of testing a series of competing models in AMOS showed that organizational climate at time point 1 influenced organizational performance at time point 2 rather than the reverse, or both processes being present simultaneously.

4.1 Introduction

Managers and researchers have been assuming that organizational climate has an important effect on organizational performance (e.g. Ashkanasy, Wilderom & Peterson, 2000; Schneider, 1990). The underlying process is generally described as follows: human resource management practices influence employee perceptions of their working environment and employee behaviors, and these behaviors in turn will result in improved organizational performance (e.g. Borucki & Burke, 1999; Kopelman, Brief & Guzzo, 1990; Ostroff & Bowen, 2000). Gelade and Ivery (2003) found that the effects of HR practices on performance were mediated by organizational climate. Less attention is being paid in the literature to the possibility that organizational performance might also influence organizational climate. However, Siehl and Martin (1990) argued for such reverse causation: high performing organizations have the resources through which they can develop or sustain an organizational climate. Another alternative viewpoint is that both directions of causality are present at the same time (James & Jones, 1976; Ostroff, Kinicki & Tamkins, 2003) i.e. organizational climate influences organizational performance and at the same time organizational performance influences organizational climate.

Most of the empirical studies fail to provide a design to demonstrate that the effect of organizational climate on organizational performance is actually causal: organizational climate results in higher organizational performance (Patterson, Warr & West, 2004). Exceptions are studies by Ryan, Schmit and Johnson (1996) and Schneider, White and Paul (1998). Both studies have provided mixed results: reverse causation and dual causality was found. So, uncertainty exists about the temporal order in the relationship between organizational climate and organizational performance. Besides, Ryan et al. (1996) used employee attitudes instead of an organizational climate measure and Schneider et al. (1998) used customer perceptions in contrast to objective data as a performance outcome. Appropriately testing the relationship between organizational climate and organizational performance and the possible recursive nature of this relationship requires a cross-lagged design (Cook & Campbell, 1979) with measurement of both organizational climate and objective performance over time. To date, as far as we know, such a research design has not been used in this specific literature.

This paper reports a two-wave study (average interval two years) that investigates the temporal order in the relationship between four generalized organizational climate dimensions and organizational performance. This study uses archival organizational

climate and objective performance data of business units within one company as recommended by Gelade and Ivery (2003) and by Ryan et al. (1996). The major contribution of this study is testing this relationship with a cross-lagged design. Demonstrating temporal order between organizational climate dimensions and financial performance is important from a theoretical and a pragmatic perspective. After all, in simple conceptual models only a forward causal chain is assumed and in more complex models a reversed causal chain is usually only noted as a possibility, whereas this old proposition has not been sufficiently proved in academic research (e.g. Ostroff et al., 2003; Paauwe, 2007; Wiley & Brooks, 2000; Wright, Gardner, Moynihan & Allen, 2005). In addition, longitudinal studies until now provided mixed results. In case the results of this study affirm the assumed forward chain of causality, then this study confirms the importance of monitoring and changing organizational climate dimensions within companies.

To start with, we will first clarify the organizational climate and organizational performance concepts. Subsequently, we will discuss the issue of temporal order in the relationship between organizational climate and organizational performance. The second part describes the sample, our measures and statistical approach. The third part presents the empirical results. Finally, we conclude with implications of our findings for science and practice.

4.2 Theory

This paper is built upon climate literature. This research tradition makes use of specific constructs. Therefore, we will start by defining organizational performance and organizational climate. We then theorize about the linkages between organizational climate and organizational performance. Finally, we will discuss prior longitudinal organizational climate research.

4.2.1 Organizational Performance

Organizational performance can be defined in a variety of ways (Guest, 1997). Wright and Gardner (2003) categorized performance measures into employee outcomes (such as turnover and absenteeism), organizational outcomes (such as productivity and service quality) and financial outcomes (such as market value). In this study we include an organizational outcome closely related to productivity. Productivity is a concept that expresses the relationship between output value and input costs (Kopelman et al., 1990). The measurement of productivity in climate literature faces two challenges.

First, in much organizational climate research productivity is only partially measured, only one or a few inputs are measured, for example labor productivity or non-controllable costs (Koys, 2001), or some indirect estimates of outputs are used, for example customer satisfaction (Schneider et al., 1998). So, in most of the studies a proxy for measuring productivity is used. The full productivity ratio (outputs and inputs) is seldom assessed in the climate literature (Kopelman et al., 1990).

A second challenge concerns the level of analysis. In some research the relationship between organizational climate and performance is studied at the corporate level (Schneider et al., 1998). Comparing performance across companies in different industries might be problematic due to industry effects (Wright & Gardner, 2003). Within industry studies researching variance in performance at the business unit level provide the opportunity to control for industry and company effects.

In this study we will use an objective productivity measure (in terms of full costs and revenues) of business units within a large financial services organization. We study to what extent business unit performance can be predicted by organizational climate, and the other way around. In the next session we will introduce the organizational climate concept.

4.2.2 Organizational Climate

Researchers face a number of conceptual challenges in the measurement of organizational climate (e.g. Patterson, West, Shackleton, Dawson, Lawthom, Maitlis et al., 2005). Organizational climate refers to employees' shared perceptions of the types of behaviors and actions that are rewarded and supported by the organization's policies, practices, and procedures (Schneider, 1990). Sharing means that there is enough perceptual agreement between individual employees, so that climate perceptions can be treated as an organizational-level construct (Patterson et al., 2005). Although we can define the organizational climate concept as shared employees' perceptions of aspects in their working environment, there is still little agreement on the specific elements of an organizational climate.

In this chapter we choose to adopt five global dimensions: goal emphasis, means emphasis, reward orientation, task support and socio-emotional support, as common elements of an organizational climate (Kopelman et al., 1990). Kopelman et al. (1990) argued how these five core dimensions act as performance resources of the working environment needed for organizational performance. Moreover, these organizational climate elements are applicable across multiple work environments and strategic foci.

Additionally, all the five dimensions are highly relevant from an HR perspective as well. Kopelman et al. (1990) explicitly described how six HR practices: hiring, placing, rewarding, monitoring, developing and promoting influence the climate dimensions. Besides, Kopelman et al.'s (1990) approach is frequently used in previous studies as a basis for exploring the relationship between organizational climate and organizational performance, for example in frameworks of Sparrow (2001) and of Tesluk, Hofmann and Quigley (2002). Finally, this approach is also frequently used for interpreting empirically observed organizational climate categories (Gelade & Ivery, 2003). Kopelman et al. (1990: 296) defined the five core elements as follows:

1. *Goal emphasis* – the extent to which management makes known the types of outcomes and standards that employees are expected to accomplish
2. *Means emphasis* – the extent to which management makes known the methods and procedures that employees are expected to use in performing their jobs
3. *Reward orientation* – the extent to which various organizational rewards are perceived to be allocated on the basis of job performance
4. *Task support* – the extent to which employees perceive that they are being supplied with the materials, equipment, services and resources necessary to perform their jobs
5. *Socio-emotional support* – the extent to which employees perceive that their personal welfare is protected by a kind, considerate, and generally humane management

Although the constructs are applicable across multiple work contexts, the content focus of the dimensions, in particular of the goal and means emphasis dimensions is related to the strategic focus in the work context (Kopelman et al., 1990). In the organization studied here quality focus is the most important strategic goal for all business units, but at the same time much emphasis is placed by the organization on efficiently delivering high quality service to customers (Rabobank, 2000). Therefore, the dimensions of goal emphasis and means emphasis are combined into one dimension aimed at the strategic goals of the business unit and the way they are achieved.

A second challenge climate researchers face in the measurement of organizational climate is whether to combine the dimensions into one general climate index or to include specific climate dimensions in the analysis. In this study we decided to include the dimensions of our climate construct separately. We reasoned that constructing one

climate index could hide relationships between specific climate dimensions and productivity. Moreover, Ostroff et al. (2003) argued that there is a need to study the relative importance of climate dimensions for a global effectiveness indicator like productivity. So, apart form studying the temporal order, we also investigate the relative effects of four specific climate dimensions on organizational productivity. In the next section we will discuss theoretical explanations for relationships between the four organizational climate dimensions and organizational performance.

4.2.3 Organizational Climate - Performance Relationships

Forward causation: Organizational climate influences organizational performance. In organizational climate literature, usually a causal direction is assumed where a positive organizational climate results in higher organizational performance via employee behaviors (e.g. Siehl & Martin, 1990). Kopelman et al. (1990) have presented a model that makes more explicit the intervening processes between organizational climate and organizational productivity. They propose 'cognitive and affective states' (primarily work motivation and job satisfaction) and 'salient organizational behaviors' like attachment (attending and staying in the organization), job performance (tasks in one's organizational role) and citizenship (helpful contributions that are not mandatory) as linking mechanisms.

In line with goal setting theories, Kopelman et al. (1990) reasoned that goal and means emphasis reduce role conflict and ambiguity, and reward orientation signals to workers the consequences of their behaviors, resulting in employee motivation. These dimensions provide employees with knowledge about the goals of the organization and about how to align their behavior. Schneider (1975) argued that climate perceptions can serve as a frame of reference for guiding appropriate and adaptive task behaviors. In addition, facilitating performance through a context where goals are clear, work methods are made known, and rewards are aligned, adequate resources and supportive leadership are needed to facilitate work accomplishment (Schneider et al., 1998; Schneider, Bowen, Ehrhart & Holcombe, 2000; Tesluk et al., 2002). Task support reduces physical strain and motivates employees, because they are supplied with the necessary materials, equipment, services and resources to perform their jobs (Kopelman et al., 1990). In line with the organizational support theory (Rhoades & Eisenberger, 2002), Kopelman et al. (1990) argued that employees' beliefs that the organization values their contribution and cares about their well-being will contribute to their overall well-being.

Results of a meta-analysis (Parker, Baltes, Young, Huff, Altmann, Lacost, et al., 2003) indicate that the relationship of climate with performance is mediated by employees' work attitudes at the individual-level of analysis. In addition, Iaffaldano and Muchinsky (1985) and Judge, Thoresen, Bono and Patton (2001) found relationships between job satisfaction and job performance. Positive work attitudes do also generally predict withdrawal behavior like absenteeism (Muchinsky, 1977), turnover (Griffeth, Hom & Gaertner, 2000), and citizenship (Organ, 1988). Furthermore, Viswesvaran and Ones (2000) argued in their literature overview of job performance that withdrawal behavior can negatively affect organizational performance, and job performance and citizenship behavior can positively affect organizational effectiveness. Although we won't investigate mediating mechanisms here, we expect in line with the forward chain of causality between organizational climate dimensions and productivity that:

Hypothesis 1a. Goal and means emphasis at time point 1 have a positive effect on productivity at time point 2

Hypothesis 1b. Reward orientation at time point 1 has a positive effect on productivity at time point 2

Hypothesis 1c. Task support at time point 1 has a positive effect on productivity at time point 2

Hypothesis 1d. Socio-emotional support at time point 1 has a positive effect on productivity at time point 2

Reverse causation: Organizational performance affects organizational climate. The possibility that organizational performance influences organizational climate (reversed causality) is mentioned in the organizational climate and organizational culture literature (Cooke & Szumal, 2000; Siehl & Martin, 1990) and in the HRM literature (Wright et al., 2005). Siehl and Martin (1990) argued that organizations with high profits might have more resources and might reveal a greater willingness to invest in workplace interventions than those organizations that do not have high profits. Godard (2001) indeed found that organizations with more resources implement more successfully workplace interventions than organizations with fewer resources.

High productivity provides employees with the knowledge that their branch is performing well, and that it is accomplishing its productivity goals. At the same time this signals to employees what the goal of the organization is (in this study customer quality) and it reinforces the way how these goals are achieved (in this study efficiency). As a result it can be expected that high productivity scores positively influence the

organizational climate dimensions means and goal emphasis. It is also argued that organizations with high profits pay their employees more, yielding in higher scores on the reward orientation dimension (Schneider, Hanges, Smith & Salvaggio, 2003). High organizational performance can positively influence the task support dimension. Organizations with higher profits have more room for investments in materials, equipment, services and resources. Besides, money can be invested as a buffer for lowering the risk of excessive workloads for instance by hiring temporary workers (Van Veldhoven, 2005). In the same way, high productivity can positively influence socio-emotional support; high performing organizations have additional resources available to protect their employees' well-being, including their interpersonal relationships.

Moreover, high organizational performance could also positively affect employees' perceptions and attitudes. Most employees are motivated by personal as well as organizational success; excellent business performance results in feelings of pride (Paauwe & Boselie, 2005). As a result employees' general perceptions of all organizational climate dimensions might be more positively biased. So, we expect that:

Hypothesis 2a. Productivity at time point 1 has a positive effect on goal and means emphasis at time point 2

Hypothesis 2b. Productivity at time point 1 has a positive effect on reward orientation at time point 2

Hypothesis 2c. Productivity at time point 1 has a positive effect on task support at time point 2

Hypothesis 2d. Productivity at time point 1 has a positive effect on socio-emotional support at time point 2

Both directions of causality are present at the same time. Finally, it is possible that both processes as described above are present at the same time. Organizational climate influences organizational performance, however simultaneously organizational climate is influenced by organizational performance. Kopelman et al. (1990) admitted that their proposed model is a simplification; they did not include feedback loops and reciprocal relationships in their model. James and Jones (1976) proposed a complex framework for exploring relationships between organizational climate and outcomes. In their detailed model the relationship between organizational climate and outcomes is described as an open system, in which reciprocal influencing occurs. Ostroff et al. (2003) also included feedback loops in their integrated multilevel model of culture and climate. Schneider et al. (2003) proposed a recursive model, in which HR practices influence job satisfaction,

job security and pay satisfaction through organizational performance, and in which pay satisfaction has an effect on organizational performance through organizational citizenship behavior. Wiley and Brooks (2000) proposed a recursive model, in which climate influences performance, and performance subsequently influences climate. In line with these conceptual models we expect that:

Hypothesis 3a. Goal and means emphasis at time point 1 have a positive effect on productivity at time point 2 and productivity at time point 1 has a positive effect on goal and means emphasis at time point 2

Hypothesis 3b. Reward orientation at time point 1 has a positive effect on productivity at time point 2 and productivity at time point 1 has a positive effect on reward orientation at time point 2

Hypothesis 3c. Task support at time point 1 has a positive effect on productivity at time point 2 and productivity at time point 1 has a positive effect on task support at time point 2

Hypothesis 3d. Socio-emotional support at time point 1 has a positive effect on productivity at time point 2 and productivity at time point 1 has a positive effect on socio-emotional support at time point 2

4.2.4 Research Design Issues

The most prevalent research design in the literature is one where organizational climate measures are taken from the same period and are coupled with financial performance data derived from a period that overlaps or precedes the organizational climate measures (Patterson et al., 2004). However, this type of design does not allow any conclusions on directions of causality, since temporal precedence of the cause is a necessary condition for causal inference (Cook & Campell, 1979). In the next section we will give an overview of some exceptions to this general research design i.e. the few longitudinal studies on organizational climate in relation to organizational performance.

Ideally, research questions on temporal ordering require both measurement of organizational climate and performance over time. We expect that work environments remain to a certain extent stable across time. As organizational climate is formed by the HR practices of the organization (Kopelman et al., 1990), we expect, in line with Schneider, Brief and Guzzo (1996), that organizational climate is difficult to change and rather stable. Moreover, we expect that the relative financial position of branches is predictive of their future financial position, implying stability. In order to control for the stability in organizational climate and productivity scores, it is recommended to make use

of a cross-lagged panel design in research on temporal order (Zapf, Dormann & Frese, 1996). In this way we are able to determine whether a change in organizational climate precedes a change in performance. Four previous studies in this field made use of multiple data waves.

Borucki and Burke (1999) studied 596 stores of a large retail company using two waves of employee and customer survey data and financial store data. They found that service climate is predictive of sales personnel service performance, and sales personnel service performance is predictive of store financial performance. Schneider et al. (2003) used employee attitude and financial performance data (ROA and EPS) from 35 companies over 8 years. They found significant and stable relationships for 3 out of 7 scales across various time lags. However, overall job satisfaction and satisfaction with security were predicted by past performance more strongly than in the reverse analysis, and satisfaction with pay exhibited a reciprocal relationship with performance measures. Schneider et al. (1998) concluded in a study on relationships between a climate for service and service quality in 134 branches of a bank that there is a reciprocal effect between a climate for service and service quality. Ryan et al. (1996) reported a study that uses data from 142 branches in a car finance company in two consecutive years. They found several significant relations between attitude factors and performance within successive years, however they unexpectedly found that customer satisfaction in year 1 predicted employee satisfaction in year 2, but not vice versa.

According to Zapf, Dormann and Frese (1996) structural equation modeling is superior to bivariate correlations or regression analyses, because structural equation models allow simultaneous estimation of causal relationships between variables. Schneider et al. (2003) only reported bivariate correlations and did not apply structural equation models. Borucki and Burke (1999) applied structural equation modeling, but they only tested two cross-sectional path models. In this research area, only Ryan et al. (1996) and Schneider et al. (1998) applied such cross-lagged analyses using LISREL.

Previous longitudinal studies on temporal order in the relationship between organizational climate and organizational performance produced mixed results. We need at least two waves of data in order to control for stability in organizational climate and performance scores. Subsequently, these data need to be analyzed with structural equation techniques to examine forward and reverse causation sequences simultaneously while controlling time 2 organizational climate and performance measures for time 1 measures. Therefore, the first aim of this study is to apply an appropriate research design

in the HRM-climate-performance field. A second contribution of this study concerns the measurement of organizational climate and performance. We conceptualized our climate construct based on a widely used framework with a high degree of relevance from an HRM point of view, and investigate the effects of climate dimensions separately. Additionally, we make use of an objective performance indicator. Finally, we will test our hypotheses with structural equation modeling. All three hypotheses are summarized in Figure 1.

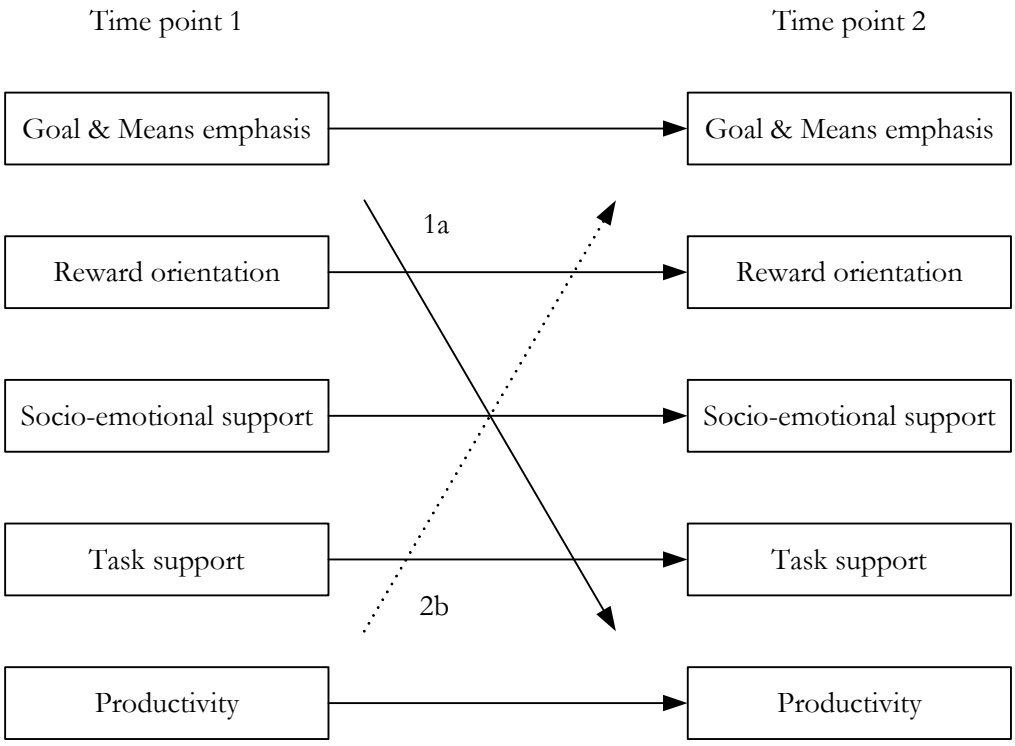

Figure 1. Research model
Notes: 1a: forward chain of causality, 2b: reversed chain of causality

4.3 Methods

4.3.1 Context

This study used data from a large financial services organization in the Netherlands, operating on the basis of cooperative principles. The largest part of this organization consists of approximately 300 local branches with 35,000 employees. The fact that it is a cooperative means that many personnel related factors are coordinated by the central organization, but at the same time branches have considerable leeway in the way they manage personnel issues.

In 2000 the organization introduced a balanced scorecard type of management system for three major areas: finance, customer and employee (Kaplan & Norton, 1996; Payne, Holt & Frow, 2001), in order to provide branches with suitable management

information. In this scorecard finance and control information is derived from objective registrations of financial transactions, customer information is derived from routine market research activities, and employee information is gathered by means of survey research and objective registration on personnel.

4.3.2 Subjects

Survey data from 2000-2005 were used to measure organizational climate. 171 branches participated two times in the employee survey during this period (with a maximum of three years between the employee surveys). The average interval between the employee surveys is 24 months (with a standard deviation of 7.1). At time point 1 (T1) questionnaire data of 14,477 employees were available for the 171 branches in this study (38 percent of the total population, data as of 2001). The average response rate in the separate employee surveys at the branch level was 77.5 percent. The average number of respondents in the branches was 84.7. At time point 2 (T2) questionnaire data of 14,860 employees were available for the 171 branches in this study (43 percent of the total population, data as of 2003). The average response rate in the separate employee surveys at the branch level was 84.7 percent. The average number of respondents in the branches was 86.9.

Although participating in the employee survey system is recommended by the central organization, both branches and individuals are free to participate in the employee survey. To investigate possible selectivity of the sample, we checked representativeness of the sample (T1 data as of 2001, T2 data as of 2003) at the branch and individual level. At the branch level, representativeness of the sample for the total population in the organization was checked in terms of region in the Netherlands and in terms of branch size. At the individual level, representativeness was checked for age class (five levels: 25 years and below, 25-35 years, 35-45 years, 35-45 years, 45-55 years and 55 years and older) number of working hours/week (below 36 hours, 36 hours, above 36 hours) and gender. We found that the sample could be regarded as representative for the total organization at both time points in terms of the variables mentioned. For each category of these variables the difference between our sample and the population was not larger than 5 percent.

4.3.3 Measures

Organizational climate. We selected five employee survey scales for the measurement of the five common organizational climate dimensions: goal emphasis, means emphasis, reward orientation, task support, and socio-emotional support (Kopelman et al., 1990).

As a measure for goal and means emphasis we used a quality orientation and goal effectiveness scale. Item content is comparable to the Dutch FOCUS questionnaire (Van Muijen, Koopman, De Witte & Bast, 1996) and the quality scale and the reflexivity scale of the Organizational Climate Inventory (Patterson et al., 2005), based on the competing values approach by Quinn (Quinn & Rohrbaugh, 1983). Employees are asked to evaluate their business unit, in line with prior research by Schneider et al. (1998).

We measured reward orientation with a pay satisfaction scale, as common in comparable research (Gelade & Ivery, 2003). Employees evaluate the extent to which rewards are allocated in relation to their job performance. This scale was constructed by Van Veldhoven and Meijman (1994). Item content goes back to Smith, Kendall and Hulin (1969) and Hackman and Oldman (1975). The respondent is asked to evaluate current pay in several ways, including social comparison.

We selected the work speed and quantity scale to measure the task support dimension. The selection of this scale restricted the content to the quantity and availability of time for work as indicator for the extent to which employees perceive that they are being supplied with the materials, equipment, services and resources necessary to perform their jobs. Ideally, we would have liked to include the availability of all these resources in our study. However, the availability of time is the most important resource for Dutch employees. Van Veldhoven and Meijman (1994) constructed this scale, based on earlier work by Karasek (1985). Item content is dedicated to psychosocial job demands, but only in a quantitative sense: how much work is there, and in how much time does it have to be done? More research on this scale can be found in studies of De Croon, Sluiter, Blonk, Broersen and Frings-Dresen (2004) and Van Yperen and Janssen (2002).

As a measure for socio-emotional support we used a people-oriented leadership scale. This scale measured the extent to which employees are treated with respect by their supervisors by showing individualized consideration. The scale is constructed by Den Hartog (1997), who adapted it from the MLQ by Bass and Avolio (1989). Employees are asked to comment on the general tendency of their leader to give them personal attention and to stimulate them.

In Table 1, psychometric information on the five survey scales is listed. The Table includes the number of items, the number of response categories, and scale reliability (Cronbach's alpha). Five-point response scales were used to indicate the extent of agreement with a statement (I completely agree, I somewhat agree, Neutral, I somewhat

disagree, I completely disagree). Four-point response scales were used for an evaluation in terms of frequency (Always, Often, Sometimes, and Never).

Table 2 contains sample questions for all the five survey scales. To ease interpretation, all survey variables have been scored in such way that high scores indicate a situation that is generally considered favorable to the employee.

Aggregation. In order to be able to speak of organizational climate, we need to check the perceptual agreement in the branches (Chan, 1998). This is the extent to which the organizational climate dimensions scores are shared within a business unit. We calculated two intraclass correlations to test whether we can aggregate the individual perceptions into meaningful branch-level constructs (see Table 1).

Table 1. Scale Characteristics

Scale	Items	Answer categories	Alpha Reliability		ICC 1		ICC 2	
			T1	T2	T1	T2	T1	T2
Quality orientation	3	5	.76	.74	.070	.070	.87	.87
Goal effectiveness	3	5	.75	.73	.070	.072	.86	.87
Pay satisfaction	5	4	.83	.85	.047	.024	.81	.68
People-oriented leadership	5	5	.92	.92	.040	.039	.78	.77
Pace and amount of work	11	4	.89	.89	.036	.047	.76	.81

ICC1 can be defined as the amount of variance in individual scores attributable to the branch (Klein, Bliese, Kozlowski, Dansereau, Gavin, Griffin et al., 2000). ICC1 values are ranging from .02 to .07, implying that 2-7 percent of the variance in individual scores depends on the branch. For the organizational climate scales the amount of variance in individual scores is largely explained by factors other than the branch. The intraclass correlations are comparable with the lowest intraclass correlations reported in previous studies (Gelade and Ivery, 2003; Schneider et al., 2003).

With the number of individual respondents available from this study it was found that for all organizational climate scores the variance components attributable to the branch variable were statistically significant in a F-test ($p <$. 001). We can therefore assume that reliable mean square values for branches are still possible, even if ICC1 values are rather small (Klein et al., 2000). The ICC2 parameter can be interpreted as the reliability of the mean branch scores. This parameter is calculated on the basis of the mean square between branches and the mean square within branches. Values above .70 are considered good; values above .50 are deemed tolerable (Klein et al., 2000). The ICC2 values of the organizational climate scales are above the .50 criterion.

Table 2. Sample Questions

Scale	Sample question
Quality orientation	This company aims at achieving high quality products for our internal and external customers
Goal effectiveness	In general, it is assessed to what extent goals have been achieved
Pay satisfaction	Do you think that you are fairly paid in comparison with others in this organization
People-oriented leadership	My leader treats me as an individual rather than just a member of the group
Pace and amount of work	Do you work under time pressure constraints

Organizational performance. Productivity was operationalized in this study by a yearly 'branch profit per FTE index'. Profits are operationalized as gross profits minus returns on equity. We chose this parameter because this parameter is not influenced by differences in sales / costs of the branches, and because this parameter only reflects that part of profit that is not related to returns on equity. The number of full-time equivalence (FTE) is established on the average basis of number of FTE for the concerned year. Both parameters are available at the branch level from regular yearly reports within the organization provided by the finance and control / HR department. These reports are based on objective registrations of financial transactions and personnel.

4.3.4 Statistical Analysis

All hypotheses were tested with structural equation modeling using AMOS 6. In consideration of the number of climate dimensions compared to the number of cases, we decided to include the valid and reliable organizational climate scales as manifest variables in our model. We controlled for the length of the time interval between the two employee surveys within a business unit (measured in months). We assume that the length of the time interval will be positively related to organizational climate and performance scores at time point 2, due to the favorable market conditions during the research period. A series of cross-lagged models (Cook & Campbell, 1979) enabled us to examine the temporal order in the relationship between organizational climate dimensions and performance.

First a model with temporal stabilities was specified (M1), which included only effects between variables measured at time point 1 and time point 2. The extent to which

variables at time point 1 are predictive of variables at time point 2 is determined. This stability model was compared with three more complex models.

1. A model with effects from organizational climate at time point 1 to organizational performance at time point 2 (M2, reflecting hypotheses 1)
2. A model with effects from organizational performance at time point 1 to organizational climate at time point 2 (M3, reflecting hypotheses 2)
3. A model with both effects simultaneously (M4, reflecting hypotheses 3)

The research approach is presented in Figure 1. Figure 1 is a simplified model. Each endogenous variable has an error term which is not depicted. Secondly, we did not depict covariates between the organizational climate scores and profits/FTE at time point 1 and the error terms allocated with T2 measurement. Finally, we included time interval as a control variable, since we assume that time interval was related to organizational climate and performance scores at time point 2.

Four indicators of fit were used to asses the model tested, including $\chi 2$, root mean square error of approximation (RMSEA), adjusted goodness of fit index (AGFI), and Bentler's comparative fit index (CFI), as described by Byrne (2001). A non-significant $\chi 2$, AGFI and CFI values above .90, and RMSEA values below .05 indicate good fit between model and data. $\chi 2$ goodness-of-fit statistics are used to compare the different competing models. The difference in $\chi 2$-values in combination with the difference in degrees of freedom between the separate models is tested against the critical values of the $\chi 2$ distribution, to determine whether adding or deleting structural paths results in a significant improvement or decline in model fit. The significance of the effects is determined by comparing the probability level (*p*) from the Critical Ratio (C.R.) – which is calculated by dividing the parameter estimate by its standard error - with a significance level of .05.

4.4 Results

4.4.1 Descriptives

Table 3 shows the means and standard deviations at both time points of the organizational climate scales and profits/FTE. Table 3 shows that the mean score for the organizational climate dimensions goal and means emphasis, reward orientation, and task support increased across the two time points, while the mean score for the socio-emotional support dimension decreased across the two time points. At time point 1

(average profits/FTE of 23,291 Euros/FTE) the branches performed worse than at time point 2 (average profits/FTE of 33,216 Euros/FTE).

Table 3 shows the intercorrelations between the variables used in this study. The organizational climate dimensions are moderately to highly stable across time (.35 - .62), implying moderate to strong stability in organizational climate. The bivariate correlation between the productivity scores at T1 and T2 is .62, suggesting that the financial position at T1 is indeed predictive of the financial position at T2. The organizational climate dimensions, except socio-emotional support all correlate with productivity at one time point or at both time points. The organizational climate dimensions are moderately (.35) to highly intercorrelated (.63) at both time points. The correlation between the organizational climate dimensions goal and means emphasis and socio-emotional support are remarkably high (.63; .55). This is even more noteworthy considering the correlations between these two dimensions and productivity at time point 2: Socio-emotional support is negatively (non-significant) correlated with productivity, whereas goal and means emphasis is positively correlated with productivity.

Table 3. Descriptives and Correlations

Variable	Mean	SD	1	2	3	4	5	6	7	8	9	10
1. Productivity 1	23.29[a]	12.14[a]										
2. Productivity 2	33.22[a]	14.19[a]	.618**									
3. Goal & Means emphasis 1	68.82	5.56	.222**	.223**								
4. Goal & Means emphasis 2	70.64	5.27	.198**	.359**	.508**							
5. Reward orientation 1	55.14	5.86	.070	.294**	.321**	.239**						
6. Reward orientation 2	58.86	4.34	.030	.192*	.101	.214**	.616**					
7. Socio-emotional support 1	75.28	5.42	-.118	-.083	.630**	.245**	.328**	.189*				
8. Socio-emotional support 2	74.64	5.26	-.111	.023	.248**	.545**	.136	.216**	.349**			
9. Task support 1	56.72	3.43	.294**	.231**	.098	.064	.155*	.121	.006	.022		
10. Task support 2	56.90	3.97	.126	.058	-.035	.028	-.056	.164*	.005	.136	.438**	
11. Interval	24.00	7.05	-.162*	.059	.025	-.123	.109	.095	.094	-.099	.023	-.206**

Notes: [a] Reported in thousands of Euros per FTE ** $p < 0.01$ * $p < 0.05$ N = 171

4.4.2 Model Comparisons

Table 4 shows an overview of the competing models. The different nested models were compared by a χ2 difference test.

Table 4. Model Comparisons

Model	χ2	df	Comparison	Δχ2	Δdf
1. Stability	48.49	25			
2. Organizational climate T1→Productivity T2	28.31	21	M1 vs. M2	20.18*	4
3. Productivity T1→Organizational climate T2	42.25	21	M1 vs. M3	6.24	4
4. Both effects	22.58	17	M1 vs. M4	25.91*	8
			M2 vs. M4	5.73	4
			M3 vs. M4	19.67*	4

First, we compared the stability model (M1) and the model with effects from organizational climate dimensions at time point 1 to productivity at time point 2 (M2). The χ2 difference tests showed that the difference between the models was significant ($\Delta \chi 2\ (4) = 20.18, p < .05$), implying that the model with effects from organizational climate dimensions to productivity better accounts for the data than the model with only stabilities. Subsequently, we compared the stability model (M1) with a model with effects from productivity at time point 1 to organizational climate dimensions at time point 2 (M3). Model fit did not improve if effects from productivity at time point 1 to organizational climate dimensions at time point 2 were added ($\Delta \chi 2\ (4) = 6.24, p > .05$). Besides, no significant effects were found between productivity (T1) and the climate dimensions (T2). Apparently, the organizational climate dimensions at time point 2 were not strongly influenced by productivity at time point 1. The model with both effects simultaneously included (M4) resulted in a significant improvement compared to the stability model (M1) ($\Delta \chi 2\ (8) = 25.91, p < .05$). However, model fit did not improve when we included effects from productivity at time point 1 to organizational climate at time point 2 (M4) in comparison to the model with effects from organizational climate at time point 1 to productivity at time point 2 (M2) ($\Delta \chi 2\ (4) = 5.73, p > .05$). Again, no significant relationships were established between productivity at time point 1 and the climate dimensions at time point 2. Moreover, we found a significant difference in model fit between the model with effects from productivity at time point 1 to organizational climate at time point 2 (M3) and the full model (M4) ($\Delta \chi 2\ (4) = 19.67, p > .05$): addition of effects between organizational climate at time point 1 and productivity at time point 2 resulted in an improved model fit.

In conclusion, we found evidence that the model with effects from organizational climate dimensions at time point 1 to productivity at time point 2 best reflects the data compared to the other nested models, taking into account the parsimony principle. No significant relationships were found between productivity at time point 1 and the organizational climate dimensions at time point 2 (in the reversed causation model (M3) and in the model which included both effects (M4)). This forward causation model had relatively good fit characteristics ($\chi 2 = 28.31$, $p = .130$ df = 21; AGFI = .91; CFI = .99 RMSEA = .045). Figure 2 presents the significant standardized coefficients of model 2.

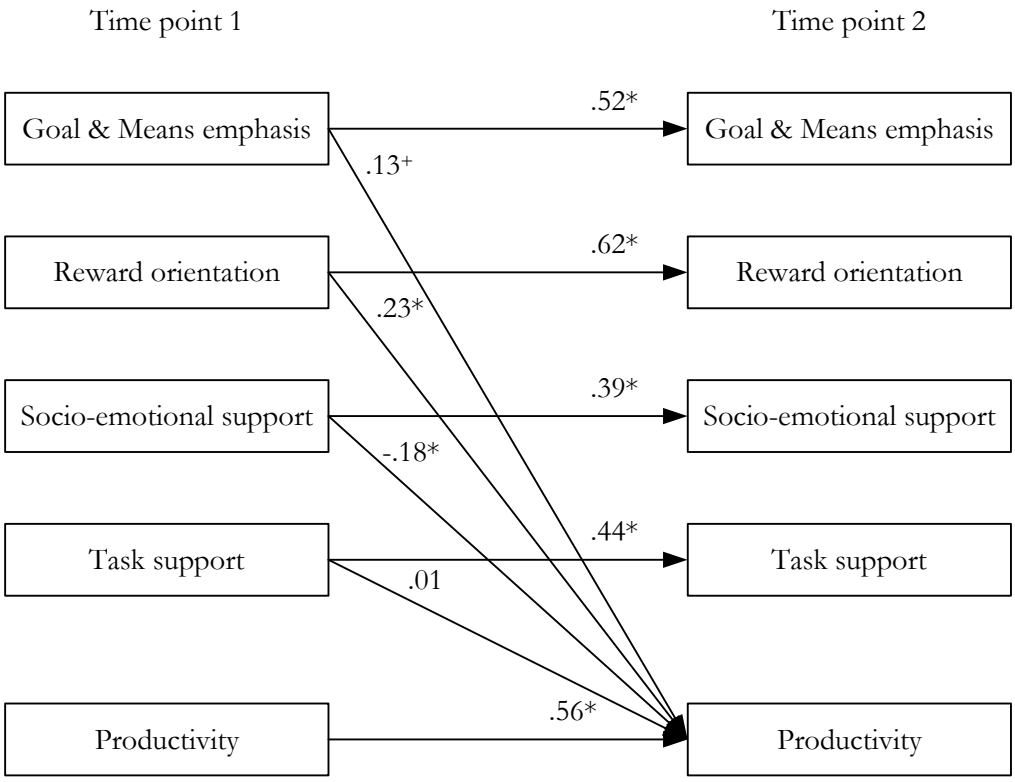

Figure 2. The final model with standardized coefficients (Model 2)
Notes: Significant covariances are not depicted $^{+}p < 0.10$ * $p < 0.05$ N = 171

As can be seen from Figure 2, the organizational climate dimensions goal and means emphasis ($\beta = .13$, $p < .10$), and reward orientation ($\beta = .23$, $p < .05$) have a positive effect on productivity. This supports hypotheses 1a and 1b: branches with relatively high scores on goal and means emphasis and reward orientation at time point 1 showed higher productivity at time point 2. The organizational climate dimension socio-emotional support has a significant negative effect on productivity ($\beta = -.18$, $p < .05$). Hypothesis 1d stating a positive effect was rejected, as branches with relatively high scores on socio-emotional support at time point 1 showed lower productivity at time point 2. Task support had no significant effect on productivity ($\beta = .01$, $p = .80$). Hypothesis 1c stating

a positive effect of task support on productivity at time point 2 was therefore rejected. The control variable time interval had significant effects on productivity, and on three dimensions of organizational climate. A longer time interval between two measures resulted in higher productivity (β = .13), indicative of the favorable market conditions. In addition to this a longer time interval had a negative effect on the organizational climate scores goal and means emphasis (β = -.14), socio-emotional support (β = -.13), and task support (β = -.14). These effects are not depicted in Figure 2.

In summary, we found evidence for effects from organizational climate to productivity. In line with hypotheses 1a and 1b: the climate dimensions goal and means emphasis, and reward orientation have a positive effect on productivity. However, socio-emotional support has a negative effect on productivity (hypothesis 1d), and for task support no effect on productivity was found (hypothesis 1c). We found no evidence for effects of productivity at time point 2 on organizational climate at time point 1 (hypotheses 2) or both effects simultaneously (hypotheses 3).

4.5 Discussion

This study aimed to explore the temporal order in the relationship between organizational climate and performance. Using longitudinal employee survey and objective organizational performance data we found strong evidence for forward causation, in which organizational climate dimensions at time point 1 influences organizational performance at time point 2. Our findings are in line with the proposed temporal order in climate literature (e.g. Kopelman et al., 1990).

Compared to other longitudinal studies (Ryan et al., 1996; Schneider et al., 1998; Schneider et al., 2003) we observed less inverse relations. An explanation might lie in the research context. We compared business units within one large cooperative organization. Especially in this organization, high performing business units might not introduce extra HR practices or work systems, since these policies are centrally arranged and therefore simultaneously implemented in all the business units. So, the business units have limited options when implementing organizational- and work-related changes. However, significant relationships between organizational climate and performance were found.

The largest part of the explained variance in profits/FTE at time point 2 is attributable to the profits/FTE on time point 1. In line with our expectations the financial position at T1 is quite predictive for the financial position at T2. Nevertheless, four organizational climate scores and our control variable length of time interval collectively accounted for 10 percent of additional explained variance, which is a

substantial part (calculated by reducing the total percentage of explained variance with the percentage of explained variance attributable to stability in profits/FTE). We should realize that we examine whether organizational climate at T1 results in a productivity increase. Taking this into account we can consider the effects found as big. The effects are stronger than we expected on the basis of comparable studies. The amount of explained variance is lower than reported in cross-sectional studies in financial services organizations (Gelade & Ivery, 2003; Bartel, 2004). However, compared to Ryan et al.'s (1996) longitudinal study with a similar time interval of two years, in which no significant explained variance in similar performance outcomes was found, our study shows much stronger results.

The organizational climate dimensions goal and means emphasis and reward orientation both had positive effects on organizational performance. According to Kopelman et al. (1990) we interpreted this to mean that the more management points out the type of outcomes and standards employees are expected to accomplish and the more rewards are allocated on the basis of job performance, the higher the productivity.

Contrary to our expectations, we found that the organizational climate dimension socio-emotional support has a negative effect on organizational performance. Paying attention to employees' personal needs is perhaps negatively related with productivity, because this is associated with increased people-oriented investments. Steiner (1972, in Ostroff & Schmitt, 1993) argued that a strong emphasis on socio-emotional support may be at the cost of productivity, because productivity resources are diverted toward people-oriented activities. Also, in this study we noticed that branches which paid more attention to people-oriented leadership made less profit. A people-oriented leadership style is perhaps associated with less focus on performance, and more tolerance of poor performance in comparison to a transactional leadership style (Bass & Avolio, 1989). Another possible explanation is of a more conceptual nature. High perceived socio-emotional support in an organization can be considered to be a characteristic of a human relations climate, which is primarily directed at employee well-being (Patterson et al., 2005). Giving more priority to employee welfare and well-being through socio-emotional support may hamper the pursuit of productivity (Quinn & Rohrbaugh, 1983).

We found no significant relationship between task support at time point 1 and organizational performance at time point 2. In this study, task support is measured with a quantity of and availability of time for work scale, as most important resource for Dutch employees (Van Den Bossche, Hupkens, De Ree & Smulders, 2006). An explanation is

related to the definition of task support. According to Kopelman et al. (1990) task support is defined as the extent to which the organization provides employees with resources that are necessary to perform their jobs. Perhaps this indicates a minimal level of task support (Schneider et al., 2000). Thus, minimum levels of task support are necessary for work accomplishment, but higher levels of task support have no additional performance effects.

4.5.1 Limitations

The first limitation concerns the way the longitudinal data coupling is done in this study. Data were coupled on a yearly basis. The surveys are scattered over the period of a year. We connected the questionnaire to the same year of financial performance records, irrespective of the month the questionnaire research is done. Furthermore, we used different years for time point 1 (data as of 2000, 2001, 2002) and time point 2 (2002, 2003, 2004). This coupling may have distorted our results. Also, we allowed different time intervals, so we compared different time lags. As a result a noise factor is introduced in the research design. Ideally one should be able to couple data on a monthly basis, with equal time intervals and time points. This requires more frequent branch participation in the questionnaire system and more flexibility in the information systems delivering the data necessary for this type of analysis.

As the performance data were only available at branch level, we had to aggregate the individual survey scores to mean scores at the branch level. Working with aggregated data can be problematic, as a result of the differences in branch size. Variance compression in the branch scores is expected to increase with the size of the branches. The standard errors and confidence intervals for the aggregated survey scores might be distorted (Klein et al., 2000).

4.5.2 Implications

This study contributes to the recognition that the perception of organizational climate shows variance between business units within a large organization, and that these differences might have important financial consequences (Wright & Gardner, 2003). Although the variance in survey scales at the level of branch is rather limited compared to the variance at the individual employee level, we found that these small differences between business units preceded significant differences in business unit performance. At the level of the business unit, the aggregated organizational climate survey scores can be considered as an indicator with much narrower margins than indicators applying to the

individual measurement level. Additionally, we found no support that organizational performance preceded climate scores.

Hence, this study confirms the usefulness of including organizational climate data in balanced and or HR scorecards (Paauwe, 2004) as a parameter relevant for achieving future financial performance. Monitoring and managing these differences in organizational climate scores is important for organizations. After all, these factors are performance stimulating factors with high opportunity for control by line- and HR-managers as compared to external factors, like conjuncture or market prices. So, it seems important to take into account organizational climate information in future management decisions and the subsequent shaping of HR-policies and -practices.

Future scientific longitudinal research needs to address theory refinement of the organizational climate - performance relationship. In this study it was found that only the goal and means emphasis and reward orientation positively affected organizational productivity. An explanation might be the focus on business unit productivity as outcome variable in this study. The goal, means and reward dimensions are possibly most closely aligned with this business outcome. When employees know that efficiently delivering high quality to customers is given priority in their business unit and that they are rewarded accordingly, this information will guide their behavior to be in line with this business goal. This reasoning is in line with the recently proposed employee 'line of sight' concept. Line of sight indicates the extent to which an employee understands the organization's objectives and understands how to effectively contribute (Boswell, 2006).

The organizational climate dimension of task support might be conceptually more adequately placed at the individual or job levels, instead of the branch level, and it might be more related to other relevant organizational outcomes than productivity, like turnover and or absenteeism. The climate dimension of socio-emotional support might be more related to well-being outcomes. It might inform employees that their well-being and not financial performance is the most important goal for their business unit, resulting in a negative relationship with financial performance. So, it is important to investigate the intervening processes whereby organizational climate affects organizational performance e.g. the cognitive and affective states and salient organizational behaviors as suggested by Kopelman et al. (1990). Moreover, more research is needed with regard to the impact of specific organizational climate dimensions on parallel organizational outcomes as recommended by Ostroff et al. (2003).

Finally, more research is needed with regard to time aspects in the relationship between organizational climate and performance. We applied a longitudinal design with repeated measures of both organizational climate and performance and we used structural equation modeling. However, apart from considering forward and inverse causation explanations, we did not address the issue of which time lag is necessary for the proposed link between the organizational climate and performance in much detail. The effect of organizational climate on organizational performance might depend on the length of the time interval. The true effect of substantial organizational climate changes may only be visible over a longer period than the average two years in this study, since the stability of the organizational climate scales and the business unit performance declines over time.

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5

Predicting Business Unit Performance Using Employee Surveys: Monitoring HRM-Related Changes

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Abstract

Organizations are increasingly using strategy tools such as workforce scorecards to keep track of Human Resource Management (HRM) related change processes which have been implemented and the effects of these on business unit performance. However, in this area the challenge of finding appropriate indicators, establishing temporal relationships, and providing useful management information still remains. Using longitudinal archival data from 171 branches of a large financial service organization, this study examines to what extent employee surveys can serve as a predictor of better financial performance at the branch level. Results from a series of models in AMOS showed that a significant part of branch profits could be predicted using employee surveys, after correcting for prior profits. Based on extrapolation to all branches of this organization, the changes in employee survey scores predict higher yearly profits of 178 million Euros (17.9 percent of the total yearly profits) across the entire company. Implications for research and practice are discussed.

5.1 Introduction

Many organizations face a volatile market situation. In order to create and sustain competitive advantage in this type of environment, organizations must continually improve their business performance. Increasingly, organizations are recognizing the potential of their human resources as a source of sustained competitive advantage. Linked to this, more and more organizations are relying on measurement approaches, such as workforce scorecards (e.g. Becker, Huselid & Ulrich, 2001; Huselid, Becker & Beatty, 2005; Mayo, 2001; Philips, Stone & Philips, 2001), in order to gain insight into how the human resources in their organization add value. These approaches mainly focus on improving the effective management of human resources in organizations (Paauwe, 2004). The increasing interest in measurement is further stimulated by a growing number of studies that show a positive relationship between 'Human Resource Management' (HRM) and organizational performance (Combs, Liu, Hall & Ketchen, 2006; Toulson & Dewe, 2004). In the context of this paper, HRM refers to: 'All those activities associated with the management of people in firms' (Boxall & Purcell, 2008: 1).

Although the meta-analysis conducted by Combs et al. (2006) confirmed a relationship between HRM and performance at the company-level of analysis, studies focusing on intermediate processes between HRM and performance at lower levels within the organization remain scarce (Becker & Gerhart, 1996; Wright & Gardner, 2003). This dearth of studies raises difficulties because it remains unclear how human resources (employees) within an organization add value (financial performance). Studies at the company-level of analysis furnish information on the relationship between HRM and performance by comparing organizations which provide different products and services, and which operate under different business conditions. Furthermore, company-level studies assume that there is no variation in HRM within a company. However, especially within large organizations, differences might exist between the designed practices at corporate levels and the implemented practices and employees' perceptions across business units (Nishii & Wright, 2008). Management activities usually occur at the business unit level. Critical outcomes for which managers are accountable are often located at this level. This is why there is a need for researchers to provide managers with information on processes that are taking place within their company between HRM designed at corporate level on the one hand and organizational performance on the other. Management needs in particular this type of information in order to develop, implement and use workforce scorecards.

This study aims to explain performance differences between branches within a large company on the basis of employee survey data regarding HRM-related change processes. Our starting point was a dataset with two waves of employee survey and financial performance data from 171 branches of a large Dutch financial service organization, which had implemented renewed HRM policies aimed at improving branch performance. The company under study introduced a balanced scorecard type of measurement system in 2000 to provide branches with appropriate management information during the change process. Financial data were derived from objective registrations of financial transactions and employee data were derived from employee survey research.

The main contribution of this study is to demonstrate how organizations can monitor HRM-related change processes using employee surveys. Our contribution consists of tackling three challenges facing corporate HR managers and HR researchers when setting up and making use of workforce scorecards (Fischer & Mittorp, 2002). Firstly, the human resources component may be the most difficult area for which to find good business unit-level indicators (Mayo, 2001; Ulrich, 1997). The next challenge researchers face is to make temporal inferences between HRM indicators and business outcomes (Wright, Gardner, Moynihan & Allen, 2005). Finally, the established relationships have to be translated into relevant management information (Becker & Gerhart, 1996). Each of these three challenges will be discussed below in more detail. Following a brief introduction presenting these challenges, we then focus on how we addressed these challenges in the present study.

5.2.1 Employee Survey Data as HRM –Related Change Process Indicators

Management needs to select and develop a range of indicators that can be used to monitor and measure the effects of HRM (Paauwe, 2004). Two of the main discussion points relating to HRM measurement concern the content and time horizon of measures (Paauwe, 2004; Pfeffer, 1997).

As far as content is concerned, most HRM indicators focus on costs, such as salary costs. However, these indicators do not inform us about what is being done, nor do they inform us about how value is added (Paauwe, 2004; Pfeffer, 1997). This type of indicator only measures the expenditure of resources and does not measure implemented HRM policies nor their impact. The present study compares branches within a large organization. In order to focus on performance enhancing factors at this level rather than on indicators relating to costs, we refer to the process models developed by Nishii and Wright (2008) and Boxall and Purcell (2008). These models describe the HRM-

performance linkage as follows: intended HRM practices (policies developed by decision makers) influence actual HRM practices (implemented HRM practices), employees perceive these practices (perceptions of HRM practices) and react to them (employee outcomes), and these employee outcomes result in organizational performance. Implemented HRM practices and employee perceptions play a central role in these process models: they are proposed as a linking mechanism within the company between intended HRM at company-level and organizational performance.

It is possible to identify HRM indicators by asking HR professionals or line managers about the HRM practices in their branch. However, questions have been raised as to whether HR professionals or line managers can provide an accurate description of the implemented practices in a branch (Gerhart, Wright & McMahan, 2000). Although HR professionals can report on the proportion of employees that are covered by a certain HR practice, for example training, this does not provide us with accurate information about the extent to which employees experience opportunity for development (Gerhart, 2005). In order to exert effects, HRM practices need to be perceived and interpreted subjectively by employees (Nishii, Lepak & Schneider, 2008).

With regard to the timescale of the measurements, new HRM activities are usually assessed over a very brief period of time, whereas it may be years before their effects become manifest (Paauwe, 2004). Wright and Haggerty (2005) argued that it takes almost two years to design and deliver new HRM practices, and another one or two years before these practices have an effect on organizational performance. In this context, a positive feature of measuring employees' perceptions via surveys in comparison with measuring designed or implemented HRM practices using management interviews, is that these perceptions are more closely linked to performance. Narrowing the length of the linkage between HRM and organizational performance, by including more proximal indicators of HRM and performance (in this study: employee perceptions and business unit outcomes), will probably result in stronger relationships because fewer other factors intervene (Guest, 1997). Moreover, given that it might take a considerable time before intended HRM policies have an effect on performance, more proximal indicators reduce the length of the time interval that is needed to detect a relationship in research. Hence, in this study we use employee survey data to monitor processes driven by HRM-related interventions.

5.2.2 Temporal Inferences

The next challenge researchers face is to make temporal inferences between interventions and outcomes. In other words, do new HRM policies actually result in higher organizational performance? Based on Cook and Campbell (1979), Wright et al. (2005) presented three criteria for establishing causal relationships: covariation between cause and effect, time precedence, and the possibility of controlling for or ruling out alternative explanations for a relationship. The most rigorous causal test takes the form of an experiment which would require two comparable organizations with respect to the implemented HRM policies and performance, one willing to implement a totally new HRM system and the other one willing to make no changes at all: a mission impossible for any researcher.

With regard to time precedence, the most common research design in the literature is a cross sectional design (e.g. Wright et al., 2005; Guest, 2001). There are a limited number of longitudinal studies in the HRM-performance field controlling for prior or concurrent performance (e.g. Guest, 2001; Wright et al., 2005). However, making temporal inferences requires both measurement of HRM and performance over time (Guest, Michie, Conway & Sheehan, 2003). In order to control for 'stability' in HRM and performance, we need at least two waves of data. It is important to control for stability in HRM and performance, since it can be expected that business units with high scores on HRM and performance in relation to other business units at a certain time point will retain similar relative positions at a follow-up time point. Without controlling for these prior scores we cannot conclude that substantially changed HRM policies actually have resulted in increased performance.

Three exceptions using two waves of employee survey data as well as performance data can be found in the literature. Firstly, Koys (2001) investigated the link between employee attitudes, behaviors and business outcomes for 28 branches of a regional restaurant chain. He presented evidence that year 1 employee attitudes and behaviors influenced organizational outcomes in the following year more strongly than organizational outcomes in year 1 influenced employee attitudes and behaviors in the following year. Controlling for year 1's profitability, the HR outcomes of satisfaction, organizational citizenship behavior and turnover measured at year 1 explained an additional 17 percent of variance in year 2 profitability. Schneider, Hanges, Smith and Salvaggio (2003) investigated employee perceptions and attitudes in combination with financial performance data (return on assets (ROA) and earnings per share (EPS)) from

35 companies operating in different sectors over 8 years. They found significant and stable relationships for 3 out of 7 scales across various time lags. However, overall job satisfaction and satisfaction with security were more strongly predicted by past performance than in the reverse analysis. Satisfaction with pay exhibited a reciprocal relationship with performance measures. Schneider et al. (2003) and Koys (2001) used multiple data waves; however, sample size was low in both studies. Moreover, Koys (2001) only used prior performance as a control variable and Schneider et al. (2003) only reported bivariate correlations. Neither of the authors applied structural equation modeling. Only Ryan, Schmit and Johnson (1996) applied a cross-lagged analysis that allows for simultaneous estimation of temporal relationships between variables in this field of study. They reported a study that used data from 142 branches in a car finance company over two consecutive years. They found several significant relationships between employee attitude factors and performance in successive years although they also unexpectedly found that customer satisfaction in year 1 predicted employee satisfaction in year 2, but not vice versa.

As can be seen from this short summary of longitudinal studies using two data waves, mixed evidence has been found on temporal relationships. The lack of longitudinal studies is thus problematic in HRM-performance research. Furthermore, several explanations for reversed or reciprocal causation have been proposed. First, organizations with high profits might reveal a greater willingness to invest in HRM, resulting in more positive employee perceptions than those that do not have high profits (Paauwe & Boselie, 2005; Siehl & Martin, 1990). In addition, high performance may also signal organizational health and thus employment security (Paauwe & Boselie, 2005), again having an upward influence on employee perceptions. This study therefore uses a longitudinal design: linkages between employee survey data and performance at two time points are investigated.

5.2.3 Useful Management Information

The final challenge researchers face is providing useful management information. By relying on significance tests and explained variances for the established relationships between employee survey data and performance, the results of studies are difficult to interpret by practitioners. These kind of statistical parameters are common in social sciences (e.g. Gerhart, 2007; Koys, 2001; Ryan et al., 1996), but are less well-known among managers. A consequence might be that organizational decisions are not based on the best available academic evidence. This is unfortunate, because even small significant

effect sizes might translate into substantial amounts of money (Ryan et al., 1996). Comparing the top and bottom quartiles in terms of employee attitudes, Ryan et al. (1996) concluded that branches within the top versus the bottom quartile have a 15 percent difference in market share. However, it should be noted that temporal order in the relationship between attitudes and performance was not demonstrated in that study.

There is a need to translate research evidence into information that can be used by managers and policy makers within organizations to solve organizational problems. This process is known as 'evidence-based management' (Rousseau, 2006). As a starting point for this process, a meaningful index is needed to describe policy-relevant effect sizes (Becker & Gerhart, 1996). For example, the practical influence of the results of studies carried out by Huselid, Jackson and Schuler (1997), and Huselid (1995) was assessed by calculating the effect of a one standard deviation increase in an HRM effectiveness scale on their performance outcomes. But reporting policy-relevant effect sizes is not enough; in addition, researchers need to reflect on the feasibility for an organization or branch of increasing their scores on HRM with one standard deviation (Gerhart, 2007). This could be done, for example, by reporting how frequently such organizations or branches are found in the research population. In this study we will check the feasibility of obtaining such increases in HRM measures by determining the percentage of branches that have already attained a one standard deviation increase in employee survey scores during the research period.

5.2.4 Approach to Address these Challenges in this Study

This study investigates longitudinal relationships between employee surveys and branch performance. Using employee survey data as a possible indicator we focus on perceptions of HRM-related change processes as rated by multiple employees within a branch. Two waves of data are used to test the assumed temporal relationship, thus taking into account a possible reversed sequence. Finally, this study uses an extrapolation method to translate our findings (estimates) into relevant management information (in this case: increase in profits (Euros)).

5.3 The Company under Study

The company under study is a large financial services organization, serving more than 9 million private individuals and corporate clients in the Netherlands. The financial services organization has the highest credit rating (Triple A) and is among the world's fifteen largest financial institutions (in terms of Tier capital 1). Despite the stagnating

economy in 2002, net yearly profits increased during the research period from 2000 to 2005. During the research period the company consisted of approximately 300 local (domestic) independent branches plus their central organization, as well as its international subsidiaries. It employed approximately 55,000 staff and was represented in 37 countries. The focus of this research is on the Dutch domestic branches. The company has a cooperative structure, which means that the branches are members and shareholders of the supra-local cooperative organization which advises the branches and supports their local service. Each branch sphere of activity is limited to its own direct area, fostering close involvement with local customers. The ambition of the domestic branches is to be the largest, best and most innovative financial service provider in the Netherlands. To create customer value, they aim to provide better, and more appropriate financial services to their clients compared to their competitors. They also aim to ensure continuity in the services provided with a view to the long-term interests of clients. Finally, they show commitment to clients and their clients' living environments, so that the organization can contribute to achieving the clients' ambitions.

During the research period (2000 – 2005) the market changed. On the one hand, customers wanted more differentiated and specialized financial services and they wanted to conduct their banking business anytime and anywhere. On the other hand, competition increased as a result of mergers between other financial service institutions, an increase in market transparency, an increase in distribution channels, and the market entry of new financial services suppliers. In order to remain competitive, the organization has made changes in market strategy, organization structure and operating systems. The aim of these interventions was to achieve market leadership and to improve cost-effectiveness while maintaining cooperative values.

The corporate organization played a facilitating role and advised the local subsidiaries on how to achieve these new corporate objectives. The cooperative organization designed new human resource policies aimed at improving business unit-level productivity, because this outcome is the most important way for all branches to contribute to the overall company objectives. To provide the branches with the appropriate management information which would enable them to keep track of HRM policy changes within their branch, an updated type of scorecard system was designed. This system facilitated branch comparison of HRM policy changes and of outcomes. The implementation of the renewed HRM policies and also the interpretation of these by employees may differ among the branches since all these independent, self-governed

local branches are to a large extent autonomously responsible for shaping new HRM policies within their branch.

In this research, six employee survey dimensions were selected. These employee survey dimensions were chosen primarily because they are evaluative of the intended HRM policies and the enacted HRM activities as developed by the corporate organization to enhance productivity. We expected that these employee survey dimensions would change during the research period, driven by the renewed HRM policy. Although the selection of dimensions might seem company- or industry-specific, these dimensions reflect some of the underlying processes of HRM as described by Boxall and Purcell (2008). Boxall and Purcell (2008) distinguish two processes: (a) management implements HR policies aiming to build ability, motivation and opportunity to perform at the individual level, and workforce capabilities, work organization and work attitudes at the collective level, (b) management articulates values to influence employee perceptions. Moreover, the selected HR dimensions are very commonly used in current HR research (Boselie, Dietz & Boon, 2005). Each of the survey dimensions is discussed below in more detail.

The most important emphasis of the renewed HRM policy was on the values articulated by management. Values articulated by management refers to a desired way of working with employees, customers and suppliers, related to the organization's mission and values (Boxall & Purcell, 2008). The organization under study aimed to improve cost-effectiveness while still providing customer quality. By communicating and sharing information on these goals with employees, they can align their efforts and behaviors with the strategy. In order to assess the extent to which employees are aware that quality and effectiveness are given priority in their branch and to monitor the extent to which the branch communicates clearly about these goals, we selected three indicators: quality orientation, goal effectiveness and information sharing.

The renewed HR policy stimulates investment in employee development; this provides a branch with a capable workforce. Training and development practices are aimed at increasing employees' knowledge, abilities and skills to perform. Particularly in a highly competitive situation, employees need to be constantly learning, for example, by being given information about new products and new selling techniques. For this reason, as a fourth important employee survey dimension we selected employee attitudes regarding the extent to which the business unit and supervisors in the business unit offer opportunities for development.

A third component of the renewed human resource policy concerns a number of performance management initiatives related to the motivational component of HRM. As a result of the changes in the operating system, job functions are more clearly classified. This classification promotes differentiation based on employee performance. A salaried pay system with yearly increments has been supplemented by a bonus pay system. There is a chance that job insecurity will increase as a result of job and task design changes. However, employees who show good performance compared to employees who show unsatisfactory performance will be rewarded accordingly, and will face fewer threats to job security. Job security constitutes an important HRM aspect in the Dutch context (Boselie, Paauwe & Jansen, 2001), and furthermore we expected that the performance of a branch was positively related to job security. In sum, we expect a positive productivity effect from the performance management policies introduced in the company. In this study, therefore, we included two employee survey elements to tap into these aspects, i.e. pay satisfaction and job security.

5.4 Methods

5.4.1 Subjects

Employee survey data from 2000-2005 were used. 171 branches participated in the employee survey system on two occasions between 2000 and 2005 (43 percent of the total population, data as of 2003). Driven by the nature of the data collected in ongoing business practice, different time intervals between the two measurement points exist (1, 2, and 3 year intervals). The average interval between the employee surveys is 2.1 years (with a standard deviation of .61). This time lag reflects prior research on attitudes and performance (Ryan et al., 1996). Employee survey data from 2000, 2001, 2002, 2003, 2004 were used for time point 1 and employee survey data from 2001, 2002, 2003, 2004, 2005 were used for time point 2. At both time points, employee survey data and productivity were coupled contemporaneously. For example, we linked the survey and productivity data for 2001 to the year-end productivity records for 2001 (see Figure 1).

At time point 1 (T1) questionnaire data on 14,477 employees were available. The average response rate in the employee surveys at the branch level was 77.5 percent. The average number of participants per branch was 84.7. At time point 2 (T2) questionnaire data on 14,860 employees were available. At the branch level the average response rate in the employee surveys was 84.7 percent. The average number of participants per branch was 86.9.

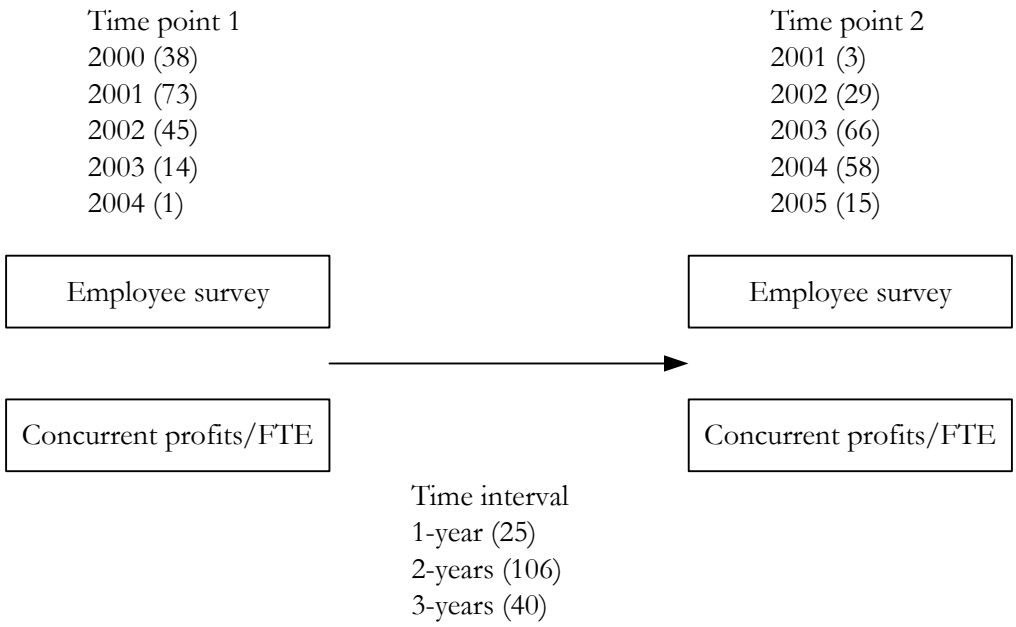

Figure 1. Research design
Note: Number of branches is given between parentheses

Although branch participation in the survey system is not compulsory, participation is strongly promoted by the supra-local organization and can be seen as part of the regular way of managing employees within this organization. To exclude selectivity of the sample, we checked the representativeness of the sample (T1 data as of 2001, T2 data as of 2003) at both the branch and the individual level.

At branch level, representativeness of the sample for the total population in the organization was checked in terms of region in the Netherlands, and branch size. At the individual level, representativeness was checked in terms of age class (five levels: 25 years and under, 25-35 years, 35-45 years, 35-45 years, 45-55 years and 55 years and older) number of working hours/week (under 36 hours, 36 hours, over 36 hours), and gender. We found that the sample could be regarded as representative for the total organization at both levels and both time points in terms of the variables mentioned; the difference between our sample and the population was at a maximum five percent for each category of the above-mentioned variables.

5.4.2 Measures

Survey scales. As discussed above, we selected six employee survey dimensions in line with the HRM literature and the associated change processes: quality orientation, goal effectiveness, information sharing, pay satisfaction, job security and development. The scales for quality orientation, goal effectiveness and information sharing were subsequently grouped together. We have termed this dimension 'performance

orientation'; these scales reinforce desired employee behaviors by communicating the business goals, so that employees can align their behaviors towards this goal. Because these scales were highly correlated (.67 to .81), bundling them reduces the possibility of multicollinearity in the analyses.

In this study bank branches are the unit of analysis. To support the aggregation of individual survey scores to branch-level scores, we calculated intraclass correlations (ICC1 and ICC2) and tested whether average scores differed significantly across branches. The ICC1 can be defined as the amount of variance in individual employee scores attributable to the branch they work for (Klein Bliese, Kozlowski, Dansereau, Gavin, Griffin et al., 2000). The ICC2 parameter can be interpreted as the reliability of comparisons between mean branch scores. Values above .70 are considered good; values above .50 are deemed tolerable (Klein et al., 2000). We also calculated Rwg (J) values of within-branch agreement (James, Demaree & Wolf, 1984) for each survey score, to further justify aggregation of our survey scores to the branch level. Values of .70 are considered sufficient for aggregation. In Table 1 the aggregation characteristics at the two time points are listed.

Table 1. Aggregation Characteristics

Survey Scale	ICC1		ICC2		Rwg	
	T1	T2	T1	T2	T1	T2
Performance orientation	.100	.091	.90	.90	.85	.87
Development	.041	.044	.78	.80	.70	.69
Pay satisfaction	.047	.024	.81	.68	.80	.82
Job security	.040	.034	.78	.75	.49	.51

As can be seen from Table 1, the ICC1 values are between 2 and 10 percent. These intraclass correlations are comparable with the lowest intraclass correlations reported in other studies conducted at the organization level (Schneider et al., 2003). These values certainly are not high, but low to modest ICC1 values are in themselves not problematic if the N of cases is large enough. With the number of individual respondents available for this study it was found that for all four survey scores the variance components attributable to the branch were statistically significant in an F-test (p <.001). We obtained good ICC2 values for all four dimensions. For performance orientation, pay satisfaction and development the Rwg (J) values suggest sufficient within-branch agreement to justify aggregation to the branch level (the Rwg (J) values are between .69 and .87). For job security we found moderate support. Rwg (J) scores for this dimension are .49 (T1) and

.51 (T2). The relatively low scores might be caused by the limited number of items and answer categories.

All in all, we believe that reliable comparisons between mean values for branches are possible, even if the ICC1 values we found are rather small (Klein et al., 2000). The measures for the four sub-dimensions are described below.

1.Performance orientation consists of quality orientation, goal effectiveness and information sharing. Quality orientation, goal effectiveness and information sharing are three scales based on to the Dutch FOCUS questionnaire (Van Muijen, Koopman, De Witte & Bast, 1996) which measures organizational climate. This instrument is based on Quinn's competing values approach (Quinn & Rohrbaugh, 1983). Item content is comparable to the quality scale, the clarity of organizational goals scale, and the reflexivity scale in the Organizational Climate Inventory inspired by the same competing values model (Patterson, West, Shackleton, Dawson, Lawthom & Maitlis et al., 2005). A sample statement from the quality orientation scale is: 'This branch is aimed at achieving high quality products to our internal and external customers.' A sample statement from the goal effectiveness scale is: 'In this branch we are aware of costs and act accordingly.' A sample statement from the information sharing scale is: 'I am sufficiently informed about branch goals'. Respondents rated each of the items on a five-point scale ranging from 'I completely agree' to 'I completely disagree'. Cronbach's alpha scores for this dimension are .84 (T1) and .83 (T2).

2.*Pay satisfaction.* This five-item scale was constructed by Van Veldhoven and Meijman (1994). Item content is derived from Smith, Kendall and Hulin (1969) and Hackman and Oldman (1975). Using a four-point response scale (Always, Often, Sometimes, and Never), respondents are asked to evaluate current pay. A sample question for this scale is: 'Do you think you are fairly paid in comparison to others within this organization.' Cronbach's alpha for this scale is .83 (T1) and .85 (T2).

3.Job security. This four-item scale was constructed by Van Veldhoven and Meijman (1994). The scale asks respondents to rate their need for more security with regard to several job attributes, such as the continuity of their contract or their job status. Items are assessed using a four-point response scale (Always, Often, Sometimes, and Never). A sample item is: 'Do you need more certainty that your current branch will still be in existence in one year's time?' Cronbach's alpha for this scale is .94 at both time points.

4.Development. This scale consists of two items. The first item asks respondents to rate the general tendency of their leader to stimulate the development of their talents on

a five-point response scale (I completely agree, I somewhat agree, Neutral, I somewhat disagree, I completely disagree). The second item concerns the extent to which the organization offers opportunities for work-related training. This item was assessed using a four-point response scale (Always, Often, Sometimes, and Never). Standardized (between 0 and 100) item scores, were averaged to get a development dimension score.

To ease interpretation all survey dimension have been scored in such a way that high scores indicate a situation that is generally considered favorable to the employee.

Productivity. In this study, productivity was operationalized by means of a yearly 'branch profit per FTE index'. Profits were operationalized as gross profits minus return on equity. We chose this parameter because it is not influenced by differences in sales / costs between the branches, and because it only reflects that part of profit which is not related to returns on equity. The number of full time equivalents (FTE) was determined on the basis of the average number of FTEs working at a local branch during a specific year. Both parameters were provided from the regular yearly financial / HR reports within the organization made available by the finance and control / HR department. These reports are based on objective registrations of personnel and financial transactions.

5.4.3 Analysis

To test relationships between employee survey dimensions and productivity we used structural equation modeling in AMOS 6. This approach enabled us to analyze the effects of the employee survey dimensions (T1 and T2) on productivity (T1 and T2) while controlling for temporal stabilities (effects between identical variables measured at T1 and T2), and inverse causation (productivity T2 influences survey dimensions at T1). Employee survey dimensions were allowed to covary at time point 1 and time point 2. Considering the proportion of the number of survey scale items on the one hand, to the number of cases at branch level on the other hand, we decided to include the survey dimension scores as manifest variables rather than as latent variables in our model in order to maintain a favorable indicator-to-sample size ratio.

The significance of the effects was determined by comparing the probability level (p) from the Critical Ratio (C.R.) - calculated by dividing the parameter estimate by its standard error - using a significance level of .05. We used the Chi square ($\chi 2$), root mean square error of approximation (RMSEA), adjusted goodness of fit index (AGFI) and Bentler's comparative fit index (CFI) to assess the fit of the model, as described by Byrne (2001). Non-significant $\chi 2$, AGFI and CFI values above .90, and RMSEA values below .05 indicate a good fit between model and data. Finally, in order to obtain a more

parsimonious model and a clearer indication of which survey dimensions have an effect on productivity, we excluded the non-significant effects following a backward elimination procedure. We controlled for the length of the time interval between the two employee surveys within a branch (measured in months) as the length of the time interval could be a confounding factor. We applied a $\chi 2$ difference test to determine whether this constrained model fitted the data just as well as the full model.

Next, we estimated the practical significance of the effect of survey scores on productivity by calculating the effect of a one standard deviation increase in survey scores on profits/FTE at time point 2, but we did so only for survey dimensions that showed a significant positive effect on productivity at time point 2. We then calculated the change relative to the mean productivity for these dimensions. Next, we determined how much (calculated in Euros) of the yearly financial performance can be predicted by survey scores, first by extrapolating this percentage to our sample of 171 branches, and secondly by extrapolating this percentage to the total research population (e.g. all local domestic branches in the Netherlands). The extrapolation to the total research population was based on overall firm performance data for 2003, the median year for time point 2.

5.5 Results

5.5.1 Descriptives

Table 2 shows the means and standard deviations at both time points and the correlations among survey dimensions and profits/FTE. Table 2 shows that the mean scores for the survey dimensions of performance orientation and pay satisfaction increased across the two time points. Mean scores for job security and development decreased across the two time points. Furthermore, the survey dimensions of job security and development are moderately stable across time (around .40). Pay satisfaction and performance orientation have a relatively high stability (.62 and .51). At time point 1 (average productivity of 23,291 Euros/FTE) the branches performed less well than at time point 2 (average productivity of 33,216 Euros/FTE). This reflects economic reality for financial services organizations where profits are influenced to a large extent by external factors relating to market trends. The bivariate correlation between T1 and T2 is .62 however, which suggests that the financial position at T1 is fairly predictive of the financial position at T2. Finally Table 2 shows that the survey dimensions are at least at one time point significantly correlated with profits/FTE. This is a first sign that these survey dimensions are performance-related indicators.

Table 2. Means, Standard Deviations, and Correlations

Variable	Mean	SD	1	2	3	4	5	6	7	8	9
1. Performance orientation 1	66.99	5.39									
2. Performance orientation 2	68.93	4.98	.514**								
3. Job security 1	71.62	7.32	.168*	-.117							
4. Job security 2	65.74	6.77	.046	.139	.361**						
5. Pay satisfaction 1	55.14	5.86	.350**	.270**	-.107	.049					
6. Pay satisfaction 2	58.86	4.34	.108	.233**	-.015	.156*	.616**				
7. Development 1	76.39	4.95	.507**	.158*	.237**	-.093	.197**	.128			
8. Development 2	74.48	5.22	.211**	.522**	.039	.206**	.127	.244**	.388**		
9. Profits/FTE 1	23.29[a]	12.14[a]	.194*	.176*	.062	.209**	.070	.030	-.153*	-.061	
10. Profits/FTE 2	33.22[a]	14.19[a]	.206**	.375**	-.025	.273**	.294**	.192*	-.060	.081	.618**

Notes: [a] Reported in thousands of Euros per FTE ** Correlation is significant at the 0.01 level (2-tailed). * Correlation is significant at the 0.05 level (2-tailed). N = 171 business units

5.5.2 Effects between Survey Dimensions and Performance

We began the structural equation modeling analyses by testing the full model. Two fit indices of this model indicated a reasonable fit ($\chi2$= 28.6, p = .00 df = 12; AGFI = .86). Only the CFI (CFI = .97) suggested a good fit. We trimmed this model by deleting non-significant associations (backward elimination). This second model showed better fit measures ($\chi2$= 37.9, p = .02 df = 22; AGFI = .90; CFI = .97; RMSEA = .065). Moreover, a $\chi2$ goodness-of-fit statistical test showed that this constrained model fits just as well as the full model ($\Delta\chi2$ = 9.23, Δdf = 10; p > .10). The second model is preferred because it is more parsimonious than the first model.[1]

In this revised model five forward assocations between employee survey scales and profits/FTE are significant (p < 0.05). Performance orientation is positively associated with profits/FTE at T1 and at T2 (β = .37; β = .22, p < .05), indicating that branches with high scores on performance orientation have more profits/FTE and that an increase in performance orientation is associated with an increase in profits/FTE. With regard to pay satisfaction, a relationship was found between pay satisfaction at T1 and profits at T2 (β = .20, p < .05), indicating that pay satisfaction scores at T1 are positively associated with an increase in profits/FTE. It was found that development is negatively associated with profits/FTE at T1 (β = -.34, p < .05); branches with high scores on development show less profits/FTE. It was found that job security was positively related to profits/FTE at T2, indicating that an increase in job security is associated with an increase in profits/FTE (β = .12, p < .05). We found only one significant positive inverse causation effect and that was between profits/FTE at T1 and job security at T2 (β = .18, p < .05). The higher the profits/FTE in a branch at T1, the more job security employees experience at T2. The results of the revised model are presented in Figure 2. The revised model explains 49 percent of the variance in profits/FTE at T2. The biggest part of this percentage (38.2 percent) is attributable to the profits/FTE at T1. The employee survey scores collectively account for 10.8 percent additional explained variance, which we consider a substantial amount. Figure 2 presents the results of the revised model.

1 Including length of time interval as a control variable did not change the pattern of our results. Time interval only had a significant positive effect on performance and development at T2. We therefore decided to report results of the revised model without including time interval as a control variable.

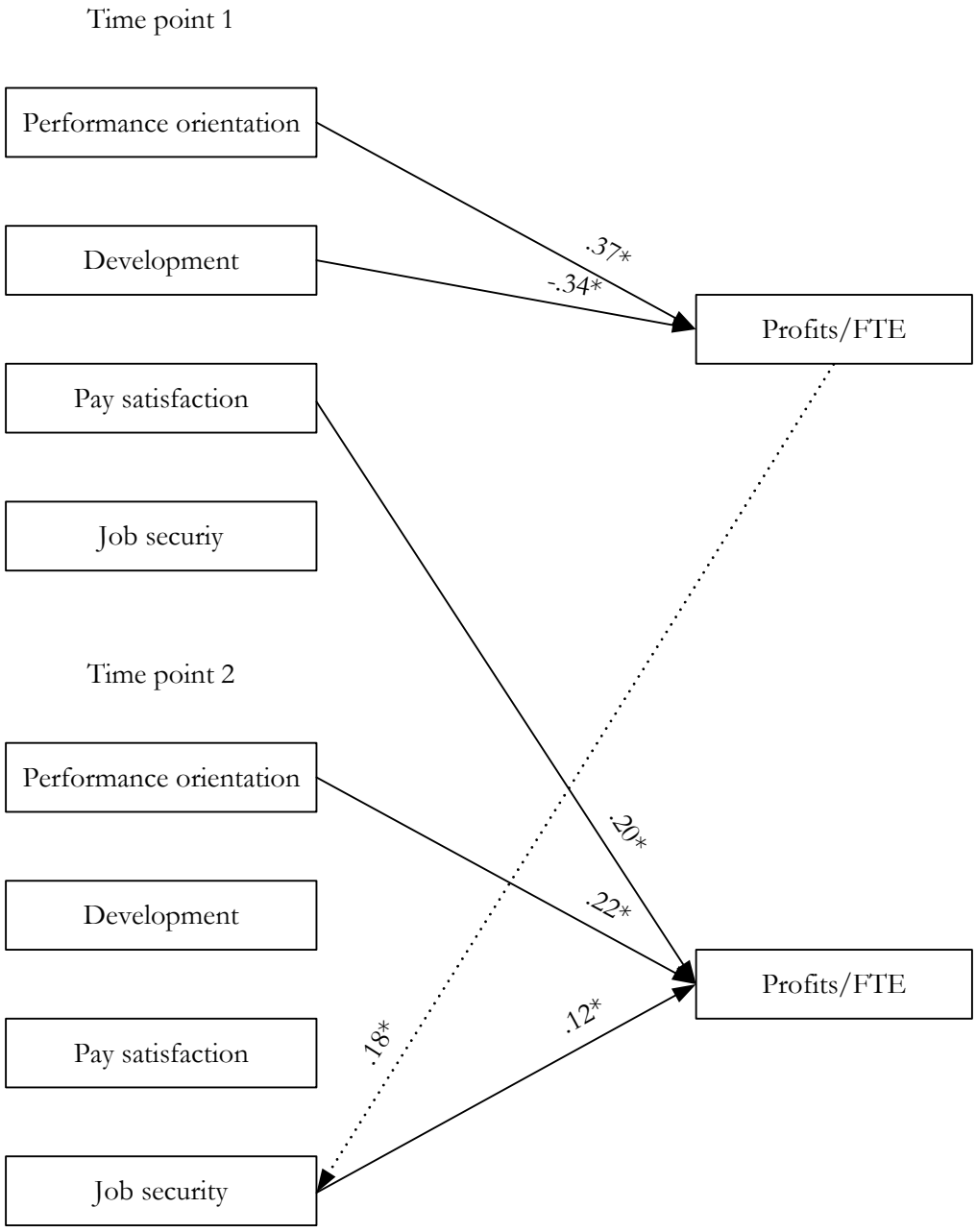

Figure 2. Results of revised model
Notes: Relationships between variables across time are not depicted. Black lines indicate significant forward associations between employee survey scales and profits/FTE. Dashed black lines indicate significant reverse causation effects: profits/FTE affects survey scales * $p < .05$ N = 171

5.5.3 Euro Extrapolation

In addition to presenting the results in terms of significant beta coefficients and amount of explained variance, we extrapolated the above mentioned findings to the total sample and the total population. First we estimated the effect of a one standard deviation change only for the survey scales for performance orientation, and pay satisfaction. Both dimensions were found to be positively predictive of future branch performance.

Development showed a negative relationship at T1. Job security at T2 was predictive of profits/FTE at T2, although profits/FTE at T1 was found to be more related to job security at T2. We multiplied the standardized coefficient by the standard deviation of the profits/FTE at time point 2. This showed that a one standard deviation increase in performance orientation is associated with a 3.12k Euros/FTE increase in productivity, and a one standard deviation increase in pay satisfaction is associated with 2.84k Euros/FTE increase in productivity. Thus, branches with performance orientation scores of one standard above the mean outperformed those at the mean by a 3.12k Euros/FTE increase in productivity. And similarly, branches with pay satisfaction scores of one standard above the mean outperformed those at the mean by a 2.84k Euros/FTE increase in productivity.

Given that the mean of productivity at T2 is 33.22k Euros/FTE, the total influence of both survey scales added up to a 17.9 percent increase relative to the mean. Adding up the effects of the two employee survey dimensions implies that branches would need to be able to change these survey scores simultaneously in order to achieve such an upward change. We tested the feasibility of obtaining these increases by checking the percentage of branches that had already attained such favorable scores at time point 2 (plus one standard deviation for both survey scales). It appears that nine percent of all branches in our sample had already attained these increases in performance orientation and pay satisfaction by one standard deviation. Branches can thus be expected to attain these levels of scores.

We extrapolated these findings to our sample of 171 branches. A 17.9 percent higher performance amounts to higher profits of 92 million Euros (17.9 percent of total profits of 512.7 million Euros at T2; or 5.96k Euros/FTE times 15,434 FTE). Total profits for the entire population (including all branches) were 994.3 million Euros for 2003. Thus, an increase of one standard deviation in pay satisfaction coupled with a similar increase of one standard deviation in performance orientation is associated with a yearly 178 million increase in profit (17.9 percent increase across the entire company). We have to take into account that we are assuming that all branches will be able to increase their performance orientation and pay satisfaction scores by one standard deviation. However, branches which are already achieving high scores might not be able to improve their survey scores by one standard deviation (although in our sample of 171 branches it was found to be possible to improve their scores by one standard deviation) and moreover the performance effects might be reduced due to possible ceiling effects.

5.6 Discussion

The aim of this study was to explain performance differences between branches within a large company on the basis of employee survey data in the light of workforce scorecards. In contrast to studies which explain firm-level performance, this study focused on how financial outcomes are achieved via intermediate HRM processes at the branch level. Longitudinal relationships between employee survey data and branch performance were explored. Finding appropriate HRM process indicators, establishing temporal relationships, and providing useful management information were identified as major challenges to be addressed. This study has tried to meet these challenges and provide HR researchers and practitioners with an example of the possible answers.

The first challenge concerned the indicators for HRM. In this study employee survey data were used as an indicator of factors driven by HRM-related interventions. Employees' perceptions, attitudes and behaviors are conceptualized as linking mechanisms in the relationship between HRM activities and outcomes (Boxall & Purcell, 2008; Nishii & Wright, 2008). Hence, research taking a workers' perspective can contribute to gaining a deeper insight into the HRM-performance relationship (e.g. Guest, 1999). In addition, multiple employee ratings within a branch were averaged which results in higher reliability scores on HRM processes than is common in studies using a single manager's point of view regarding implemented HRM practices (Gerhart, 2007). In line with Nishii et al.'s study (2008), this study confirms the utility of looking at employee perceptions as indicators of the way HRM policies are enacted in organizations. Survey information is found to be predictive of future financial performance and indicative of the HRM-related processes involved, as will be explained below.

An increase in performance orientation within a branch was associated with an increase in productivity over two years. Branches which are perceived by employees to be more quality focused, more cost-effective, and which communicate their strategic goals to employees more effectively do achieve higher profits. In these branches employees are aware of the strategic focus and can align their efforts and behaviors. Pay satisfaction at time point 1 positively affected productivity at time point 2. In this company the implementation of a new operating system in which job functions are more clearly classified and employees are paid for performance, could have been the reason for higher scores on pay satisfaction, and over time may have had the effect of motivating employees to perform better, resulting in higher branch profits.

We found support for an effect of job security (T2) on productivity (T2), and for a reversed relationship. The lagged, reverse effect was slightly stronger than the effect in the longitudinal part (bottom) of the model. High performance might be perceived by the employees as a positive signal with regard to employment security, as proposed by Paauwe and Boselie (2005). On the other hand, employees working in low performing branches might experience less employment security, since the pressure to change in the future is greater in these branches, possibly even threatening their jobs. Contrary to our expectations we found a negative relationship between development and productivity. Sending employees on training courses increases costs and might decrease benefits for the duration of the training, while the benefits of the newly-acquired knowledge, skills, and abilities will only become visible over a longer time period. Cappelli and Neumark (2001) found similar findings with regard to teamwork training.

The second challenge we addressed was how to make temporal inferences between HRM indicators and outcomes. Most of the studies carried out previously did not satisfy the three necessary preconditions for drawing temporal inferences. This study used a longitudinal design with two data waves and applied structural equation modeling; this approach enabled us to at least draw conclusions on temporal order between our variables. We tested the extent to which productivity increased as a result of changes in employee survey dimensions, and tested for the possibility that productivity scores influenced employee survey dimensions.

Compared to other longitudinal studies (Ryan et al., 1996; Schneider et al., 2003) we observed fewer inverse relations. However, in line with former studies (Schneider et al., 2003), we found that productivity had a positive effect on job security. With regard to the third and final precondition for establishing causality, the possibility of controlling for or ruling out alternative explanations for a possible causal relationship, this criteria was not fully satisfied in our study. We derived data from a single organization and thus implicitly controlled for the influence of institutional factors in HRM, which is relatively large in the Netherlands (Boselie et al., 2001) as well as for industry and company effects. However, we could not control for several branch differences such as distribution channels, use of information systems, and operational practices. So although we can exclude the effect of institutional, industry and company factors, additional branch-level interventions might be responsible for the relationships found. However, according to Walker, Smither and Waldman (2008) 'between branch' factors have little influence on longitudinal relationships. Branch factors that influence survey scores and productivity in

a branch at time point 1 are also likely to influence survey scores and productivity at time point 2 in that branch. An exception is time-varying factors. For example, Boxall and Macky (2009) suggested that changes in work and employment practices are often accompanied by related changes in management actions and investments. In this study, branches with high scores on goal effectiveness and quality orientation might also have introduced more advanced operating systems.

Finally, the third challenge we addressed was how to translate established relationships into relevant management information. The most important conclusion to be drawn from this study is that 10.8 percent of the variance in branch profits/FTE can be explained by scores derived from survey scores on perceptions and attitudes, after correcting for prior performance. Existing research did not lead us to expect such a substantial degree of explained variance. This is higher than that found in the longitudinal study by Ryan et al. (1996). This suggests that considerable opportunity for more profitability due to enhanced HRM-related change processes was present over the research period in the organization we investigated. The difference between average time 1 and average time 2 profitability confirms this statement, although part of this rise in profitability can simply be attributed to market trends. However, the HRM-related changes may be necessary in order to take advantage of an upward trend.

When we translate our results into practical implications, the importance of monitoring employee survey dimensions becomes clear. A one standard deviation increase in performance orientation and a one standard deviation increase in pay satisfaction are associated with 178 million Euros higher profits for the entire organization. Concerning the feasibility of these changes, nine percent of all branches managed to obtain these one standard deviation increases. This indicates that branches can manage to obtain these scores, which in turn suggests there is still room for improvement in profitability for the organization in branches that have not yet obtained these scores.

5.6.1 Limitations

Although the use of two waves of employee survey and performance data in a context of renewed HRM policies is innovative in this field of research, the way the longitudinal data coupling was done in this study has a limitation. We compared different time lags by allowing different time intervals (1 – 3 years); however, this did not affect our results. Theory on the appropriate time lag is lacking. The positive effects of development, for instance, may take longer. Moreover, this time lag may be too short to

capture the causal effects of pay satisfaction, since the stability of this survey dimension was relatively high. Studies with longer time intervals after actual HRM changes would provide a key area for future research.

The second limitation concerns the measures used in this study. This study compared branches, so individual survey scores had to be aggregated to mean scores at the branch level. Working with aggregated data could be problematic due to the differences in branch size. The standard errors and confidence intervals for the aggregated survey scores might be distorted (Klein et al., 2000). Furthermore, the amount of variance at the branch level (ICC1) was rather low for some survey scales, indicating that these scales are conceptually better suited to the individual, job or team levels rather than the branch level.

5.6.2 Implications

Practice. This research informs HRM practice because this study shows that the benefits of HRM-related change processes can to a substantial extent be traced using employee survey information. Our survey measures may not be the causal factors but they do reflect the processes (proxy measures) and this fits very well with a workforce scorecard perspective, where measures of different kinds and contexts are combined in trying to monitor and manage an organization's human resources. Survey information is predictive of future financial performance, and indicative of the underlying processes involved. Monitoring and managing differences in employee survey dimensions is important for organizations. After all, these aspects are performance-stimulating factors which offer line and HR managers better control opportunities than, for example, external factors, such as market trends or market prices.

The scores of a particular branch on employee survey dimensions compared to its prior scores and compared to the scores of other branches provide branch managers with useful management information on the branch's current position. The study shows that when employees are aware that the efficient delivery of high quality to customers is given priority in their branch and that they will be rewarded accordingly, then this information will guide their behavior to be in line with this goal, resulting in improved performance. Hence, scores on performance orientations in particular, together with pay satisfaction, are important. This is in line with the recently proposed employee 'line of sight' concept. Line of sight indicates the extent to which an employee understands the organization's values and objectives, and understands how to effectively contribute to delivering them (Boswell, 2006).

Research. This study contributes to our knowledge of the HRM-performance linkage. The assumption that there is no variation in HRM within firms has been challenged in recent years (Nishii & Wright, 2008; Wright & Haggerty, 2005), and in line with these authors conclusions, this study demonstrates that employee perceptions of HRM show variance within one and the same large organization. Secondly, this study applied a longitudinal design, which is highly recommended in HRM research (Wright et al., 2005). Moreover, comparing business units within one and the same large organization is a recommended strategy for future research in studying the HRM-performance link (Wright & Gardner, 2003). To unlock the HRM-performance relationship, additional research is needed using longer timeframes, and more control variables. More research is also needed on how corporate headquarters' intended HR policies are implemented by business unit line managers, and on the link between the implemented practices and employees' perceptions (Nishii & Wright, 2008).

However, as Wall and Wood (2005) stated, this requires a big science project. Many organizations possess archival survey and performance data, mostly collected by different departments (human resources; finance and control). Establishing longitudinal relationships between employee survey data and financial outcomes as we did in this study is possible in many other larger organizations. Meta-analyzing a series of such large-organization or branch-of-industry specific studies is one option for future 'big science' in HRM.

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6

Climate and Organizational Productivity in the Financial Sector: The Role of Work Satisfaction

This chapter is based on:
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Van De Voorde, K., Van Veldhoven, M. & Paauwe, J. Climate and Organizational Productivity in the Financial Sector: The Role of Work Satisfaction. *Manuscript under Review.*

Abstract

This chapter is designed to test which of the competing perspectives, 'work satisfaction as intermediary' or 'work satisfaction as outcome', is more appropriate to describe the role of work satisfaction in the relationship between climate for efficiency, climate for service and productivity in business units. Longitudinal data obtained from more than 14,000 employees in 171 branches of a financial services organization provided no evidence for the 'work satisfaction as intermediary' perspective. Work satisfaction is not related to productivity in this study. In line with a 'work satisfaction as outcome' perspective, climate for efficiency is more associated with productivity than climate for service, and climate for service is more associated with work satisfaction than climate for efficiency. Across time a trade-off was found: climate for service at time point 1 is negatively related to productivity at time point 2, and climate for efficiency at time point 1 is negatively related to work satisfaction at time point 2. These findings highlight the need to study the differential effects of strategic climate types on work satisfaction and productivity.

6.1 Introduction

Many service organizations face a volatile market situation. Creating and sustaining competitive advantage in this type of environment requires continuous business performance improvements. In the financial sector the performance of an organization is largely determined by the performance of business units within the organization (Gelade & Ivery, 2003). Therefore, in this study the focus of interest is the performance of branches within a large financial services organization. In the financial service industry, two strategies for increasing performance are distinguished: maximizing sales and minimizing costs (Batt, 1999). For maximizing sales, branches need to focus on providing high-quality services to customers, need to attract and retain customers, and need to be customer-oriented in general (Schneider, 1990b; Schneider, White & Paul, 1998). The second strategy type relates to the input costs. Working more efficiently can decrease the costs and thus promote efficiency (Ostroff & Schmitt, 1993). This strategy deals with the extent to which a branch is working efficiently.

Organizational climate has been suggested as an important predictor of organizational performance (e.g. Ashkanasy, Wilderom & Peterson, 2000; Schneider, 1990a). Organizational climate refers to employees' shared perceptions of the types of behaviors and actions that are rewarded and supported by the organization's policies, practices, and procedures (Schneider, 1990a). A recent approach in the climate literature is to link relevant climate dimensions to outcomes of interest, any strategic business goal: the 'climate for something' approach (James, Choi, Ko, McNeil, Minton, Wright & Kim, 2008) introduced by Schneider (1975). Management can communicate and align employee attitudes and behaviors towards strategic goals by developing a strategic climate (Ostroff & Bowen, 2000). In line with this trend in climate research towards a focus on specific climate areas, this study distinguishes two climate types. This study focuses on climate for efficiency and climate for service, in line with the strategies in the service industry to contribute to the company performance. A climate for efficiency reflects branch-level shared perceptions about the priority of efficiency, and a climate for customer service reflects branch-level shared perceptions about the priority of customer service.

The relationship between climate and performance has been of considerable interest to researchers and managers for a number of years (e.g. Kuenzi & Schminke, 2009). In particular a link between climate for service and customer perceptions of service quality has been confirmed. However, a limited number of studies on relationships between

climate for service and financial performance produced mixed findings (Borucki & Burke, 1999). A strong focus on customer service might be inefficient. Therefore, this study investigates the effects of both climate types on productivity.

Unfortunately, it remains unclear in climate literature what precisely constitutes the linking mechanism between organizational climate dimensions and organizational productivity (e.g. Tesluk, Hofmann & Quigley, 2002). Although, at the employee level meta-analyses have confirmed a mediating role of job satisfaction in the relationship between psychological climate and worker outcomes (e.g. Parker, Baltes, Young, Huff, Altmann, Lacost et al., 2003), empirical studies that demonstrate a link between climate, work satisfaction and productivity at the business unit level remain scarce, apart from one exception focusing exclusively on the company level (Patterson, Warr & West, 2004). This dearth of studies raises difficulties, because the literature is inconsistent regarding the expected relationships between climate, work satisfaction and productivity at business unit level. Two competing perspectives on the role of work satisfaction are found in the climate literature.

Firstly, work satisfaction is depicted as an intermediary mechanism, i.e. both strategic climate types positively influence productivity through increased work satisfaction (e.g. Kopelman, Brief & Guzzo, 1990; Ostroff, 1992). However, an alternative approach suggests that work satisfaction and productivity are different outcome indicators: a climate for efficiency leads primarily to the achievement of productivity, while a climate for service leads primarily to the achievement of work satisfaction (Quinn & Rohrbaugh, 1983). Both perspectives will be discussed at greater length in the next section. The aim of this study is to test between these two competing perspectives of 'work satisfaction as intermediary' and 'work satisfaction as outcome'.

The theoretical contribution of this study is to examine the role of work satisfaction in the climate for service and climate for efficiency - productivity linkage at the business unit level. We extend previous empirical research in the climate field in two additional methodological ways. Firstly, this study uses a longitudinal design, whereas the majority of climate research up to now has been cross-sectional in nature (Ostroff, Kinicki & Tamkins, 2003). Secondly, productivity in the current study is assessed by a full objective ratio (outputs versus inputs). This differs from the majority of studies at the business unit level or the company level in that they have focused primarily on partial productivity measures (e.g. Koys, 2001) or on indirect estimates of particular outputs only, for example, customer satisfaction (e.g. Schneider et al., 1998).

6.2 Hypotheses Development

6.2.1 Employee Work Satisfaction as Intermediary between Climate and Productivity

In conceptual models used to explain the underlying process behind organizational climate and productivity, employee satisfaction is often depicted as an intermediary (Tesluk et al., 2002; Ostroff et al., 2003). Employee satisfaction can be defined as a pleasurable state or positive emotional state resulting from the appraisal of one's job or job experience (Locke, 1976: 1300). The conceptual models which depict work satisfaction as an intermediary mechanism are based on the work of Kopelman et al. (1990). Kopelman et al. (1990) argued that it is 'cognitive and affective states' (primarily work motivation and job satisfaction) and 'salient organizational behaviors' such as attachment (attending and staying in the organization), job performance (tasks in an individual's organizational role) and citizenship (helpful contributions that are not mandatory) that form the linking mechanisms between generalized organizational climate and productivity (Kopelman et al. 1990). The goal and means emphasis dimensions of this generalized climate construct are related to the strategic goals of an organization (Kopelman et al., 1990), in this study the focus on efficiency and customer service.

By the organizational climate dimensions goal and means emphasis management provide employees with knowledge about the goals of the organization and about how to align their behavior. Kopelman et al. (1990) reasoned that these two climate dimensions facilitate individual satisfaction by reducing role conflict and ambiguity. Evidence for work attitudes as a mediating process between climate and salient organizational behaviors was found in two meta-analyses by Parker et al. (2003) and Carr, Schmidt, Ford and Deshon (2003). Secondly, a link is suggested between cognitive and affective states and organizational productivity through salient organizational behaviors. Salient organizational behaviors, including job performance (Iaffaldano & Muchinsky, 1985), absenteeism (Muchinsky, 1977), turnover (Griffeth, Hom & Gaertner, 2000) and citizenship (Organ, 1988) are influenced by how people feel at work, e.g. their level of job satisfaction. Relating to the financial service setting of this study, Kopelman et al. (1990) and Viswesvaran and Ones (2000) argue that withdrawal behavior (absenteeism and turnover) can negatively affect organizational performance, by increasing costs (replacement and training) and by decreasing output value (disruption of sales). Job performance and citizenship behavior, however, can positively affect output value by increasing sales.

In the present study, the term work satisfaction is used to refer to a business unit-level satisfaction construct. As with the definition of group task satisfaction (Mason & Griffin, 2002), this construct emphasizes a shared attitude towards the work environment. The fact that climate perceptions are shared among business unit members supports the idea of a process in which organizational climate facilitates similar experiences of work satisfaction among members of a branch, and subsequently a process in which satisfaction affects productivity via a collective set of employee behaviors, as explained above. However, Mason and Griffin (2002) argued that a group's shared attitude towards its task and the associated work environment shapes unique group processes and outcomes. According to Ostroff (1992), shared positive attitudes (such as work satisfaction) are a prerequisite for engaging in collaborative effort and accepting organizational goals. Besides, according to the service profit chain (Heskett, Sasser & Schlesinger, 1997), satisfied and motivated employees produce satisfied customers, resulting in increased profits. Harter, Schmit and Hayes (2002) presented evidence that aggregated satisfaction is positively related to organizational productivity.

In spite of these various assumptions based on theory, only Patterson et al. (2004) conducted a study that investigated company satisfaction as a mediator in the relationship between climate and performance. They used organizational climate scales and a job satisfaction scale to predict subsequent financial performance (one year after) in 42 manufacturing companies. Six climate aspects were found to be predictive of financial performance and were mediated by average job satisfaction. In sum, stimulating an organizational climate around efficiency and service will improve productivity, and work satisfaction can be seen as a critical process in mediating this improvement.

6.2.2 Employee Work Satisfaction as Outcome

Work satisfaction and productivity can alternatively be described as two different outcome indicators, each associated with different climate types. In particular a climate for efficiency is predominantly associated with productivity and a climate for service is predominantly associated with work satisfaction. Schneider (1975) argued that perceptions can serve as a frame of reference for guiding appropriate and adaptive task behaviors. Climate is a communication process through which management can align employee attitudes and behaviors towards the most important strategic goal of the organization (Ostroff & Bowen, 2000). In a service organization employees are encouraged by the climate to give good service. So, when employees perceived that service is the most important goal in their branch, employees can fulfill their desire to

give service, and this will result in feelings of satisfaction (Schneider, 1980). Yoon, Beatty and Suh (2001), and Schmit and Allscheidt (1995) established positive relationships between service climate and employee attitudes. On the other hand when management communicates that efficiency is the most important goal, employees will align their behaviors towards that goal. Employees are encouraged towards working more efficiently by minimizing costs, and this will result in improved productivity. Hence, developing a type of strategic climate (climate for efficiency or service) leads to the achievement of a particular outcome (productivity or work satisfaction).

However, branches may not be able to achieve both outcomes (productivity and work satisfaction) to the same extent. They may need to make a trade-off in terms of which outcome to achieve with priority and focus on this outcome. Based on this competing-outcome notion Quinn and Rohrbaugh (1983) developed the competing values framework. Their competing values framework implies that organizations characterized by a rational goal (e.g. focus on efficiency) and internal structure climate focus primarily on achieving productivity, while organizations characterized by a human relations and open system climate (e.g. focus on customer service) focus primarily on achieving employee well-being (Quinn & Rohrbaugh, 1983). Hence, the development of a climate for efficiency leads to achievement of productivity rather than to achievement of satisfaction, and the development of a climate for service leads to achievement of work satisfaction rather than to achievement of productivity.

To date there has been little research on the effects of multiple types of climate (for example, a climate for service and a climate for efficiency) on outcomes in different performance domains (Kuenzi & Schminke, 2009; Ostroff et al., 2003). An exception to this is found in Ostroff and Schmitt (1993), who concluded that although schools characterized by an emphasis on structure, goals and rules were efficient, they were at the same time ineffective due to diminishing trust and morale. Besides, schools characterized by high scores on favorable climate were effective, but inefficient. Similarly, Goodman, Zammuto and Gifford (2001) demonstrated that a climate focused on productivity and efficiency is negatively related to job satisfaction. More recently, Schulte, Ostroff, Shmulyian and Kinicki (2009) concluded that stores of a national food distribution company with a strategic focus performed better than stores with a supportive climate. This line of reasoning suggests that work satisfaction and productivity are two different outcome indicators associated with different climate types. Productivity relates more to a

climate for efficiency than to a climate for service, while a work satisfaction relates more to a climate for service than to a climate for efficiency.

6.2.3 Competing Hypotheses

This study examines the two alternative interpretations of the role of work satisfaction in the relationship between climate (for service and for efficiency), and productivity as presented above. Rather than formulating and testing a single hypothesis which can induce confirmation bias, this study attempts to pit the competing perspectives on the role of work satisfaction against one another empirically (Wall & Wood, 2005). First, both climate types influence productivity positively by having a positive effect on work satisfaction (hypothesis 1: work satisfaction as intermediary). Secondly, a climate for efficiency affects productivity more than that a climate for service affects productivity, and at the same time a climate for service affects work satisfaction more than that a climate for efficiency affects work satisfaction (hypothesis 2: work satisfaction and productivity as different organizational outcomes).

6.3 Methods

6.3.1 Research Context

This study was conducted within a large financial services organization. It was only the local self-governed branches in the Netherlands which participated in the study. The sphere of activity of each branch is limited to its geographical area. Each branch is responsible for the shaping of policies, procedures and practices within it. Employees within a branch interact frequently and work closely together towards the achievement of the branch goals. Hence, we distinguished the branch level as the appropriate level of analysis.

The study used a longitudinal design. Climate for efficiency, climate for service, work satisfaction and productivity were each measured twice. A two-wave study allows us to make more confident causal inferences. Firstly, we control for 'stability' in climates, satisfaction and productivity scores. It can be expected that business units with high scores on climate for efficiency, climate for service, work satisfaction and productivity in relation to other branches at a particular time point will retain similar relative positions at a follow-up time point. Thus, without controlling for these prior scores we cannot conclude that substantial changes in climates and satisfaction scores have actually resulted in higher productivity. Secondly, this design enables us to control for possible reversed effects. Branches with high profits might have a greater willingness to invest in HR practices, resulting in their having more positive climate scores than those that do

not have high profits (Siehl & Martin, 1990). Secondly, high productivity provides employees with the knowledge that their branch is performing well and that it is accomplishing its productivity goals, and this might positively impact on their satisfaction (Ostroff, 1992). In addition, high performance also signals organizational health and thus relative employment security (Schneider, Hanges, Smith & Salvaggio, 2003). As a result, employees' perceptions of work satisfaction might be more positive.

Archival data from a balanced scorecard type of management system were used in this study. Productivity figures were provided by the finance and control department. Aggregated employee survey data was used to measure climate for efficiency, climate for service and work satisfaction. 171 branches participated in the employee survey system on two occasions between 2000 and 2005 (43 percent of the total population, data as of 2003). At time point 1 (T1), questionnaire data on 14,477 employees was available. The average response rate in the employee surveys at the branch level was 77.5 percent. At time point 2 (T2), survey data on 14,860 employees was collected. At branch level, the average response rate in the employee surveys was 84.7 percent. The average number of participants per branch was 84.7 for T1 and 86.9 for T2.

Driven by the nature of the data collected in ongoing business practice, different time intervals between the two measurement points exists (1, 2, and 3 year intervals). The average interval between the employee surveys amounted to 24 months (with a standard deviation of 7.1). This time-lag reflects prior research on climate and performance outcomes (Schneider et al., 1998). At T1 and T2 employee climate and work satisfaction data and productivity were coupled contemporaneously. For example, we connected the climate and work satisfaction data for 2001 to the year-end productivity records for 2001.

Participation in the employee survey is voluntary for the branches and voluntary and anonymous for the individuals. For this reason, we checked the representativeness of the sample (T1 data as of 2001, T2 data as of 2003) at both the branch level as well as at the individual level. At branch level, the representativeness of the sample for the total population in the organization was checked in terms of region in the Netherlands, and branch size. At the individual level, representativeness was checked in terms of age class (five levels: 25 years and under, 25-35 years, 35-45 years, 35-45 years, 45-55 years and 55 years and above), number of working hours/week (less than 36 hours, 36 hours, over 36 hours), and gender. We found that the sample could be regarded as representative for the total organization at both levels and both time points in terms of the variables

mentioned; the difference between our sample and the population was at maximum five percent for each category of the above-mentioned variables.

6.3.2 Measures

The level of *climate for efficiency* and *climate for service* is assessed with two scales. Both scales are company specific, but comparable in content to scales used in the Dutch FOCUS questionnaire (Van Muijen, Koopman, De Witte & Bast, 1996) and the Organizational Climate Inventory (Patterson, West, Shackleton, Dawson, Lawthom, Maillis et al., 2005), both of which are based on Quinn's competing values approach (Quinn & Rohrbaugh, 1983). In line with past climate literature (Glick, 1985; Chan, 1998) employees were asked to provide climate perceptions of their branch; all climate items are referenced to the branch ('reference shift' type of composition). Instead of studying individual valuations, the focus of interest is on the individuals' perceptions of branch factors and processes. Respondents rated each of the items on a five-point scale ranging from 'I completely agree' to 'I completely disagree'. The measurements for the two climate types are described below.

A goal effectiveness scale was included to measure the extent to which priority is given to efficiency in a branch as perceived by the employees. This scale consists of three items. A sample statement from the goal effectiveness scale is: 'In this branch we are aware of costs and act accordingly' (α = .75 at T1 and α =.73 at T2). Climate for service was defined as the priority given to customer service in a branch as perceived by the employees. To measure the extent to which a branch is customer oriented, we included a 9-item customer focus scale. A sample statement is: 'This branch is continually assessing customer needs' (α =.91 at T1 and α =.90 at T2).

We assessed the level of *work satisfaction* using two components. Respondents were asked to comment on the question: 'All things considered, I am satisfied with working for this branch' on a five-point response scale. Although a single item measure of overall satisfaction has acceptable reliability of at minimum .67 (Wanous, Reichers & Hudy, 1997), we decided to complement this single item to measure not only the overall appraisal of one's job, but also more specific job experiences. Therefore, a 9-item work pleasure scale (Van Veldhoven & Meijman, 1994) (α = .71 at T1 and α = .72 at T2) was also included. A sample question for the work pleasure scale is: 'I enjoy my work'. This scale had two-point answering categories of the Yes/No type. Standardized (between 0 and 100) job satisfaction item and work pleasure scale scores, were averaged to get a work satisfaction score.

Productivity was operationalized by means of a yearly 'branch profit per FTE index'. Profits are operationalized as gross profits minus return on equity. We chose this parameter because it is not influenced by differences in sales / costs between the branches, and because it only reflects that part of the profits which is not related to returns on equity. The number of full time equivalents (FTE) is determined on the basis of the average number of FTEs working at a local branch during a specific year.

6.3.3 Aggregation Tests

To support the aggregation of individual climate for efficiency and climate for service, and work satisfaction scores into the branch-level scores, we calculated intraclass correlations (ICC1 and ICC2) and tested whether average scores differed significantly across branches. The ICC1 can be defined as the amount of variance in individual scores attributable to the branch (Klein, Bliese, Kozlowski, Dansereau, Gavin, Griffin et al., 2000). The ICC2 parameter can be interpreted as the reliability of the mean branch scores. Values above .70 are considered good; values above .50 are deemed tolerable (Klein et al., 2000). In addition, we calculated Rwg (J) values of within-branch agreement (James, Demaree & Wolf, 1984) for climate for efficiency and climate for service, and work satisfaction. Values of .70 are considered sufficient for aggregation.

For climate for efficiency and climate for service we obtained good support for aggregation (climate for efficiency at T1 ICC1 = .070; ICC2 = .864; F (170) = 7.369 $p <$ .01; Rwg (J) = 78; at T2 ICC1 = .072; ICC2 = .869; F (170) = 7.632 $p <$ .01; Rwg (J) = 80; climate for service at T1 ICC1 = .084; ICC2 = .885; F (170) = 8.722 $p <$ .01; Rwg (J) = 96; at T2 ICC1 = .054; ICC2 = .832; F (170) = 5.946 $p <$ .01; Rwg (J) = 96). The intraclass correlations are comparable with the lower intraclass correlations reported in previous studies (Gelade & Ivery, 2003; Schneider et al., 2003). The Rwg (J) values suggest sufficient within-branch agreement to justify aggregation to the branch level. For work satisfaction we found less support for aggregation (at T1 ICC1 = .028; ICC2 = .709; F (170) = 3.442 $p <$ .01 and at T2 ICC1 = .024; ICC2 = .682; F (170) = 3.142 $p <$ .01). The ICC1 of the work satisfaction score, however, is quite comparable with intraclass correlations as reported in previous studies in this particular research area (Marklund, Bolin & Von Essen, 2008). It was found that for both climate and satisfaction scores the variance components attributable to the branch were statistically significant in an F-test. We can therefore assume that reliable comparisons between mean values for branches are possible, even if ICC1 values are rather small (Klein et al., 2000).

In addition, the Rwg (J) values suggest sufficient within-branch agreement to justify aggregation to the branch level (the Rwg (J) values are .84 and .82).

6.3.4 Analysis

To test between the two causal models, a number of competing models were fitted to the data with structural equation modeling using AMOS 6 (James, Mulaik & Brett, 2006). Considering the proportion of the number of climate and work satisfaction items on the one hand to the number of cases at branch level on the other hand, we decided to include the validated climate and work satisfaction scores as manifest variables rather than as latent variables in our model (the average total scores) in order to maintain a favorable indicator-to-sample size ratio. In order to examine whether climate for efficiency, for service and work satisfaction, which were collected from the same source, captured different constructs at branch level, we first conducted Harman's one-factor test. We used averaged scores on the two climate dimensions and the two work satisfaction dimensions as indicators. We conducted a confirmatory factor analysis in which indicators of climate and satisfaction variables were set to load on a single factor at both time points. This single-factor model did not fit the data well at both time points ($\chi 2 = 17.241$, $p = .000$ df = 2; AGFI = .768; CFI = .993; RMSEA = .212, PClose = .001; and $\chi 2 = 36.679$, $p = .000$ df = 2; AGFI = .513; CFI = .799; RMSEA = .328, PClose = .000). These results further support the discriminant validity of our climate for efficiency and for service as well as work satisfaction scores.

We started testing our hypotheses using three cross-sectional analyses:

1a. An indirect effects model (M1a) – 'intermediary perspective'
2a. A direct effects model (M2a) – 'different outcome perspective'
3a. A model with both indirect and direct effects, combining 1a and 2a (M3a)

All three models were tested at both time points, so the outcomes can be considered as results of two separate samples, one for each time point. Next, in order to test between the two competing hypotheses, the two models representing each of the two hypotheses (M1a and M2a) were compared with the full model (M3a). The models were compared using a $\chi 2$ difference test. An overview of the cross-sectional research models can be found in Figure 1.

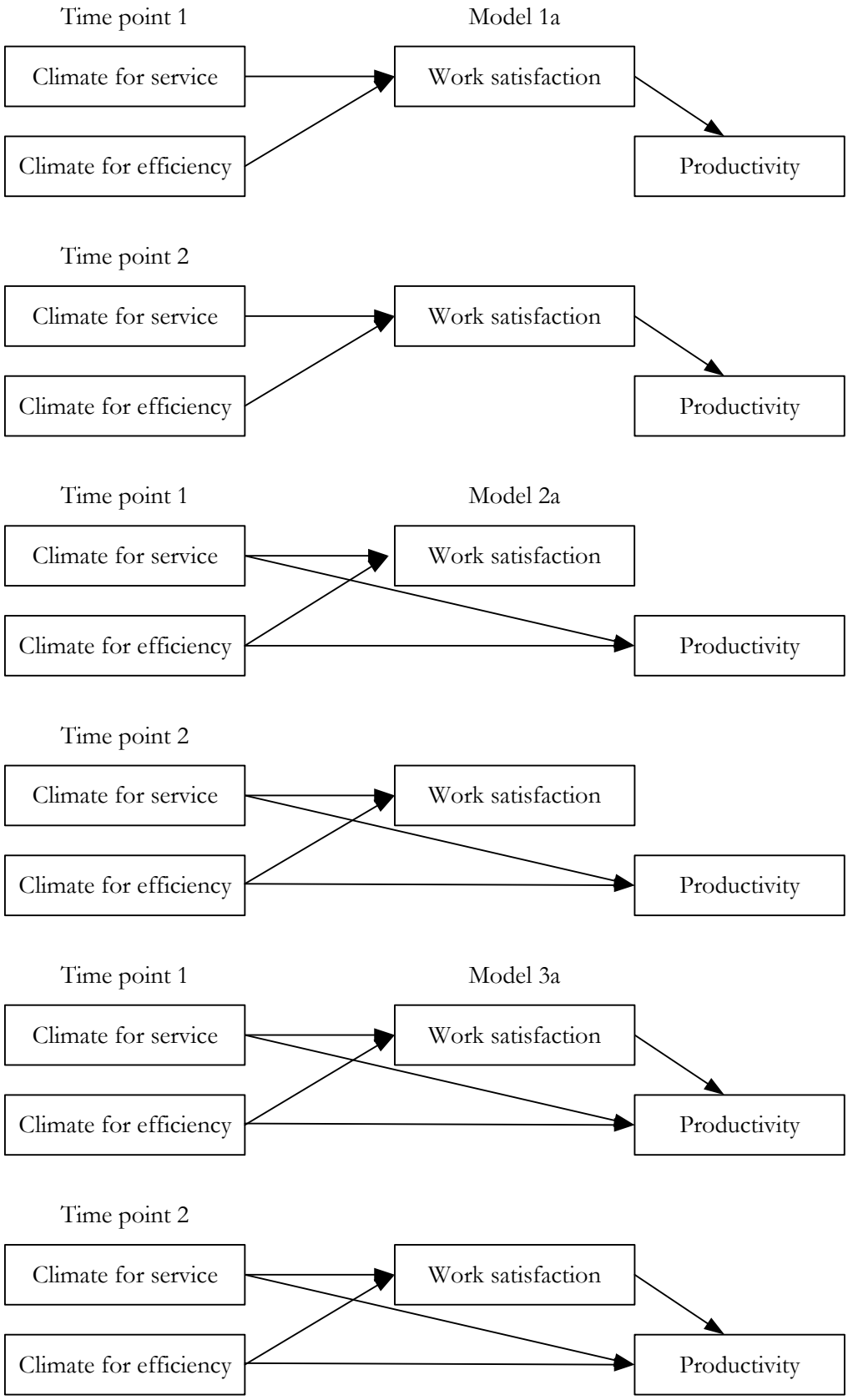

Figure 1. Cross-sectional research models
Notes: Model 1a: Indirect model, Model 2a: Direct model, Model 3a: Full model.

Subsequently, in order to study the impact of time, we expanded our models by including relationships across time. Temporal stabilities (effects between identical variables measured at T1 and T2) were included at this stage for all models. These so-called autocorrelations indicate that branches which had low scores on productivity in relation to other branches in our sample at time point 1 retained similar relative positions at time point 2. Moreover, for each model direct or indirect relationships across time (including reversed effects) were modeled.

This resulted in three longitudinal models:

1b. An indirect model (M1a) plus paths from both climate types (T1) to work satisfaction (T2), and from productivity (T1) to work satisfaction (T2) (M1b) – 'intermediary perspective'
2b. A direct effects model (M2a) plus paths from productivity (T1) to both climate types (T2), from work satisfaction (T1) to both climate types (T2), and from both climate types (T1) to work satisfaction and productivity (T2) (M2b) – 'different outcome perspective'
3b. A model with both direct and indirect effects (M3a) plus additional time effects, combining 1b and 2b (M3b)

To test between the competing hypotheses, both models representing the two hypotheses (model 1b and 2b) were compared with a full model (model 3b). Finally, in order to obtain a more parsimonious model (in accordance with the parsimony principle) and a clearer indication of the relationships established, we excluded non-significant effects using a backward elimination procedure (Byrne, 2001). We controlled for the length of the time interval between the two employee surveys within a branch (measured in years), as the length of the time interval could be a confounding factor. The significance of the effects was determined by comparing the probability level (*p*) from the Critical Ratio (C.R.) - calculated by dividing the parameter estimate by its standard error- using a significance level of .05. We applied a $\chi 2$ difference test to determine whether this constrained model fitted the data equally well as the full model. We used the $\chi 2$, RMSEA, AGFI and CFI to asses the fit of this revised model, as described by Byrne (2001).

6.4 Results

Table 1 shows the means, standard deviations and correlations among the study variables.

Table 1. Means, Standard Deviations and Correlations

Variable	M	SD	1	2	3	4	5	6	7
1. Productivity 1	23.29[a]	12.14[a]							
2. Productivity 2	33.22[a]	14.19[a]	.618**						
3. Climate for efficiency 1	63.01	6.06	.191*	.177*					
4. Climate for efficiency 2	65.00	5.84	.203**	.347**	.516**				
5. Climate for service 1	78.23	4.66	.156*	.039	.589**	.194*			
6. Climate for service 2	77.93	4.01	.232**	.301**	.410**	.589**	.489**		
7. Work satisfaction 1	86.98	3.02	.114	.081	.428**	.132	.635**	.397**	
8. Work satisfaction 2	87.76	2.91	.036	.177*	.079	.356**	.234**	.469**	.394**

Note: [a] Reported in thousands of Euros per FTE ** $p < 0.01$ * $p < 0.05$ N = 171

Table 1 shows that the mean scores for climate for service and work satisfaction are nearly the same across the two time points, the mean score for climate for efficiency increased across the two time points. Furthermore work satisfaction is moderately stable across time (around .40). Climate for efficiency and climate for service have relatively high stabilities of .52 and .49. At T1 (average productivity of 23,291 Euros/FTE) the branches performed worse than at time point 2 (average productivity of 33,216 Euros/FTE). This reflects economic reality for financial services organizations, where profits are influenced to a large extent by conjunctural external factors. The bivariate correlation between T1 and T2 is .62 however, suggesting that the relative financial position at T1 is nevertheless strongly predictive of the relative financial position at T2.

Table 2 shows an overview of the models. The different nested models were compared by a $\chi 2$ difference test. Firstly, we compared the cross-sectional direct (M2a) and indirect models (M1a) with a model with both effects (M3a). The first $\chi 2$ difference tests showed that the difference between the indirect model (M1a) and the model with both effects (M3a) was significant (M1a vs. M3a $\Delta \chi 2$ (4) = 23.826, $p < .05$). Thus, when direct effects were excluded, this did result in a significantly worse fit. On the other hand, when indirect effects were excluded this did not result in a significantly worse statistical fit. The second $\chi 2$ difference tests showed that the difference between the direct model (M2a) and the model with both effects (M3a) was not significant (M2a vs. M3a $\Delta \chi 2$ (2) = .075, $p > .05$). When compared with the other nested models, therefore, we can conclude that the direct model best reflects the data, taking into account the parsimony principle.

Table 2. Fit Indices for Structural Models

Model description	$\chi 2$	df	$\Delta\chi 2$ (Δ df)
Cross-sectional:			
M1a Intermediary (indirect effect)	255.711	20	23.826* (4)
M2a Different outcome (direct effect)	231.960	18	.075 (2)
M3a Full model (direct and indirect effects)	231.885	16	
Longitudinal (includes relationships across time):			
M1b Intermediary (indirect effect)	37.589	13	32.535* (10)
M2b Different outcome (direct effect)	8.436	6	3.382 (3)
M3b Full model (direct and indirect effect)	5.054	3	
M4 Revised model	11.871	11	3.434 (5)

Note * $p < 0.05$ N = 171

In this model it was found that climate for efficiency was positively associated with productivity at both time-points (β = .15 and β = .26). Climate for service was positively associated with work satisfaction at both time points (β = .59 and β = .40), and was

positively related to productivity at T2 (β = .15). No relationship was found between work satisfaction and productivity. The model is represented in Figure 2.

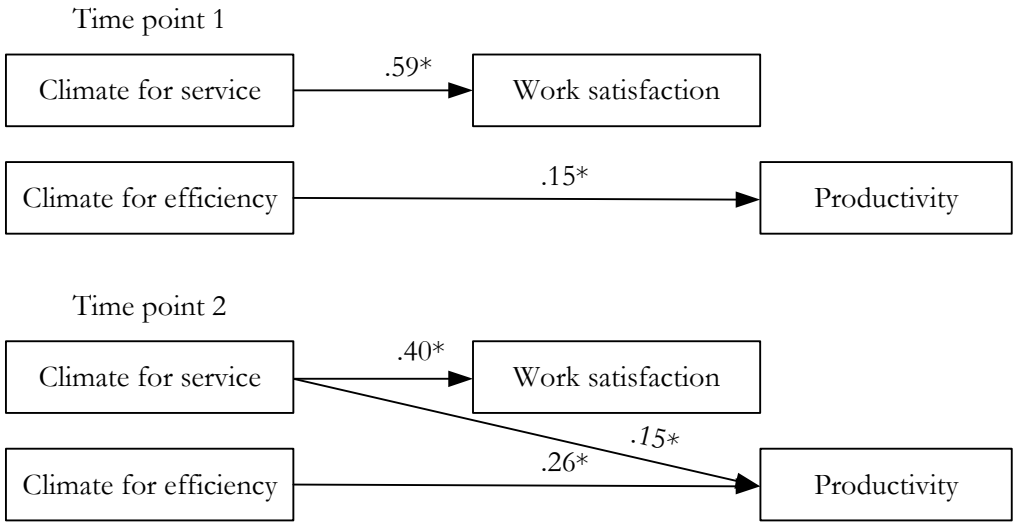

Figure 2. Model 2a: Direct model cross-sectional
Notes: Non-significant paths are not depicted. All estimates are standardized.

Next, the impact of time was examined. Again, three models were compared. Results showed that we can conclude that the direct model again best reflects the data compared to the other nested models, taking into account the parsimony principle. The difference between the direct and the full model was not significant (M2b vs. M3b $\Delta \chi 2$ (3) = 3.382, $p > .05$), but the difference between the indirect and the full model was significant (M1b vs. M3b $\Delta \chi 2$ (10) = 32.535, $p < .05$). Thus, once again, we found evidence for the superiority of a direct model. On the basis of these results a revised model (M4) was built, including only significant paths from the direct model (M2b). Compared with the direct model (M2b), the exclusion of non-significant paths did not result in a significantly worse model fit (M4 vs. M2b $\Delta \chi 2$ (5) = 3.434, $p > .05$). The revised model is preferred because it is more parsimonious than the direct model. This revised model[1] had a relatively good fit ($\chi 2$ = 11.871, p = .373 df = 11; AGFI = .945; CFI = .998; RMSEA = .022, PClose = .70) and is represented in Table 3. The effects in the upper part of this table can be interpreted as cross-sectional results. The effects in the lower part of this table can be interpreted as longitudinal results. Effects in this lower part of the table give an indication of whether a difference between the two time points in one variable leads to an increase or decrease in another variable.

1 Including length of time interval as control variable did not change our results. The significance of the effects between climate, work satisfaction and productivity did not vary. Hence, we decided to report results of the revised model without time interval as control variable.

Table 3. Standardized Coefficients and Significance (*p*) for Revised Model

Effect	β	*p*
Cross-sectional effects:		
Climate for efficiency T1 → Productivity T1	.19	.011
Climate for service T1 → Work satisfaction T1	.64	.000
Stabilities:		
Climate for efficiency T1 → Climate for efficiency T2	.46	.000
Climate for service T1 → Climate for service T2	.41	.000
Work satisfaction T1 → Work satisfaction T2	.40	.000
Productivity T1 → Productivity T2	.57	.000
Longitudinal effects:		
Climate for efficiency T2 → Productivity T2	.18	.014
Climate for service T2 → Productivity T2	.14	.080
Climate for efficiency T2 → Work satisfaction T2	.33	.000
Climate for service T2 → Work satisfaction T2	.26	.001
Climate for efficiency T1 → Work satisfaction T2	-.37	.000
Climate for service T1 → Productivity T2	-.15	.023
Inverse effects:		
Productivity T1 → Climate for efficiency T2	.12	.079
Productivity T1 → Climate for service T2	.15	.023
Work satisfaction T1 → Climate for service T2	.16	.021

Notes: Non-significant paths are not included. All estimates are standardized.

As can be seen from Table 3, hypothesis 1 (mediation) is not confirmed. Although climate for service is related to work satisfaction, work satisfaction is not significantly related to productivity. As regards, hypothesis 2, mixed results were found. Hypothesis 2 stated that a climate for efficiency affects productivity more than that a climate for service affects productivity, and stated that a climate for service affects work satisfaction more than that a climate for efficiency affects work satisfaction. Climate for efficiency is positively associated with productivity (β = .19), while climate for service is positively associated with work satisfaction cross-sectionally (β = .64). From a longitudinal perspective it was found that an increase in climate for efficiency was more associated with an increase in productivity (β = .18) than an increase in climate for service (β = .14). It was also found longitudinally that an increase in climate for efficiency was more associated with work satisfaction (β = .33) than an increase in climate for service (β = .26). Across time we found that climate for efficiency at T1 is negatively related to work satisfaction at T2 (β = -.37), and climate for service at T1 is negatively related to productivity at T2 (β = - .15).

We found three positively inversed causation effects between productivity at T1 and climate for efficiency at T2 (β = .12) and climate for service at T2 (β = .15), and between work satisfaction at T1 and climate for service at T2 (β = .16). The higher the productivity at T1, the higher the level of climate for service and the higher the level of

climate for efficiency at T2. The higher the level of work satisfaction at T1, the higher the level of climate for service at T2.

In conclusion, no evidence was found for hypothesis 1, a positive intermediary effect for work satisfaction, because no relationships were found between work satisfaction and productivity. Cross-sectionally, hypothesis 2 was confirmed. From a longitudinal perspective a different pattern between the two climate types and the two outcome measures was found. Climate for efficiency was more related to productivity than climate for service (as hypothesized), however, climate for efficiency was also more related to work satisfaction than climate for service. Across time we found negative relationships between on the one hand climate for efficiency and work satisfaction and between climate for service and productivity on the other.

6.5 Discussion

The main objective of this study was to clarify the role of work satisfaction in the relationship between strategic climate and productivity at the business unit level. This study simultaneously examined two strategic climate types: climate for efficiency and climate for service corresponding with the strategies for service organizations to improve their performance. Climate for efficiency was defined as the extent to which priority is given to efficiency in a branch as perceived by the employees. Climate for service was defined as the priority given to customer service in a branch as perceived by the employees. In order to broaden our knowledge about the relationships between both climate types, work satisfaction and productivity, the possible intermediary process of work satisfaction (as theorized by Kopelman et al., 1990; Tesluk et al., 2002; Ostroff et al., 2003) as well as the proposition of work satisfaction as outcome (as theorized by Quinn & Rohrbaugh, 1983), were tested.

We found no evidence for work satisfaction as an intermediary mechanism, because we found no effects between work satisfaction and productivity. This result might be attributable to the fact that we studied relationships at the business unit level. At the individual level, a positive relationship between satisfaction and productivity can be expected in accordance with the 'happy productive worker thesis' (Judge, Thoreson, Bono & Patton, 2001; Parker et al., 2003; Carr et al., 2003). However, this aggregated work satisfaction score is probably less indicative of individual work satisfaction (there are large individual differences within a branch). At business unit level the service profit chain provided an explanation, i.e. satisfied employees result in higher profits through enhanced customer satisfaction. Koys (2001) and Ryan, Schmit and Johnson (1996)

indeed found relationships between employee satisfaction and customer satisfaction. However, relationships between employee satisfaction and productivity were not established in these studies. Hence, satisfied and motivated employees may produce satisfied customers, but satisfied customers may not result in improved financial performance (Borucki & Burke, 1999).

The results of this study supports to a large extent hypothesis 2. A climate for efficiency affects productivity more than that a climate for service affects productivity, and a climate for service affects work satisfaction more than that a climate for efficiency affects work satisfaction. Firstly, cross-sectional results showed that climate for efficiency is beneficial to productivity, while climate for service is beneficial to work satisfaction. Creating a type of strategic climate (climate for service or efficiency) leads to the achievement of a particular outcome (work satisfaction or productivity).

From a longitudinal perspective we found that climate for efficiency was more strongly related to productivity than climate for service. However, climate for efficiency was also more strongly related to work satisfaction than climate for service. These findings support the ideas put forward by Kopelman et al. (1990) that employees working in business units with higher climate scores, even a climate for efficiency, have more knowledge about the organizational goals and about how to align their behavior which results in higher work satisfaction scores. The findings are also consistent with those of Kalliath, Bluedorn and Strube (1999) who found that the more an individual perceives the organization as emphasizing a certain climate, the higher the levels of work satisfaction.

Across time we found a negative relationship between climate for efficiency and work satisfaction, and a negative relationship between climate for service and productivity. These results should be considered taking into account that this study concerns relationships across time for very similar units within a single large organization. In this specific research setting such effects are likely to occur; climate scores at T1 are already fairly high. Extremely high climate scores at T1 can hardly get any higher, whatever happens (this is called a 'ceiling effect') (Taris, 2000). Branches with high climate scores at T1, usually already have high work satisfaction or productivity scores at T1. A further upward shift in climate is unlikely to be accompanied by a comparable upward shift in work satisfaction or productivity. In a branch with low climate scores at T1, however, the reverse might be true. For a branch with low climate scores at T1, there is a lot of room for improvement. The result of this process is that,

when we check the change scores, a negative relationship is found between climate for efficiency at T1 and work satisfaction at T2 and between climate for service at T1 and productivity at T2. We therefore argue that the amount and direction of across-time change depends on the branch's initial score, which is in line with Wilder's (1967) 'law of initial values'.

The negative effects can be considered indicative of a trade-off process which accords with the competing values model. This model states that overemphasizing a climate type can result in dysfunctional organizations (Quinn & Rohrbaugh, 1983). Giving priority solely to productivity or to customer service may hamper the pursuit of work satisfaction and productivity. Employees receive the message that efficiency is the only priority in their unit, signaling to employees that the organization does not care about their well-being. A lack of experienced organizational support can result in less work satisfaction by failing to satisfy socio-emotional needs, devaluing employee contributions, and signaling the unavailability of support (Rhoades & Eisenberger, 2002). And an organizational climate for service aimed at obtaining high-customer value may impair the attainment of productivity; a strong focus on customer service may be inefficient.

Finally, the inverse causation effects found in this study were also more supportive of satisfaction and productivity as different organizational outcomes indicators than satisfaction as intermediary. Work satisfaction at T1 was positively related to climate for service at T2, productivity at T1 was positively related to climate for efficiency and to climate for service at T2. Work satisfaction and productivity positively influenced climate for service. According to Schneider et al. (1998) a climate for service rests on the foundation of fundamental support. Branches with high productivity scores might have a greater willingness to invest in support, resulting in their having more positive service climate scores than those that do not have high profits. A high score on work satisfaction might be indicative of a concern for employees which is distinguished as a second antecedent of service climate by Schneider et al. (1998). High-productivity might signal to employees that their branch is focusing on performance and on accomplishing its goals, and this might positively bias climate for efficiency perceptions.

6.5.1 Limitations

Although the use of two waves of climate, satisfaction and productivity data is innovative in this field of research, the way the longitudinal data coupling was done in this study has limitations. Firstly, we compared different time lags by allowing different

time intervals. Second, we used different years for time point 1 (data as of 2000, 2001, 2002, 2003 and 2004) and time point 2 (2002, 2003, 2004, 2005). The year in which the measurements were taken could be a confounding factor. Thus two possible noise factors were introduced in the research design. However, controlling for the length of the time interval did not change our results. Besides, the timing of the measurement was only significant correlated with productivity at both time points, and with service climate at one measurement point.

A second limitation of this study is that the data was obtained from a single, large Dutch organization. This approach limits the generalizeability of our study to other industries and to other countries, since in the Netherlands the influence of institutional factors on work-related issues is relatively large (Boselie, Paauwe & Janssen, 2001). However, using this approach we can control for industrial and organizational effects. Sample size puts constraints on the number of variables that we could include in out models, therefore we did not control for between branch factors (e.g. product mix of services, different types of customers, number of competitors). However, according to Walker, Smither and Waldman (2008) these between branch factors have little influence on longitudinal relationships. Local factors that influence climate, satisfaction and productivity in a branch at time point 1, are also likely to influence climate, satisfaction and productivity at time point 2 in that branch.

Finally, relatively low ICC1 values were found for work satisfaction. Future research could benefit from taking account of unit and individual variance in work satisfaction in multi-level analyses. This type of analysis offers the opportunity to study processes at multiple levels of analysis simultaneously. Specifically, the relative effects of theorized top-down (unit climate to individual work satisfaction), bottom-up (individual work satisfaction to unit productivity) and unit-level processes could be examined.

6.5.2 Implications for Theory and Practice

Researchers and practitioners have been debating the relationship between climate and performance for some time now. This study represents a step in understanding better how work satisfaction relates to climate for efficiency, climate for service, and productivity at the business unit level. This longitudinal study indicated that at the business unit level, work satisfaction does not appear to function as an intermediary; work satisfaction appears to function as an outcome indicator.

From a practical standpoint, the findings stress the need to include employee climate scores in HR scorecards in order to monitor and manage work satisfaction as well as

productivity in business units. These results also suggest that management will be well-advised to encourage a high-service or a high-efficiency climate in business units depending on the strategic goal(s) management pursues, because it substantially positively affects work satisfaction or productivity. As an initial longitudinal investigation, however, this study also demonstrated a negative effect of both climate types across time. We interpreted this as a trade-off process. For managers of 'high-efficiency climate branches', the most important target might be satisficing rather than maximizing the level of productivity climate, because this will negatively influence work satisfaction. And for managers of 'high-customer climate branches', the most important target might be satisficing rather than maximizing the level of service climate, because this will negatively influence productivity.

In terms of theoretical contributions, while past research tends to focus on linking climate for service to customer satisfaction at the business unit-level of analysis or tends to focus on work satisfaction as mediator between climate and performance at the individual-level of analysis, less emphasis was placed on how climate for service and climate for efficiency relate to work satisfaction and to productivity. Our findings provide a first confirmation of the reasoning that different climate types relate to effectiveness outcomes in different performance domains. Specifically, the present study adds to the notion that climate for efficiency is related to productivity, whereas climate for service is related to work satisfaction. More longitudinal research is needed to create a more complete picture of the dynamic processes between employee attitude indicators on the one hand, and business unit climates and performance outcomes on the other. In particular more research is needed on the differential and possible trade-off effects of climate types on outcomes in different performance domains.

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7

Discussion

7.1 Introduction

This thesis aims to enhance our understanding of the pathways through which HRM influences employee well-being and organizational performance. In five studies (one review study and four empirical studies), four challenges, which researchers and managers face when integrating the employee perspective into the HRM-performance linkage are addressed. The four challenges discussed are: 1. bridging research traditions; 2. balancing managerial and employee interests; 3. focusing on practical relevance; 4. improving research methods. In the next section the main findings for each challenge are presented and discussed, followed by an evaluation of the weaknesses and strengths of this thesis. Subsequently, theoretical, practical and methodological implications are discussed. Finally, suggestions for future research are offered.

7.2.1 Challenge 1: Bridging Research Traditions

Research on HRM has been divided into two sub domains: 'micro' research (functional view) focuses on the effect of HRM on individuals, while 'macro' research (strategic HRM view) focuses on the linkages between HRM and organizational performance (Boselie, Brewster & Paauwe, 2009; Ostroff & Bowen, 2000; Wright & Boswell, 2002). Scholars argue that combining the 'macro' and 'micro' perspective is needed to progress the HRM-performance field (e.g. Bowen & Ostroff, 2000; Guest, 2001; Wright & Boswell, 2002). Therefore, the first challenge concerns bridging research traditions.

We attempted to break down the barriers between 'macro' and 'micro' research by aligning the OB and organizational psychology orientation towards the topic of SHRM and performance, with the more business oriented perspective. We integrated literature on perceptions of HRM, climate and employee well-being.

First, studying employee perceptions of HRM at an intermediate level (the business-unit level) improved our understanding of the 'macro' link between HRM and performance at company level. We show that the perceptions and experiences of HRM varies between business units within a large organization (Chapter 3 and 5). Also, in line with HR process models (e.g. Ostroff & Bowen, 2000; Nishii & Wright, 2008), we described the influence of HRM - related interventions on employee perceptions and experiences of HRM processes (Chapter 5). In addition, we demonstrate that certain experiences of HRM processes namely pay satisfaction, development, job security and a

combination of goal effectiveness, quality orientation and information sharing are related to financial performance (Chapter 5).

Secondly, integration was established by relying on organizational climate theory (Chapter 3, 4, 6). Climate has its foundations in organizational psychology and OB. In addition, climate is described as the mechanism between HRM and organizational performance (Boxall & Purcell, 2008; Ostroff & Bowen, 2000; Ostroff, Kinicki & Tamkins, 2003). We found that four HRM-induced organizational climate dimensions (Kopelman, Brief & Guzzo, 1990) influenced organizational performance, rather than the reverse or both processes being present simultaneously (Chapter 4). In particular, goal and means emphasis and reward orientation (positive), and socio-emotional support (negative) are predictive of organizational performance. In addition, we investigated the mediating effect of work satisfaction in the relationship between climate for efficiency and service, and performance (Chapter 6). We found no support that work satisfaction acts as intermediary in the relationship between the two strategic climate types and performance, since work satisfaction was by no means related to performance.

Finally, we integrated the organizational psychology / OB perspective into the ('macro') HRM-performance linkage by focusing on the role of three types of employee well-being (a 'micro' related outcome) in this relationship. Based on conceptual models and theories founded in organizational psychology and OB (e.g. behavioral perspective (Wright & McMahan, 1992), social exchange (Blau, 1964), AMO-theory (e.g. Appelbaum Bailey, Berg & Kalleberg, 2000), competing values framework (Quinn & Rohrbaugh, 1983), labor process theory (e.g. Godard, 2001)), two competing views on the role of well-being were tested. The main findings are presented in more detail below (Challenge 2).

7.2.2 Challenge 2: Balancing Managerial and Employee Interests

The second key challenge explored in this thesis concerns balancing managerial (organizational performance) and employee (employee well-being) interests. Two competing perspectives on the role of employee well-being are present in the HRM and climate literature. The mutual gains perspective assumes that HRM and climate have a positive effect on both organizational performance and employee well-being (e.g. Appelbaum et al., 2000; Kopelman et al., 1990; Nishii & Wright, 2008; Ostroff & Bowen, 2000; Tesluk, Hofmann & Quigley, 2002), whereas the conflicting outcomes perspective assumes that HRM and climate have a positive effect on organizational performance but

have no or a negative effect on employee well-being (e.g. Boxall & Purcell, 2008; Legge, 1995; Quinn & Rohrbaugh, 1983).

We addressed this challenge by testing which of the competing perspectives provides a better fit for the role of employee well-being in the relationship between HRM / climate and organizational performance. We included health, happiness and relationships well-being (Grant, Christianson & Price, 2007) as work-related well-being types. The mutual gains perspective is set against the conflicting outcomes perspective to test whether HRM / climate results in improved organizational performance to the simultaneous advantage or at the cost of employee well-being.

First, we conducted a review study on the role of employee well-being in the relationship between HRM and organizational performance (Chapter 2). Based on the quality and the consistency in findings of 41 studies published from 1995 to 2008, we concluded that happiness and relationships well-being function as mutual gains with performance. Health well-being, however, seems to function as conflicting outcome with performance.

Secondly, we examined the role of work satisfaction (the happiness component of employee well-being) in the relationship between climate for efficiency, climate for service and productivity using longitudinal data obtained from more than 14,000 employees in 171 branches of a financial services organization (Chapter 6). No evidence for the 'work satisfaction as intermediary' perspective (mutual gains) was found: work satisfaction was not related to productivity. In line with a 'work satisfaction as outcome' perspective (conflicting outcomes), we found that climate for efficiency was more associated with productivity than climate for service, and climate for service was more associated with work satisfaction than climate for efficiency. Across time a trade-off pattern was found: climate for service at T1 is negatively related to productivity at T2, and climate for efficiency at T1 is negatively related to work satisfaction at T2.

Summarizing, we show that relationships well-being functions as mutual gain and health employee well-being seems to function as conflicting organizational outcome. With respect to happiness we demonstrate mixed results. In the review study we conclude that happiness functions as mutual gain, whereas in the empirical study we conclude that work satisfaction (a category of happiness well-being) functions more as conflicting outcome with performance.

7.2.3 Challenge 3: Focusing on Practical Relevance

The third challenge addressed in this thesis was pragmatic in nature; it refers to focusing on practical relevance of scientific findings. Evidence based management (Rousseau, 2006) and analytical HRM (Boxall, Purcell & Wright, 2007) are proposed for bridging the gap between science and practice (e.g. Rousseau, 2006; Academy of Management Journal, 7, 2007; Journal of Management Studies, 3, 2009). Both approaches highlight the need for researchers to provide managers with information on the causal processes between HRM and performance within organizations, this type of information is needed to develop, implement and use workforce scorecards.

We attempt to bridge the gap between science and practice by providing an example of how organizations can gain insight in the causal processes that are taking place within a company between HRM designed at corporate level on the one hand and organizational performance on the other. We provide a description of how organizations can make better use of employee survey and performance data in the light of workforce scorecards. We address three challenges facing practitioners when setting up and making use of employee surveys in light of workforce scorecards: (a) how to use individual employee survey information to provide meaningful information on HRM processes at business unit level, (b) how to make temporal inferences between HRM indicators and business outcomes, (c) how to translate established relationships into relevant management information.

First, we developed a framework for evaluating the suitability of aggregating individual survey information to construct meaningful business unit-level measures. The five developed criteria were: emergence processes, referent type, two types of intraclass correlations coefficients and interrater agreement. Application of the five criteria showed to a great extent support for the use of aggregated survey scales to measure meaningful business unit-level constructs (Chapter 3). We also illustrated the utility of using employee survey information as meaningful indicator of the way HRM policies are enacted in organizations: survey information was found to be predictive of future performance and indicative of the HRM-related processes involved (Chapter 5). Regarding making temporal inferences, we demonstrated that two waves of data are needed to draw temporal conclusions: this design enables to test the extent to which performance increased as a result of changes in employee survey dimensions, and to test for the possibility that performance scores influenced employee survey dimensions (Chapter 4 and 5). Finally, we were able to show that 10.8 percent of the variance in

performance can be explained by scores derived from survey scores, after correcting for prior performance. Translating this into relevant management information by extrapolating to all branches of this organization, we could indicate that changes in employee survey scores predict higher yearly profits of 178 million Euros (17.9 percent of the total yearly profits) across the entire company (Chapter 5).

7.2.4 Challenge 4: Improving Research Methods

Research on HRM and climate has been plagued with methodological pitfalls and problems (Becker & Gerhart, 1996; Boselie et al., 2009; Gerhart, 2007; Kuenzi & Schminke, 2009; Paauwe, 2009; Wall & Wood, 2005; Wright & Gardner, 2003). Therefore, the fourth challenge addressed in this thesis is improving research methods. Research has been criticized for an over-reliance on cross-sectional designs, poorly understood causal relations and lack of sophistication of techniques used (e.g. Gerhart, 2007; Ostroff et al., 2003; Wall & Wood, 2005; Wright, Gardner, Moynihan & Allen, 2005; Wright & Haggerty, 2005), over-reliance on single source self-report data (e.g. Gerhart, Wright, McMahan & Snell, 2000; Gerhart, Wright & McMahan, 2000; Guest, 2001; Wall & Wood, 2005), and subjective or partial outcome measures (e.g. Gerhart, 2007; Kopelman et al., 1990), and an overemphasis on organizational-level of analysis (e.g. Becker & Gerhart, 1996; Wright & Gardner, 2003). In order to overcome the identified methodological shortcomings of prior research, innovative research methodologies were applied in this thesis.

First, we adopted a two-wave longitudinal design, whereby employee perceptions and experiences and organizational performance were measured twice. Moreover, structural equation modeling was used to test relationships between the variables under study (Chapter 4 through 6). We found that business units with high scores on perceptions of HRM, employee well-being, and performance in relation to other business units at a certain time point retained quite similar relative positions at a follow-up time point. In particular, performance, pay satisfaction, quality orientation, goal effectiveness, information sharing showed a relatively high stability (Chapter 4-6). Also, performance influenced job security (Chapter 5), goal effectiveness and customer service (Chapter 6), which indicate a reversed temporal order. Finally, we found effects across time (Chapter 5 and Chapter 6). Second, multiple raters of HRM (employees) were included in contrast to the over-reliance on single (often the HR manager's) ratings. We found satisfying interrater agreement for all survey dimensions except for work satisfaction, development and job security, moderate interrater agreement was found for these scales (Chapter 3).

Third, the perceivers of HRM (employees) provided information on their perceptions and experiences of HRM. By investigating (longitudinal) effects between employee perceptions of HRM and an objective performance indicator, common method variance is controlled for. Finally, we compared business units within one organization in the empirical chapters of this thesis. Therefore, institutional factors as well as industry and company effects are controlled for.

7.3 Weaknesses and Strengths

Although this thesis contributes to understanding the relationships between HRM, employee well-being and performance, this thesis has a number of limitations. The first limitation concerns the overlap in studies and data used. In our review study (Chapter 2) results from a number of studies were included multiple times. In addition, some studies included in this review were based on the same dataset. Moreover, we used the same archival longitudinal dataset for four empirical chapters (Chapter 3 through 6). Although in each chapter our research question is studied from a different theoretical angle (HRM, organizational climate, employee well-being, and workforce scorecards tradition), and different survey dimensions (HRM perceptions, climate, well-being) are included in each chapter, there is overlap in the dataset used. Hence, the chapters do not provide independent evidence regarding our research question on HRM, employee well-being and performance.

The limitations of the archival longitudinal dataset used in chapter 3 - 6 have been described in detail in each chapter; accordingly they are mentioned briefly here. In addition, a number of more general weaknesses of the data and the methods used are discussed. First, the data are obtained from a single large Dutch organization. This limits the generalizability of the findings to other industries (Combs, Liu, Hall & Ketchen, 2006) and countries (Boselie, Paauwe & Janssen, 2001). Secondly, the amount of variance at the branch level (ICC1) was rather low for some survey scales (i.e. employee well-being). Thirdly, two noise factors were introduced in the longitudinal research design. Different time-lags were compared, and different (partly overlapping) years were used for time point 1 and 2. However, controlling for the length of the time interval did not change the results (Chapter 4, 5, 6). With regards to the use of overlapping years, for 111 branches the time point 1 measurement (in 2000 or 2001) precede most of the time point 2 measurements (only three branches have a time point 2 measurement in 2001, the remaining branches have time point 2 measurements in 2002, 2003, 2004 or 2005). And conversely, for 73 branches the time point 2 measurement (in 2004 or 2005) comes after

most of the time point 1 measurements (one branch has a time point 1 measurement in 2004, the remaining branches have time point 1 measurements in 2000, 2001, 2002 or 2003).

Related to the longitudinal data coupling a more general weakness of this dataset concerns the exclusion of branches that merged during the research period. This might bias our sample, as (less effective) HRM, (low) employee well-being and (bad) performance might influence pressures to merge, and the other way around a merger might influence HRM, employee well-being and performance.

Although we included a measure of work satisfaction (happiness type of employee well-being), relationships or health well-being was not studied. Hence, the empirical chapters provide no insight in the role of relationships and health well-being in the relationship between climate and performance. No information was available on relationships well-being, and though limited information on health well-being was available this type of information was not included for two reasons. First, the happiness type of well-being is most frequently mentioned in the climate literature (Kopelman et al., 1990; Ostroff, et al. 2003; Quinn & Rohrbaugh, 1983; Tesluk et al., 2002). Besides, the organization under study is one of the top performing financial services organizations in the Netherlands, and a relatively 'healthy' organization with low absenteeism figures at branch level. Therefore, the main focus at branch level was on improving performance while maintaining employee work satisfaction levels, improving employee health was of less importance at the branch level.

A second general weakness concerns the lack of information on HR interventions, employee behaviors and control variables. Although we have information on the renewed HRM policies (as described in Chapter 5), unfortunately, no information was available on the implemented HRM interventions at the branch level. Secondly, no measures of employee behaviors, such as Organizational Citizenship Behavior (Organ, 1988), customer focused OCB (Schneider, Ehrhart, Mayer, Saltz & Niles-Jolly, 2005) or work engagement (Salanova, Agut & Peiro, 2005) were included in the survey. Thirdly, no information was available on a number of branch-level interventions such as distribution channels, use of information systems and operational practices, which could distort our results, as changes in HRM are usually accompanied by changes in other management actions and investments (Boxall & Macky, 2009).

The last weakness stems from the aggregation of the survey dimensions to the branch level. In this thesis branch-level mean scores were used. However, researchers

have begun to explore climate strength, which is defined as the level of variance within a branch (e.g. Kuenzi & Schminke, 2009). It is argued that climate strength directly influences individual and organizational outcomes, and or moderates relationships between climate mean and outcomes (e.g. Gonzalez-Roma, Peiro, & Tordera, 2002; Lindall & Brandt, 2000; Schneider, Salvaggio & Subirats, 2002). In this thesis the effects of climate strength are not studied, because it was found that most branches showed moderate to high levels of agreement (Chapter 3), which indicated a lack of variation in climate strength in our sample. By assigning each branch its average score on the survey dimensions the variability in the scores are reduced, resulting in biased parameters estimates (Croon & Van Veldhoven, 2007). Recently, latent variable multilevel modeling, which treats the individual scores of a variable as reflective indicators for a latent variable at higher level of analysis, and thereby yielding unbiased estimates, has been developed (Croon & Van Veldhoven, 2007). However, this technique was not applied in this thesis, for the reason that the survey information at the two time points could not be coupled on an individual base, and that this technique was not available at the start of this project.

Despite these limitations driven by the nature of the data collected in ongoing business practice, the use of the archival longitudinal dataset has a number of strengths. First, the survey covered a wide range of topics. Perceptions on HRM, organizational climate, and employee well-being were included. Information from more than 14,000 employees was available at two time points provided by the internal Health and Safety Executive. The average response rate in the employee surveys at the branch level was more than 77 percent. This provided a unique richness in data, and in corresponding theories that could be studied. Secondly, by coupling the employee survey scales to an objective outcome indicator at the business unit level, meaningful relationships between employee perceptions of implemented management activities relevant for the branches under study, and a critical outcome for which managers are accountable for have been examined. Third, the within company design has been beneficial. It enabled us to exclude the influence of institutional, industry and company factors. In addition, the sample could be regarded as representative for the total organization in terms of branch size and region in the Netherlands. Finally, by making use of an archival dataset we were able to study effects across time. Using a two-wave design is rarely done but often advocated in HRM and climate literature (e.g. Ostroff et al., 2003; Wright et al., 2005).

7.4 Implications

On the basis of the main findings for each challenge (as presented above), several implications emerged. In the next section theoretical, practical and methodological implications are presented.

7.4.1 Theoretical Implications

This thesis bridges the gap between 'macro' and 'micro' perspectives to the topic of HRM by integrating climate, perceptions of HRM and employee well-being literature.

With regards to perceptions of HRM, we demonstrate that experiences and perceptions of HRM show variance between the business units within a large organization (Chapter 3 and 5). This adds to our knowledge of integrating employees into the HRM-performance linkage, as it shows that there is variation in HRM within firms (Nishii & Wright, 2008; Wright & Haggerty, 2005). Moreover, we show that the perceptions of HRM can be grouped on the basis of variance attributable to the branch. The first group reflects employee experiences of implemented HRM (e.g. training and development, job security), the variance in these perceptions at the branch level is rather limited compared to the variance at the individual employee level. Another group of employee experiences is more reflective of the strategic goals of the organization (e.g. goal effectiveness, quality orientation, customer orientation, information sharing), for this group more variance attributable to the branch is found. This division adds to the conceptualization of HRM. Scholars differentiate between HRM practices and the goal HRM communicates (e.g. Boxall & Purcell, 2008; Nishii & Wright, 2008; Ostroff & Bowen, 2000; Purcell & Kinnie, 2007).

For climate theory, we show the same sort of distinction as described above. General climate dimensions referring to all aspects of employees working environment (e.g. Kopelman et al., 1990) showed less variance attributable to branch level than climate dimensions with a specific strategic focus. Secondly, in line with Schneider's work (1975), climate dimensions with a specific criterion of interest were more strongly related to organizational performance than general climate dimensions.

By showing that the strategic focused perceptions are linked with organizational performance we add to HRM and climate literature. With regards to the HRM literature, Bowen and Ostroff (2004) argue that HRM practices should be designed around a particular strategic focus to be effective. The establishment of a climate for a specific goal is the key factor that determines whether employees enable the organization to achieve its goal. Schneider (1975) argues that climate perceptions linked to a specific strategic

focus can serve as a frame of reference for guiding appropriate and adaptive task behaviors. This also adds to the employee 'line of sight' to an organization concept. Line of sight indicates the extent to which an employee understands the organization's objectives, and understands how to effectively contribute to delivering them (Boswell, 2006). The perceptions on goal efficiency, quality, information sharing, and reward are most closely aligned with this business outcome. When employees know that efficiently delivering high quality to customers is of high priority in their business unit and that they will be rewarded accordingly, this information will guide their behavior to be in line with this business goal.

In sum, future research may benefit from incorporating theory on perceptions of HRM and on climate to understand the HRM-performance linkage. Integration of the two research traditions could clarify the influence of strategic versus general HRM and climate perceptions on organizational performance.

A second theoretical issue concerned the role of employee well-being in the HRM / climate-performance linkage. We tested the mutual gains versus the conflicting outcomes perspectives by using models that include HRM / climate, well-being and organizational performance.

For HRM theory, we contribute to previous research by providing a review on relationships between HRM, employee well-being (happiness, relationships and health well-being) and organizational performance. We show that there might be differential effects present: HRM has a positive effect on happiness and relationships well-being (in line with the mutual gains perspective), and a negative effect on health (in line with the pessimistic view) (Chapter 2). This result is in line with studies by Ramsay, Scholaris and Harley (2000), and Orlitzky and Frenkel (2005) which confirmed the 'positive' and 'negative' consequences of the same set of HRM activities on multiple employee well-being types. This indicates that there are possibly two mechanisms at work at the same time: mutual gains for happiness and relationships well-being, and as a side effect conflicting outcomes for health. Moreover, a further investigation revealed that the positive effect of HRM on financial performance was not established through a negative effect on employee health. Hence, employee health-related well-being and organizational productivity might function as parallel organizational outcomes influenced by a different set of HRM dimensions (Boxall & Purcell, 2008) instead of conflicting outcomes (labor process theory (Godard, 2001) and the exploitive nature of HRM (e.g. Legge, 1995)).

For climate theory, we add to previous research by investigating the role of work satisfaction in the relationship between climate and organizational performance. We show that work satisfaction is not related to organizational productivity (Chapter 6), thus no support is found for work satisfaction as intermediary as proposed by Kopelman et al. (1990), Ostroff and Bowen (2000) and Tesluk et al. (2002), and in line with the findings of our review study (Chapter 2). This result might be attributable to the fact that we studied relationships at the business unit level, at the individual level according to the 'happy productive worker thesis' (Judge, Thoreson, Bono & Patton, 2001; Carr, Schmidt, Ford & Deshon, 2003; Parker, Baltes, Young, Huff, Altmann, Lastost et al., 2003) a positive relationship could be expected; however it is important not to indiscriminately apply individual-level theories to branch-level phenomena. Another explanation might lie in the type of happiness well-being included. We studied work satisfaction, other happiness well-being components more related to discretionary effort, like organizational commitment and OCB might be related to organizational performance (Podsakoff, Whiting, Podsakoff & Blume, 2009). Secondly, we contribute by studying the effects of multiple climate types on outcomes in different performance domains (Kuenzi & Schminke, 2009; Ostroff et al., 2003; Schulte, Ostroff, Shmulyian & Kinicki, 2009). We show that different climate types relate to effectiveness outcomes in different performance domains. In particular, we found that climate for efficiency is related to productivity, whereas climate for service is related to work satisfaction. Moreover, a contribution to the competing values framework (Quinn & Rohrbaugh, 1983) is that overemphasizing a climate type can result in dysfunctional organizations We demonstrate that giving priority solely to climate for efficiency or customer service to enhance performance or work satisfaction may hamper the pursuit of work satisfaction and organizational performance, respectively.

In sum, we demonstrate that the mainstream (mutual gains) perspective which holds that HRM and climate have positive outcomes for the organization and for employee well-being as well is too simplistic. Employee well-being consists of multiple dimensions, which are differently influenced by HRM and climate, across time and at different levels of analysis. Future research may benefit from incorporating competing perspectives (mutual gains *and* conflicting outcomes) to shed more light on the dynamic role of employee well-being in the relationship between HRM / climate and organizational performance.

7.4.2 Practical Implications

This thesis adds to bridging the gap between theory and practice. Many organizations are using strategy tools such as workforce scorecards to keep track of implemented HRM and the effects on business unit performance. In addition, many organizations make use of employee surveys. This thesis described how organizations can make better use of employee survey and performance data in the context of workforce scorecards.

First, we discuss how individual employee survey information can be used to provide meaningful information on HRM processes at business unit level. We developed and tested a framework for evaluating the suitability of aggregating individual survey data to meaningful business unit-level constructs. Organizations need to assess whether survey scores are reliable at the business unit; there needs to be a minimal amount of agreement between employees within a business unit on the survey dimensions, and the scores need to differentiate between business units. Besides, employee survey information needs to reflect the HRM-related processes involved to functions as an indicator of the way HRM policies are enacted in organizations. Secondly, we show how to demonstrate causal relationships between survey information on HRM and financial performance. Finally, we demonstrate the practical relevance by using an extrapolation method to translate the 'scientific estimates' into information that can be used by managers and policy makers within organizations. We provide an example of how the results from structural equation models, which are difficult to interpret by practitioners, can be described in policy-relevant effect sizes.

In sum, we inform practice by showing the boundary conditions and benefits of collecting employee survey information and objective outcome indicators in a workforce scorecard system as is frequently done in organizations nowadays. Provided that reliable information on HRM-related processes at business unit level and outcomes across a number of years is available, longitudinal relationships can be established to gain insight in the processes between HRM and performance and these relationships can be translated into management information.

Hence, we confirm the usefulness of including employee perceptions on HRM / climate in workforce scorecards as a parameter relevant for achieving future financial performance. The scores of a particular branch on employee survey dimensions compared to its prior scores and compared to the scores of other branches provide branch managers with useful management information on the branch's current position.

Monitoring and managing differences in employee survey dimensions is important for organizations. After all, these aspects are performance-stimulating factors which offer line and HR managers better control opportunities than, for example, external factors, such as market trends or market prices.

However, the monitoring and management of HRM, employee well-being and performance scores face managers with a dilemma which could be described as: for whom and how well (Boxall et al., 2007). We illustrate that HRM is beneficial for employee well-being in terms of happiness and relationships; however HRM is to a certain degree detrimental to employee health. In addition, we demonstrate that a climate for efficiency is primarily related to performance, while a climate for customer is primarily related to work satisfaction. Management can encourage a high-service or a high-efficiency climate depending on the strategic goal(s) management pursues (Chapter 6). We conclude that different outcomes (employee well-being versus organizational performance) are related to different HRM aspects. Therefore, the first dilemma concerns for whom. Organizations need to choose where to focus on.

We also show that across time climate for efficiency is negatively related to work satisfaction, and climate for service is negatively related to performance. In 'high-efficiency climate branches', the most important target might be satisficing rather than maximizing the level of efficiency climate, and in 'high-service climate branches', the most important target might be satisficing rather than maximizing the level of service climate. Along similar lines, maximizing organizational performance might have a detrimental effect on employee health well-being. Hence, the second dilemma is how well, it refers to the dilemma of setting the optimal level of an outcome.

7.4.3 Methodological Implications

The application of innovative research methodologies to improve the methodological quality and rigor of HRM / climate and performance research results in implications for further research.

First, this thesis is one of the first studies that used a two-wave longitudinal design and used structural equation modeling to investigate relationships between HRM, well-being and performance. In addition to cross-sectional research showing associations between HRM / climate, well-being and performance this design enables us to show that these relationships also hold longitudinal. This indicates that HRM and climate scores are predictive of organizational performance and that a change in HRM / climate is associated with a change in well-being and or organizational performance. In addition,

this design makes it possible to control for prior scores, which is found to be important, as the amount and direction of across-time change depends on the branch's initial score (Wilder's (1967) law of initial values). The use of this design has an additional advantage, it contributes to our knowledge about reversed causation effects explained as investments in HRM (Paauwe & Boselie, 2005; Siehl & Martin, 1990) and signaling effects (Paauwe & Boselie, 2005; Schneider, Hanges, Smith & Salvaggio, 2003). We conclude that the reverse causation effects are more in line with signaling effects than with HRM investment effects in this study. Branch managers of high performance branches might not introduce additional HR practices, since HR policies are centrally designed, branch managers have limited options for designing HR policies, and their responsibilities tend more to concern the implementation and adaptation of these policies within their branch. Secondly, the time-lag of two years is more in line with signaling that investment reasoning. Prior climate research proposed that it takes around two years to produce bias in employees' perceptions of organizational climate as a result of high branch scores on performance (Schneider, White & Paul, 1998), while HRM research proposed that it takes at least three years to design and deliver new HR practices and before these practices have an effect on organizational performance (Wright & Haggerty, 2005). Hence, we recommend the use of longitudinal designs to provide a deeper understanding of relationships between HRM and organizational climate, employee well-being and organizational performance across time.

Secondly, we use multiple employee ratings on HRM within a branch in contrast to studies using a single manager's point of view regarding implemented HRM practices. The use of a single HR professional or line manager as rater of HRM is highly questioned, as an HR professional or line manager might not be able to provide an accurate description of the implemented practices and are susceptible to rater bias (Boswell, Colvin & Darnold, 2008; Gerhart et al., 2000; Gerhart et al., 2000; Guest, 2001). We show that ratings of employees on HRM are to a large extent reliable. In addition, we illustrate that information collected through employee surveys is indicative of the HRM-related processes involved. Therefore, we suggest using employee information on HRM, as a reliable source of information on how they perceive, experience, and interpret HRM.

Additionally, it is a strength of the current thesis that different data sources are used. We connect HRM, climate and employee well-being data collected via employee surveys with objective outcome data. Multi-source relationships are less prone to common

method bias (Doty & Glick, 1998). Moreover, the data are collected within one organization, we compare branches. This approach enables us to control for institutional as well as industry and company factors. It also provides us with a comparable outcome indicator available for all branches which was strongly related to the financial performance of the total organization. Although these methodologies might result in lower effect sizes, they provide better opportunities to draw conclusions on the relationships found.

In sum, our innovative research methodologies: the application of a longitudinal design and analyses (structural equation modeling), the combination of data from multiple raters (employees) and sources (employees and objective indicators), and the comparison of business units within one organization provided in our opinion an in-depth insight in dynamic HRM - employee well-being - organizational performance processes operating within a company. Therefore, using archival survey and performance data, mostly collected by different departments (human resources; finance and control) from a larger organization, and establishing longitudinal relationships between employee survey data on HRM, climate and well-being and financial outcomes as we did in this thesis can open up new opportunities for researchers.

7.5 Future Research

The findings and implications of the four challenges regarding integrating employee perspective into the HRM-performance linkage in this thesis provides three suggestions that need to be addressed in future research.

7.5.1 Interventions

In the empirical chapters of this thesis employee perceptions of HRM, climate and employee well-being are linked with organizational performance at the business unit level. This approach integrated the employee perspective into the HRM-performance linkage. However, no interventions at the business unit level to influence and shape these shared perceptions on HRM and climate have been investigated. From a practitioner viewpoint this type of information collected by key informant interviews could be used to 'manage' perceptions on HRM and climate, and could be included as HRM indicators in workforce scorecards. Future research is needed to identify the interventions to influence the content of perceptions or the level to which these perceptions are shared.

First, the process models of HRM (Boxall & Purcell, 2008; Nishii & Wright, 2008; Ostroff & Bowen, 2000; Purcell & Kinnie, 2007) suppose that actual practices (practices

that are implemented) result in employee perceptions of those practices. In this process the role of leaders is crucial (Den Hartog, Boselie & Paauwe, 2004). The application of HR practices by line managers shapes employee perceptions of and reactions to HRM (Nishii & Wright, 2008; Purcell & Kinnie, 2007) Recently, Nishii, Lepak and Schneider (2008) propose to pay attention to the attributions employees make regarding management's motivation for using particular HR practices to gain more insight in how employees experience HRM. However, other scholars (Boxall & Purcell, 2008; Gerhart, 2005; Purcell & Hutchinson, 2007; Purcell & Kinnie, 2007) note the possibility that not only the HRM practices will influence employee perceptions and experiences. Leaders and the organizational culture communicate the nature of the firm, the values and the behaviors that are expected.

Secondly, future research could investigate how management actions could influence the emergence of shared perceptions. We show that although perceptions of HRM are shared within branches, perceptions also vary within branches. Employees do have idiosyncratic experiences of HRM. Therefore another avenue for further research concerns antecedents of the level of which perceptions are shared. Besides the ASA-framework (Schneider, 1987); social information processes (Salancik & Pfeffer, 1978); social interaction (Klein, Conn, Smith & Sorra, 2001), the more manageable factors of leadership and meta-features of HRM system are proposed as underpinnings for the bottom-up emergence. Leaders are able to introduce a common interpretation among unit members, because of their communication and interaction with employees (Ostroff et al., 2003; Zohar & Tenne-Gazit, 2008). Bowen and Ostroff (2004) propose visibility, understandability, legitimacy of authority, relevance, instrumentality, validity, consistency, agreement among decision makers, fairness of HRM practices as meta-features to create shared perceptions.

7.5.2 Mechanisms and Trade-offs

A second area for future research concerns the mechanisms between HRM / climate, employee well-being and organizational performance. We show that the strategic -oriented climate and HRM dimensions are linked with organizational performance. In addition we demonstrate that work satisfaction does not function as intermediary in this relationship. Concepts based on motivation theories (Boswell et al., 2008) like 'line of sight', an employee's understanding of an organization's objectives and how to contribute to those objectives (Boswell, 2006), behavior outcome contingencies (e.g. Kopelman et al. 1990; Zohar, 1980), and an employee's willingness to exert effort to enact behaviors

and the valence associated with those behaviors (Neal & Griffin, 2006) could shed light on the mechanisms underlying this relationship.

Related to the difference between strategic and non-strategic HRM and climate dimensions, future research could focus on the possible distinct relationship with outcomes. We show that strategic-oriented dimensions are more linked with organizational performance than non-strategic-oriented dimensions. However it is likely that the non-strategic dimensions are more linked to individual outcomes at individual-level of analysis (Carr et al., 2003; Parker et al., 2003) or at the job-level of analysis (e.g. Karasek & Theorell, 1990; Lepak & Snell, 2002). As a consequence not all HRM and climate dimensions need to be high to achieve financial performance, moderate levels of some dimensions might be just as effective as high levels for financial performance (Schulte et al., 2009). Further research is needed to investigate these two components and to disentangle their differential effects on unit-, individual- and job-level outcomes.

Another avenue for further research concerns the effects of multiple strategic-HRM and climate types. HRM and climate can be anchored with a specific goal or objective (Bowen & Ostroff, 2004; Schneider, 1975). In the HRM and climate literature a distinction is made between HRM and climate focusing primarily on performance and focusing primarily on employee well-being (Gong, Law, Chang & Xin, 2009; Quinn & Rohrbaugh, 1983). Future research should focus on the interplay between these two types on outcomes.

We show that very high prolonged scores on strategic climate for efficiency (performance) might be detrimental for employee well-being. And the other way around very high prolonged scores on customer service and leadership (employee well-being) might be detrimental for performance. Moreover, we show that HRM might have a negative effect on employee health well-being. This might be indicative of a trade-off process. This represents an interesting dilemma: optimizing one outcome (e.g. financial performance) might be at the cost of optimizing another outcome (employee well-being).

Minimizing this trade-off provides an area for further theoretical development and research. Prior research focusing on the trade-off between motivation and mechanistic work design conclude based on the principle of joint optimization that balance is key to minimizing trade-offs (Morgenson & Campion, 2002). The HRM debate around the configurations of involvement (achieving gains through employee commitment) and intensification (achieving gains through work intensification) (Godard, 2004; Boxall & Macky, 2009) could provide valuable insights in the combination of different approaches.

Recently, Kroon, Van De Voorde and Van Veldhoven (2009) compared two potential mediating mechanisms that counterbalance each other in the development of burnout: a critical mechanism which states that HPWPs intensify job demands (which increase burnout) and a positive mechanism which states that HPWPs increase fairness among employees (which reduces burnout). Finally, the work of Simon (1979) might be helpful to theorize about the aspiration level of different outcomes, a distinction is made between 'optimize' versus 'satisfice'.

In sum, there is a need to investigate effects of combinations of high/moderate/low scores of HRM and climate types (strategic and more general), on motivational concepts, and on multiple outcomes (individual and organizational) to gain more insight in the underlying mechanisms and trade-offs.

7.5.3 Time

The final set of implications concerns the role of time in HRM, climate employee well-being and performance research. This thesis is one of the first studies that used a two-wave longitudinal design to investigate relationships between HRM, well-being and performance across time. Although this design contributes to our knowledge about these relationships across time, the role of time in theorizing and research in management and psychology need further investigation (e.g. Ancona, Goodman, Lawrence & Tushman, 2001; George & Jones, 2000; Mitchell & James, 2001; Roe, 2008). Here, we focus on the role of time in HRM, climate, employee well-being research.

First, theory development on the appropriate time lag is needed in order to specify when a relationship between variables is likely to occur over time (Mitchell & James, 2001). For example if HRM perceptions change when will performance change. This type of hypothesis building is largely lacking within the existing literature (Ostroff et al., 2003; Wright & Haggerty, 2005). Moreover, HRM perceptions and climate development is a process unfolding across time in which both content and emergence processes play a role (Dansereau, Yammarino & Kohles, 1999; Ostroff et al., 2003). Thirdly, we show reciprocal and inverse causation between HRM perceptions / climate dimensions and well-being and performance. This indicates the dynamic nature of these relationships. Finally, we demonstrate that effects differ across time, and that the initial value is related to the size of the effect (Wilder, 1967). Hence, future researchers should incorporate the role of time in theory and research on HRM / climate, well-being and performance.

7.6 Conclusion

This thesis integrated employees in research on the HRM-performance linkage, which is indicated as a prerequisite for advancing the HRM-performance field. We explored the dualities for research and practice by aligning the OB perspective towards the topic of SHRM and performance, and testing the mutual gains and conflicting outcomes perspectives, and by exposing these dualities to rigid tests by applying innovative research methodologies. The main conclusion is that adopting such a balanced approach leads to a more complete understanding relevant for science and practice of the complex, interactive and dynamic pathways through which HRM influences employee well-being and organizational performance.

7.7 References

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Samenvatting (Dutch)

HRM, welzijn en organisatieprestatie:

Op zoek naar balans

Introductie

De relatie tussen HRM en het presteren van organisaties is een belangrijk onderwerp binnen HRM onderzoek. Onderzoekers concluderen dat HRM een grote invloed heeft op het presteren van organisaties, en daarmee dat HRM een belangrijke managementtaak vormt. Theorie en empirisch onderzoek zijn hierbij voornamelijk gericht op de antecedenten en consequenties van HRM op organisatieniveau (SHRM onderzoek). Dit type onderzoek levert weinig theoretische kennis op over hoe HRM werkt (i.e. het onderliggende mechanisme). Ook levert het weinig relevante managementinformatie op over hoe medewerkers binnen een organisatie bijdragen aan het presteren van de betreffende organisatie zoals verondersteld in scorecards. Meer inzicht in de rol van medewerkers in de relatie tussen HRM en organisatieprestatie, is zowel vanuit theoretisch als praktisch oogpunt gewenst. De bijdrage van dit proefschrift ligt in het aanpakken van vier uitdagingen waarmee HRM onderzoekers en managers geconfronteerd worden als het gaat om de relatie tussen HRM en organisatieprestatie.

De eerste uitdaging ligt in '*Het combineren van onderzoekstradities'*. HRM onderzoek wordt gekenmerkt door een sterke scheiding in macro (SHRM) en micro (arbeids- en organisatiepsychologisch) onderzoek. Een integratie van micro met macro onderzoek is gewenst om meer inzicht te krijgen in hoe HRM werkt (de onderliggende processen). Dit proefschrift maakt gebruik van drie types arbeids- en organisatiepsychologische concepten en theorieën. Als eerste bestuderen we relaties tussen medewerkerpercepties van HRM en organisatieprestaties. Percepties van medewerkers spelen een centrale rol in recent ontwikkelde HRM-prestatie modellen. Daarnaast maken we gebruik van organisatieklimaat literatuur. Ook organisatieklimaat wordt gezien als tussenliggende factor in de relatie tussen HRM en prestatie. Tot slot integreren we literatuur over het welzijn van medewerkers met SHRM literatuur. Deze integratie wordt verder uitgewerkt in de volgende uitdaging.

Een tweede uitdaging vormt: '*Het balanceren van medewerkers- en organisatiebelangen'*. Hier testen we de rol van medewerkerwelzijn in de relatie tussen HRM en prestatie. We onderscheiden hierbij drie types welzijn, namelijk werkgeluk (bijvoorbeeld: tevredenheid, commitment), werkrelaties (bijvoorbeeld: moraal, samenwerking) en gezondheid (bijvoorbeeld: werkdruk, stress). Optimistische theorieën beargumenteren dat HRM en organisatieklimaat een gunstig effect hebben op zowel het welzijn van medewerkers als ook op het presteren van organisaties. Sceptische en pessimistische theorieën beargumenteren echter dat HRM en organisatieklimaat een positief effect hebben op het

presteren van organisaties, maar geen of een negatief effect hebben op het welzijn van medewerkers.

De derde uitdaging komt voort uit de kloof tussen wetenschap en praktijk, deze luidt: '*Het versterken van de praktische relevantie van wetenschappelijk onderzoek'*. Steeds meer organisaties passen scorecards toe om inzicht te krijgen in de processen tussen HRM en organisatieprestatie binnen een organisatie, en maken daarbij gebruik van medewerkervragenlijsten en objectieve prestatie-indicatoren op vestigings- of afdelingsniveau. In dit proefschrift besteden we aandacht aan hoe medewerkervragenlijsten zinvolle HRM informatie kunnen leveren op vestigingsniveau. Ook besteden we aandacht aan hoe relaties tussen HRM informatie en afdelingsprestatie gelegd kunnen worden, en vervolgens hoe deze relaties zich laten vertalen in praktische implicaties.

Tenslotte is het van belang om aandacht te besteden aan onderzoeksmethodologie voor het kunnen doen van theoretische en praktische aanbevelingen. HRM onderzoek is bekritiseerd vanwege het nagenoeg uitsluitend gebruik van cross-sectioneel onderzoek, het toepassen van beperkte statistische methoden, het gebruik van data uit één databron en van één beoordelaar, en het hoofdzakelijk vergelijken tussen meerdere organisaties. Een laatste uitdaging wordt daarom gevormd door: '*Het verbeteren van onderzoeksmethoden'*. Dit onderzoek past geavanceerde onderzoeksmethoden toe. We passen longitudinaal onderzoek en geavanceerde analyses toe. We gebruiken meerdere databronnen en meerdere beoordelaars. Daarnaast voeren we een studie uit binnen één organisatie met een groot aantal vestigingen met voldoende bewegingsruimte om het HRM beleid in te richten.

Deze uitdagingen worden in vijf hoofdstukken behandeld. Het eerste hoofdstuk is een literatuuroverzichtstudie naar gepubliceerde studies over HRM, welzijn en organisatieprestatie. De overige vier hoofdstukken beschrijven empirisch onderzoek gebaseerd op secundaire data die werden verzameld bij meer dan 14.000 medewerkers en zijn gekoppeld aan objectieve uitkomsten van 171 vestigingen van een grote Nederlandse financiële dienstverlener. Onze resultaten worden hieronder per uitdaging kort toegelicht.

Resultaten

1. Het combineren van onderzoekstradities

In hoofdstuk 3 en 5 combineren we literatuur over HRM percepties met SHRM literatuur. We tonen aan dat medewerkers binnen één organisatie HRM verschillend ervaren, en dat deze ervaringen gevormd worden door HRM interventies. Verder toont

hoofdstuk 5 aan dat percepties over beloning, ontwikkeling, toekomstzekerheid, doelgerichtheid, kwaliteitsgerichtheid en informatievoorziening gerelateerd zijn aan financiële prestaties van vestigingen. Ten tweede maken we gebruik van klimaatliteratuur (hoofdstuk 4 en 6). Hier onderzoeken we of vier aspecten van klimaat, die voortkomen uit HRM interventies (percepties over het doel en de manier waarop dit bereikt wordt binnen de vestiging, beloning, werkondersteuning en sociale steun) de prestatie van een vestiging voorspellen, of de prestatie van een vestiging de klimaataspecten beïnvloedt, of dat beide processen aanwezig zijn. Hoofdstuk 4 toont aan dat klimaat prestatie beïnvloedt. Percepties over het doel en de manier waarop dit doel bereikt wordt binnen de vestiging, beloning, en sociale steun hebben een effect op de prestatie van een vestiging. Verder onderzoeken we de rol van werktevredenheid in de relatie tussen twee types klimaat (klimaat gericht op efficiency en klimaat gericht op klantgerichtheid) en het presteren van de vestiging. Hier tonen we aan dat werktevredenheid geen mediator vormt in deze relatie, werktevredenheid is namelijk niet gerelateerd aan het presteren van een vestiging. Tot slot combineren we theorie over welzijn met SHRM literatuur. Resultaten worden hieronder besproken bij uitdaging twee.

2. Het balanceren van medewerkers- en organisatiebelangen

Hoofdstuk 2 en 6 gaan allebei in op de vraag of HRM / klimaat een gunstig effect heeft op zowel het presteren van de organisatie als op het welzijn van medewerkers, of dat HRM / klimaat een gunstig effect heeft op het presteren van de organisatie, maar niet op het welzijn van de medewerkers. Resultaten van een literatuuroverzichtstudie (hoofdstuk 2) tonen aan dat de rol van welzijn afhangt van het type welzijn. HRM heeft een positief effect op werkgeluk en werkrelaties. Voor gezondheid vinden we dat HRM geen en in sommige studies zelfs een negatief effect heeft. In hoofdstuk 6 onderzoeken we de rol van werktevredenheid in de relatie tussen twee types klimaat en organisatieprestatie (klimaat gericht op efficiency en klimaat gericht op klantgerichtheid). We testen of werktevredenheid een mediator vormt tussen de klimaattypes en prestatie. Daarnaast testen we of een klimaat gericht op efficiency voornamelijk gerelateerd is aan organisatieprestatie, terwijl een klimaat gericht op klantgerichtheid voornamelijk gerelateerd is aan werktevredenheid. De studie toont aan dat tevredenheid geen mediërende factor vormt in de relatie tussen de twee klimaattypes en organisatieprestatie. Klimaat gericht op efficiency is gerelateerd aan organisatieprestatie, terwijl een klimaat gericht op klantgerichtheid gerelateerd is aan werktevredenheid. Daarnaast vonden we een trade-off: klimaat gericht op efficiency op tijdstip 1 is negatief gerelateerd aan

werktevredenheid op tijdstip 2, terwijl klimaat gericht op klantgerichtheid op tijdstip 1 negatief gerelateerd is aan organisatieprestatie op tijdstip 2.

3. Het versterken van de praktische relevantie van wetenschappelijk onderzoek

De derde uitdaging is een bijdrage te leveren aan het dichten van de kloof tussen wetenschap en praktijk. In dit proefschrift geven we een voorbeeld van hoe organisaties meer inzicht kunnen krijgen in causale processen tussen HRM en prestatie. Deze informatie is van belang bij het ontwikkelen, implementeren en gebruiken van scorecards. In hoofdstuk 3 stellen we vijf criteria op voor het vergelijken van informatie uit medewerkervragenlijsten op vestigingsniveau. Deze criteria zijn: het ontstaan van gedeelde percepties, referent gebruik, twee types intraklasse correlatie coëfficiënten en een index voor overeenstemming tussen beoordelaars. In hoofdstuk 5 geven we een illustratie van hoe informatie uit medewerkervragenlijsten gebruikt kan worden in scorecards, als indicator van de HRM interventies die toegepast zijn binnen een organisatie. We tonen aan dat met informatie uit medewerkervragenlijsten toekomstige prestaties voorspeld kunnen worden. Door gebruik te maken van een longitudinaal design tonen we aan dat 10,8 procent van de variantie in prestatie verklaard kan worden door vragenlijstinformatie. Dit resultaat wordt ook vertaald in relevante managementinformatie (hoofdstuk 5). Wat neerkomt op een jaarlijks bedrag van 178 miljoen Euro voor de gehele organisatie van 300 vestigingen met 35.000 medewerkers (op basis van gegevens uit 2003).

4. Het verbeteren van onderzoeksmethoden

De laatste uitdaging betreft het verbeteren van onderzoeksmethoden. Gebruikmakend van een unieke dataset kunnen we de methodologische kwaliteit van eerder onderzoek verbeteren. Als eerste maken we gebruik van een longitudinaal design, medewerkerspercepties en ervaringen en prestaties zijn twee keer gemeten. Daarnaast gebruiken we structurele vergelijkingsmodellen om de relaties te analyseren (hoofdstuk 4 - 6). We vinden dat vragenlijstinformatie en prestaties in een bepaalde mate stabiel zijn, dit houdt in dat een relatieve score op tijdstip 1 een voorspeller vormt voor de relatieve score op tijdstip 2. Verder tonen we aan dat goed presteren van een vestiging leidt tot minder toekomstonzekerheid, en tot hogere scores op klimaat voor efficiency en klimaat voor klantgerichtheid (hoofdstuk 5 en 6). Ook vinden we effecten in de tijd, tussen vragenlijstinformatie op tijdstip 1 en uitkomsten op tijdstip 2. Ten tweede maken we in dit onderzoek gebruik van meerdere HRM beoordelaars per vestiging (medewerkers), die een betrouwbaar oordeel leveren (hoofdstuk 3). Dit in tegenstelling tot onderzoek dat

gebruikt maakt van één HRM beoordelaar. Bovendien kunnen we controleren voor common method bias, door gebruik te maken van data uit twee bronnen (medewerkers en objectieve gegevens). Tot slot kunnen we controleren voor institutionele, bedrijfstak en organisatie verschillen door onderzoek te doen binnen één organisatie.

Implicaties

Terugblikkend op de vier uitdagingen van onderzoekers en managers op het gebied van de relatie tussen HRM en organisatieprestatie, worden in hoofdstuk 7 de resultaten en implicaties beschreven.

Dit proefschrift toont aan dat het integreren van HRM- en klimaatpercepties leidt tot een beter inzicht in de processen tussen HRM en organisatieprestatie. In het bijzonder de HRM- en klimaat dimensies die betrekking hebben op het communiceren van de organisatiedoelen blijken gerelateerd aan de vestigingsprestatie. Een verklaring hiervoor vormt het idee dat als medewerkers de organisatiedoelen beter kennen en daarnaar worden beloond, zij zich meer volgens die doelen gaan gedragen, wat een bijdrage levert aan het behalen van deze doelen.

Ten tweede levert dit proefschrift inzicht in de rol van welzijn in de relatie tussen HRM en organisatieprestatie. We tonen aan dat HRM een verschillend effect kan hebben op het welzijn van medewerkers afhankelijk van het type welzijn. Werkgeluk en werkrelatie zijn positief gerelateerd aan HRM, terwijl HRM echter geen of een negatief effect lijkt te hebben op gezondheid. Daarnaast toont dit proefschrift aan dat een klimaat gericht op efficiency positief bijdraagt aan het presteren van een vestiging, en dat een klimaat gericht op klantgerichtheid bijdraagt aan werktevredenheid. Bovendien tonen we aan dat het focussen op één type klimaat met één bepaalde uitkomst op den duur ten koste gaat van andere uitkomsten.

Ten derde wordt gebruik gemaakt van een voor HRM onderzoek innovatieve onderzoeksmethode. Het longitudinale karakter van de data en analyses, het gebruik van meerdere beoordelaars en databronnen binnen een organisatie levert ons inziens een diepgaand inzicht op in de dynamische processen tussen HRM, welzijn en prestatie. We concluderen dat het gebruik van secundaire vragenlijstdata en objectieve uitkomsten verzameld binnen één grote organisatie nieuwe kansen biedt voor het doen van wetenschappelijk onderzoek.

Dit proefschrift toont het belang van het opnemen van medewerkerinformatie in scorecards, mits deze informatie betrouwbaar is en een afspiegeling vormt van de HRM interventies in de organisatie. Het monitoren en managen van scores op

medewerkervragenlijsten is belangrijk: deze scores zijn te beïnvloeden, in tegenstelling tot veel van de externe factoren waar organisaties mee te maken hebben. Het managen van HRM, welzijn en prestaties kent daarentegen ook dilemma's. We tonen aan dat verschillende uitkomsten gerelateerd zijn aan verschillende HRM aspecten. Een keuze dient gemaakt te worden welke uitkomst geoptimaliseerd wordt. Daarnaast blijkt dat het focussen op één uitkomst op termijn ten koste kan gaan van andere uitkomsten. Dit leidt tot een tweede keuze: ofwel één uitkomst maximaliseren (ten koste van andere uitkomsten), of een balans tussen verschillende uitkomsten nastreven.

Samengevat, dit proefschrift richt zich op de rol van medewerkers in de relatie tussen HRM en organisatieprestatie. In dit proefschrift worden arbeids- en organisatiepsychologische theorieën in de SHRM literatuur geïntegreerd, en wordt de invloed van HRM op welzijn en prestatie vanuit een optimistisch en kritisch perspectief bestudeerd. Om deze twee dualiteiten te testen wordt een voor HRM onderzoek innovatief onderzoeksontwerp toegepast. Deze benadering (op zoek naar balans) geeft een completer beeld, relevant voor zowel HRM onderzoek als praktijk, van de interactieve relaties tussen HRM, het welzijn van medewerkers *en* het presteren van de organisatie.

Curriculum Vitae

Curriculum Vitae (English)

Karina Van De Voorde was born on 21 December 1981, in Middelburg, the Netherlands. After she graduated (cum laude) in Human Resource Studies at Tilburg University, she was appointed as junior teacher at the department of Human Resource Studies at Tilburg University. In 2006 she started to work on her dissertation about 'HRM, employee well-being and organizational performance: A balanced perspective'. Simultaneous to writing her Ph.D. thesis, she also worked on research projects on international human resource management, and the effect of human resource management on employee outcomes. She presented her work at international conferences, including the Academy of Management Meeting, SIOP conference, the EAWOP conference, the International Workshop on HRM, and the HRM Network Conference. In 2007, she won the best paper award at the International Workshop on HRM, in 2009 one of her papers was published in the best paper proceedings of the Organizational Behavior division of the Academy of Management. She has taught courses on human resource management and research methods and she has supervised both Bachelor's and Master's theses. Besides teaching, she has been involved in applied research for several large companies in the Netherlands. In addition, she has served as chair of the Doctoral Consortium HRM Network Conference (2007), as coordinator of Phresh (International network of Ph.D. students in HRM) and as a member of the Ph.D. council of the Faculty of Social and Behavioural Sciences at Tilburg University.

Curriculum Vitae (Dutch)

Karina van de Voorde is geboren op 21 december 1981 te Middelburg. Na het afronden (cum laude) van haar studie Personeelwetenschappen aan de Universiteit van Tilburg, werd ze aangesteld als juniordocent bij het departement Personeelwetenschappen. In 2006 begon Karina aan haar promotie onderzoek over 'HRM, employee well-being and organizational performance: A balanced perspective'. Tegelijkertijd werkte zij aan onderzoeksprojecten over international HRM, en de effecten van HRM op medewerkeruitkomsten. Karina presenteerde haar werk op internationale congressen, waaronder de Academy of Management (in Philadelphia en Chicago), de SIOP (in San Francisco), de EAWOP (in Stockholm en Santiago de Compostela), de

International Workshop on HRM (in Jerez de Frontera en Murcia), en het HRM Netwerk congres (in Tilburg en Amsterdam). In 2007 won zij de best paper award op de International Workshop on HRM, in 2009 was een van haar papers geselecteerd en gepubliceerd in de best paper proceedings van de Academy of Management. Naast onderzoek gaf Karina vakken over HRM, onderzoeksmethoden, en begeleidde zij afstudeeronderzoek. Naast onderwijs, was Karina betrokken bij toegepast onderzoek voor meedere grote Nederlandse organisaties. Karina organiseerde mede het PhD consortium van het HRM Netwerk congres (2007), was coordinator van Phresh (een netwerk van aio's in HRM), en was lid van de aio-raad van de Sociale Faculteit van de Universiteit van Tilburg.

Publications

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Stellingen

1. HRM heeft een positief effect op werkgeluk en werkrelaties. Voor gezondheid zijn de bevindingen minder eenduidig, maar wijzen erop dat gezondheid niet of zelfs negatief beïnvloed wordt door HRM.

2. Integratie van het medewerkersperspectief in onderzoek naar de relatie tussen HRM en prestatie loont: Veranderingen in HRM- en klimaatpercepties van medewerkers voorspellen 17,9 procent van de jaarlijkse winst.

3. Het motto 'meten is weten' bij het gebruik van scorecards als managementtool gaat alleen op als relevante gegevens betrouwbaar vergeleken worden, causale verbanden gelegd worden en praktische implicaties doorgerekend worden.

4. Productiviteit kan bevorderd worden door een klimaat voor effectiviteit te stimuleren, en werktevredenheid kan bevorderd worden door een klimaat voor klantgerichtheid te stimuleren. Echter, overmatige aandacht voor een klimaat voor effectiviteit gaat op termijn ten koste van tevreden werknemers en overmatige aandacht voor klantgerichtheid gaat op termijn ten koste van de productiviteit.

5. Toekomstig HRM onderzoek dient bij het onderzoeksdesign rekening te houden met de mogelijkheid dat HRM verschilt binnen organisaties en tussen medewerkers. Zo ook met de mogelijkheid dat HRM niet alleen van invloed is op uitkomsten, maar uitkomsten ook HRM kunnen beïnvloeden.

6. De kloof tussen wetenschap en praktijk dichten vergt inspanningen aan beide kanten.

7. Het insturen van een manuscript voor publicatie in een tijdschrift is 'like a box of chocolates. You never know what you're gonna get' (Forrest Gump, 1994).

The impact of HRM on organizational performance has become the dominant topic in HR research. Although a large body of empirical research has shown that HRM has a substantial effect on company performance, little research has been done on the role of employees in this relationship. This thesis integrates employees in research on the HRM-performance linkage. First, the OB perspective (climate, perceptions of HRM, and employee well-being literature) is aligned towards the topic of (S)HRM and performance. Secondly, the mutual gains and conflicting outcomes perspectives on the effects of HRM on employee well-being and organizational performance are tested. In addition, to bridge the gap between research and practice, this thesis focuses on implications for HR practice, in particular in the context of workforce scorecards. Finally, to overcome some of the methodological shortcomings of prior research, research methodologies innovative in the field of HRM are applied.