Examining the impact of human resources management: A performance based analytic model

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EXAMINING THE IMPACT OF HUMAN RESOURCES MANAGEMENT:
A PERFORMANCE BASED ANALYTIC MODEL.

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ABSTRACT

Examining the Impact of Human Resources Management: A Performance Based Analytic Model  

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This dissertation investigated the direct effects of human resource management (HRM) practices on organizational performance in the hotel industry. The main goal of this study was to develop the conceptual model to measure the direct effects of the six domains of HRM practices on the three measures of organizational performance. To accomplish the main goal of this study, three sub-objectives were investigated. The first sub-objective was to develop a valid and reliable HRM measurement model. The second sub-objective was to investigate the direct effects of the HRM constructs on the three measures of organizational performance. The third sub-objective of this study was to investigate the interrelationships among the three measures of organizational performance which were influenced by the HRM practices.  

This study addressed three measurement challenges that human resource researchers have suggested: data collected for business unit level companies; data collected separately for managerial and non-managerial employee groups; and, testing interrelationships among three organizational performance measures.
Since this study was exploratory in nature, the measurement scales for HRM constructs and organizational performance had to be developed based on the pre-existing literature. To test validity and reliability of the measurement scales, confirmatory factor analyses were conducted. The results of CFAs showed that the measurement scales were indeed valid and reliable. Structural equation modeling was employed to examine the direct effects of HRM constructs and organizational performance measures and the interrelationships among the organizational performance measures.

The results indicated that the effects of HRM implemented for a managerial employee group on an organization’s performance were different than the ones implemented for a non-managerial employee group. The lower turnover rates influenced by HRM practices had positive impact on labor productivity and the higher labor productivity influenced by HRM practices increased revenue per available room. The analyses examining the direct effects of HRM constructs on the three measures of organizational performance showed mixed results; some HRM constructs had positive effects and some HRM constructs had negative effects on organizational performance.
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CHAPTER 1

INTRODUCTION

Problem Statement

Although many companies frequently argue that their employees are their most important asset (Lawler & Mohrman, 2003), human resources have long been recognized as a business liability rather than a company asset. For the last decade, however, many academicians and practitioners have attempted to link human resources and organizational performance. Human resources have increasingly affected firms’ market valuations, although it does not appear on companies’ financial statements (Lev, 2001).

Porter (1985) argued that organizations acquire a competitive advantage by acquiring resources that competitors could not easily duplicate, thereby having performance superior to the competition. Because traditional assets such as natural resources, technology, and economies of scales have lost their competitive edge, human resources have replaced them as a main source of competitive advantage (Wright, McMahan, & McWilliams, 1994). High quality human resources also enable organizations to compete on the basis of market responsiveness, quality of product and service, differentiated products, and technological innovation (Ulrich, 1987). Therefore, effective human resource management (HRM) practices assist in developing human resources into a high-quality and efficient workforce, thus the HRM practices lead organizations to obtain a
competitive advantage through their people. By contrast, an inefficient workforce can increase labor costs and decrease an organization's productivity.

It is known that HRM can positively affect organizational performance. Numerous studies have shown a positive relationship between effective HRM and organizational performance (e.g., Becker & Huselid, 1998; Huselid, 1995; Terpstra & Rozell, 1993). Academicians have also argued that traditional HRM that emphasizes functional roles in organizations no longer contributes to business success. Because of this, researchers have urged companies to transform their HRM into a more strategy-oriented one. A number of studies have proposed that the rapidly changing environment requires function-focused HRM to be a business partner and to align itself with the business to sustain the success of that business (Lawler & Mohrman, 2003; Ulrich, 1997).

Despite the abundant studies which revealed positive effects of HRM on a firm's performance, the main reason why this study is needed is that there is no consistent agreement on how to measure effective HRM and what to measure in regard to organizational performance, including intangible and tangible organizational performance indicators. Most studies used different sets of questions and measures for HRM and used different indicators for organizational performance (Cho & Mayer, 2003). Furthermore, most indicators of organizational performance are developed for public trading companies. Market value is such a measure (Bamberger & Meshoulam, 2000; Huselid, 1995). This suggests another technical difficulty, the lack of adequate measures for companies at business unit levels who want to evaluate their HRM practices and policies.

The other urgent call for this study is attributed to the uniqueness of the hospitality industry. Historically, payroll expenses have accounted for the major part of operating
expenses in the hospitality industry. Labor costs, including salaries, wages, and benefits, represent 33% of total revenue and 43% of total operating expenses for the lodging segment (Quek, 2000). Controlling labor costs while satisfying customer needs is crucial to the success of any hospitality operation. Despite a compelling need, the effectiveness of human resources has not been thoroughly studied in the hospitality industry. Furthermore, there is no research on how HRM affects an organizations’ bottom line performance in the hospitality organizations.

Purpose of the Research

This study had a three-fold purpose. One of the goals was to develop a conceptual model to measure the effects of HRM on organizational performance. The model examined organizational performance outcomes that companies at a business unit level could use to measure the effectiveness of their human resources. As Bamberger and Meshoulam (2000) noted, one of the challenges that HR researchers face is tailoring measurements for both dependent (e.g. firm performance) and independent (effective HRM practices) variables. Previous studies conducted with samples of public trading companies emphasized measuring market valuation, which companies at the business unit level have difficulty using to measure the impact of human resources on financial performance (Bamberger & Meshoulam, 2000).

The second goal was to develop measurements of HRM. Abundant studies have developed either individual or bundles of HRM practices, but there is no consensus on how to measure the effect of HRM and what to measure for effective HRM practices.

In reviewing the literature, three main research questions have emerged:

1. How do hospitality organizations attract, develop, motivate, and maintain high-
performing human resources that add value to the organizations?;

2. Does an effective HRM system add value to an organization's success?; and,

3. How can organizational performance be operationalized?

The seven hypotheses to be tested in this study that are derived from the research objectives stated next.

Hypotheses

The seven hypotheses to be tested are as follows:

Hypothesis 1: There will be a positive relationship between staffing and organizational performance.

   H1-1: Staffing directly affects lower turnover rates.

   H1-2: Staffing directly affects higher labor productivity.

   H1-3: Staffing directly affects higher sales growth rates and RevPar.

Hypothesis 2: There will be a positive relationship between training and development and organizational performance.

   H2-1: Training and development directly affect lower turnover rates.

   H2-2: Training and development directly affect higher labor productivity.

   H2-3: Training and development directly affect higher sales growth rates and RevPar.

Hypothesis 3: There will be a positive relationship between performance appraisal and organizational performance.

   H3-1: Performance appraisal directly affects lower turnover rates.

   H3-2: Performance appraisal directly affects higher labor productivity.
H3-3: Performance appraisal directly affects higher sales growth rates and RevPar.

Hypothesis 4: There will be a positive relationship between performance rewards and organizational performance.

H4-1: Performance rewards directly affect lower turnover rates.

H4-2: Performance rewards directly affect higher labor productivity.

H4-3: Performance rewards directly affect higher sales growth rates and RevPar.

Hypothesis 5: There will be a positive relationship between employee relations and organizational performance.

H5-1: Employee relations directly affect lower turnover rates.

H5-2: Employee relations directly affect higher labor productivity.

H5-3: Employee relations directly affect higher sales growth rates and RevPar.

Hypothesis 6: There will be a positive relationship between internal communication systems and organizational performance.

H6-1: Internal communication systems directly affect lower turnover rate

H6-2: Internal communication systems directly affect higher labor productivity.

H6-3: Internal communication systems directly affect higher sales growth rates and RevPar.

Hypothesis 7: There will be significant interrelationships among organizational performance measures.

H7-1: Turnover rates directly affect labor productivity.

H7-2: Turnover rates directly affect sales growth rates.

H7-3: Turnover rates directly affect RevPar.

H7-4: Labor productivity directly affects sales growth rates.
H7-5: Labor productivity directly affects RevPar.

The analysis methods that will be used to test the hypotheses are presented in Chapter 3. The results of testing the hypotheses are discussed in Chapter 4.

Significance of the Research

The main purpose of this study was to develop an empirical model to measure the impact of HRM practices on organizational performance for the hospitality industry. This model will be available for anyone who wants to evaluate their HRM. The model contains two main themes. One theme, depicted on the left side of the model, represents domains of HRM practices. The other theme depicted on the left side of the model shows measures of organizational performance.

This study should be valuable for both academicians and practitioners. For academicians, the study presents empirical findings on domains of HRM practices so that they can reexamine the domains. For practitioners, this study is valuable in determining what to measure and how to measure HRM, and how to link HRM and organizational performance.

Outline of Subsequent Chapters

This dissertation includes five chapters. In Chapter 1 the overall purpose of the study was explained. Chapter 2 reviews the available literature on HRM and organizational performance. The literature review on HRM focuses on which HRM practices should be measured and on evaluation issues on organizational performance. Once the domains of effective HRM are examined, the literature review shifts to appropriate indicators of
organizational performance, including intangible and tangible measures, are discussed. Chapter 3 details the model, hypotheses, and methodology issues. The model developed through the literature review is the blueprint of this study and shows linkages between each HRM domain and individual organizational performance indicators. Hypotheses are developed based on previous findings and theories. Validity and reliability issues of survey instruments are discussed. The methodology section of Chapter 3 discusses data collection procedures and statistical analyses. Chapter 4 examines the model and hypotheses and presents results of the statistical analyses. Chapter 5 is the final chapter. In chapter 5 a brief summary of the study is delineated and the conclusions and implications for the hospitality industry as well as recommendations for future studies are discussed.
CHAPTER 2

LITERATURE REVIEW

Introduction

This chapter reviews the literature on effective HRM practices. The challenges of reviewing the literature in this study were to integrate each HRM practice as a whole system and to incorporate operational and financial performance measures that can be used to evaluate the effectiveness of HRM practices for lodging organizations. The literature review on effective HRM practices focused on three primary areas:

1. The current developments in the domains of measuring HRM practices; and.
2. The empirical applicability of organizational performance measurements of effective HRM.

In the first section of this chapter, six domains of measuring HRM practices and detailed HRM practices included in each domain and previous findings of a HRM practice on firm performance are presented. This section focused on the literature about the detailed HRM practices which suggested having positive impacts on organizational performance by previous studies.

The second section of this chapter was devoted to reviewing the literature on indicators of organizational performance influenced by organizations’ HRM programs and policies.
Domains of Measuring Human Resources Management

Academics have emphasized the impact of human resources on organizational performance because of its importance in helping an organization to achieve its business goals faster, to compete with competitors successfully, and to survive in the long run in an unpredictable business environment. Furthermore, a number of researchers have attempted to measure the effect of HRM practices on a firm’s performance from its employees’ satisfaction to its market value (e.g., Becker & Huselid, 1998; Kalleberg & Moody, 1994). However, many academicians and professionals do not agree on what to measure as far as effective HRM practices are concerned or how to measure them. Some HRM researchers have suggested several domains of HRM practices in terms of influencing an organization’s performance (Ulrich, 1997; Ulrich & Lake, 1990; Watson Wyatt, 2001).

Ulrich and Lake (1990) suggested six domains of effective HRM: staffing; training and development; employee performance appraisal; employee performance rewards; organization design; and, communication. They argued that staffing is the most critical function among management practices because the quality of an organization’s people has a great significant impact on long-term success. Training and developing employees play an important role as well when a company decides to build necessary competencies within existing employees. Reinforcing employees’ behavior in consisting with the competencies required is carried out through appraising and rewarding employees’ performance after a company has generated its competencies necessary (Ulrich & Lake, 1990). Ulrich and Lake (1990) suggested organizational design and communication are necessary for the primary HRM practices to sustain a company’s competencies once
staffing, training and development, appraisal, and rewarding practices are in place. They suggested that companies should begin to analyze their HRM through answering the following questions.

Staffing

- Who is hired into the organization?
- Who is promoted within the organization?
- Who is outplaced from the organization?

Training and development

- How can training generate personal competencies among employees?
- How can alternative activities generate personal competencies?

Appraisal

- What are the performance standards of individuals, groups, and departments within the organization?
- What mechanisms exist for giving feedback to employees about how well their performance meets established standards?

Reward

- What are the criteria for selecting alternative reward systems?
- What alternative types of financial rewards can be used to reinforce behavior?
- What alternative types of nonfinancial rewards can be used to reinforce behavior?

Organization design

- What should be the shape of the organization, for example, how many levels, what roles, what reporting relationships, what division of labor?
• What type of governance system should be established in the organization to allocate responsibility and ensure accountability?

• What processes can be managed to reassess organization design on an ongoing basis?

Communication

• What information should be shared in the organization?

• Who should be involved in sharing and receiving the information?

• How can information be shared most effectively?

Watson Wyatt Company (2001) developed a human capital index to investigate a relationship between human capital and a firm's financial performance. The human capital index includes six HRM practices: total rewards and accountability; collegial and flexible workplace; recruiting and retention excellence; communications integrity; focused HR service technologies; and, prudent use of resources. Total rewards and accountability refers to the compensation and benefit and performance reward systems. Collegial, flexible workplace includes management leadership, employee satisfaction, and teamwork. Recruiting and retention excellence refers to hiring practices, recruiting strategies, and orientation. Communication integrity measures communication channels and system. Focused HR service-technologies refer to the usage of HR technology with fundamental goals such as improving accuracy, service and cost-effectiveness. Prudent use of resources includes 360-feedback and radical practices of training and employee evaluation. According to the Watson Wyatt’s study, all five practices except prudent use of resources have positive impacts on organizational market value. Prudent use of resources had a negative relationship with market value.
A study ("Best practices," n.a., 1999) conducted by Cornell University revealed six best-practice-areas of HRM: measuring and building employee satisfaction and loyalty; designing selection and retention systems; developing employee training and development; designing employee compensation and rewards; developing employee performance standards and appraisal strategies; and, diversity management.

Based on the literature review, measures of HRM practices in this study were categorized into six domains: (1) staffing, (2) training and development, (3) employee performance appraisal, (4) employee performance rewards, (5) employee relations, and (6) internal communication system.

**Staffing**

Staffing includes employment planning and forecasting, recruiting, and selecting employees. Hiring the right person is one of the most important HRM functions in the hospitality industry (Crowley, 1999; Johnson, 2000). If a company hires the right person in the first place, the company can save much of managers’ training effort and time. Furthermore, retention rates will increase and turnover rates will decrease by hiring the right people. Thus, the staffing practice leads to financial success and therefore, results in increases in organizational performance (Terpstra & Rozell, 1993). For example, Southwest Airlines claims that attracting and hiring the best people for the company is the key to the airline’s success (Czaplewski, Ferguson, & Milliman, 2001). The question becomes how a company identify a job applicant is the right person for the company.

Successful staffing starts with accurate employment planning and forecasting. Employment planning and forecasting involve determining future human resources supply and demand. Employment planning and forecasting are also key in the decision-
making process of determining a standard of core talents that need to be hired. Southwest airlines claims that this standard for potential employees has led the company to its success (Czaplewski, Ferguson, & Milliman, 2001).

There are two main sources for identifying prospective candidates. Companies can recruit candidates either internally or externally. Internal recruiting has benefits of cost efficiency and increases employee motivation and moral by rewarding the good work of current employees through either horizontal or vertical movement within a company. Hygiene theory (Herzberg, 1966) explains that internal recruiting recognizes employees’ good work, and that recognition fulfills employees’ needs for advancement and growth. Herzberg (1966) stated that fulfilling the need for psychological growth provides intrinsic rewards to employees that leads to employee satisfaction. As a famous apothegm states, happy workers perform better than unhappy workers do (e.g., Brayfield & Crockett, 1955; Jaffaldano & Muchinsky, 1985; Judge, Bono, Thoresen, & Patton, 2001). On the other hand, internal recruiting has several disadvantages (Gomez-Mejia, Balkin, & Cardy, 2001). Internal recruiting can produce organization inbreeding, and internal candidates may have limited perspectives on business environment and management skills. Internal recruiting also puts a heavy burden on training and development. It may also cause political infighting for promotions among co-workers. According to a Saratoga Institute report (2001), internal employment placements cost more than external recruitments which may affect decreased profits.

The alternative to internal recruiting is to recruit potential employees externally. The external recruiting method is recruiting prospective employees from outside of the company. External recruitment has several advantages over internal recruitment (Gomez-
Mejia et al., 2001). Outside candidates often bring new ideas and talent, provide cross-industry insights, reduce training costs, and help organizations meet equal employment opportunity (EEO) requirements. Yet, recruiting externally may cause morale problems for internal candidates when a current employee did not get the job that he or she applied for and the disappointed employee may blame the manager or management for the unsuccessful replacement.

Once a company identified what kind of talents that it looks for and where it can recruit prospective employees possessing the talent required, the company needs to decide how to select the right person among job applicants. Gomez-Mejia et al., (2001) suggested eleven employee selection tools as job performance predictors: letters of recommendation; application forms; ability tests; personality tests; psychological tests; interviews; assessment centers; drug tests; honesty tests; reference checks; and, handwriting analysis (graphology). Interviews, resumes and application forms, and references and recommendations were the most frequently used to screen job applications in credit unions (Yancey, 2000). Among the three staffing practices, credit union human resource executives indicated that the interview was the best predictor. In particular, structured interviews had larger validity coefficients than interviews with little determined structure (Moscoso, 2000; Salgado, 1999).

Pre-employment tests, including ability tests, personality tests, and psychological tests, are perceived as good predictors for job performance. A psychological test is a technique for assessing the potential for a successful match between people and jobs (Venne, 1987). After World War II, the large-scale usage of psychological tests spread to industries and continued to grow in the United States until the 1960s (Venne, 1987).
American companies increasingly used psychological tests in the 1950s and 1960s (Berger & Ghei, 1995). However, with the Civil Rights Act of 1964, particularly the Title VII Equal Employment Opportunity Act, the use of psychological tests declined. Psychological tests were discarded by most companies because of the potential for discrimination and discrimination lawsuits arising from their improper use at that time. However, they now seem to be making a comeback as a useful predictive tool in the hospitality industry. McHenry (1997) found that using psychological tests grew 65% from 1980 to 1990. According to the Society for HRM, approximately 22% of companies in the United States used psychological tests to select candidates for managerial positions in 1997 (Ciarmello, 1998). One study (Cho & Woods, 2000) showed a similar percentage (23%) where using psychology tests in the hospitality industry. Shaffer and Schmidt (1999) indicated that 40% of Future 100 companies employed some kind of psychological tests for employee selection.

In Cho and Woods’ study (2000), human resource directors in hotels and restaurants indicated that psychological tests were effective for selecting the right person for their companies. A group of convenience stores experienced a 50% reduction in inventory shrinkage after implementing integrity tests over an 18-month period (Shaffer & Schmidt, 1999). Personality was perceived as more important for successful managers of upscale restaurants than for those of midscale and quick-service restaurants (Emenheiser, Clay, & Palakurthi, 1998). Although there have been few studies conducted on methods of selecting employees in the hospitality industry, Ineson and Brown (1992) found that employee candidates’ biodata was a good predictor for selecting the right kind of employees.
Terpstra and Rozell (1993) investigated the relationship between five staffing practices and annual profit, profit growth, sales growth, and overall organizational performance. The five staffing practices were: (a) the use of follow-up studies of recruiting sources to determine which sources yielded greater proportions of high-performing employees; (b) the use of validation studies on the tests or predictors; (c) the use of structured, standardized interviews; (d) the use of intelligence tests; and, (e) the use of biographical information forms or weighted application forms. They found that all five staffing practices had significant effects on the four indicators of organizational performance.

Training and Development

Swanson (1995, p.222) defined training and development as “a process of systematically developing expertise in individuals for the purpose of improving performance.” An organization strategically implements training and development programs to improve employees’ skills and knowledge for their current jobs and to make employees to prepare for future jobs. Training and development start with a training needs assessment and complete with measuring outcomes.

A training needs assessment is “the process of determining the organization’s training needs and seeks to answer the question of whether the organization’s needs, objectives, and problems can be met or addressed by training” (Arthur & Bennett, 2003, p.237). Thus, needs assessment is a process of identifying “the gap(s) between optimal performance and actual performance” (Breiter & Woods, 1997, p. 88).

Needs assessment is the critical initial step to training (Breiter & Woods, 1997), and can significantly affect the success of training and development (Goldstein & Ford, 2002;
Sleerzer, 1993; Zemke, 1994). Despite the critical role of needs assessment in effective training outcomes, few companies actually employ needs assessments prior to designing and developing training programs (Breiter & Woods, 1997). Furthermore, few studies have examined the relationship of needs assessment to training outcomes.

Once tasks and employees who need training are identified, a training program is developed and conducted. After conducting training and development programs, effectiveness of the programs should be measured. According to one study, companies in the service industry spent an average of $837 for an employee on training during 2001 (“Training expenses,” n.a., 2002). Following this estimated training expenses, a company with 100 employees is spending $83,700 annually. These expenses are estimates before considering lost work hours and productivity. Therefore, it is a necessary management practice to measure the return on investment on training and development for organizations to increase their profits.

Kirkpatrick (1956, cited in Gomez-Mejia et al., 2001) suggested measuring effectiveness of training at four levels. The four levels are reaction, learning, behavior, and results. The first level is measuring trainees’ reactions to a training program. Trainers ask trainees how they feel about the training program, whether they liked or disliked it, at the end of the training session. Measuring trainees’ reaction provides somewhat valuable information about the training program itself, but has limited value for measuring effects on return on investment. In other words, measuring only trainee reaction does not reveal whether training and development programs affect on increasing organization’s value. In spite of the fact that measuring trainees’ reaction does not show a relationship between training and its effectiveness, measuring trainees’ reaction is the most commonly used
training evaluation method (Arthur & Bennett, 2003). According to a study, 78% of the participated organizations said that they used reaction measures, followed by 32%, 9%, and 7% for learning, behavioral, and results measures, respectively (Van Buren & Erskine, 2002, cited in Arthur & Bennett, 2003). Tracey and Cardenas (1997) argued that assessing trainee reaction does not show the true impact on performance at the organizational level.

The second level of measuring training effectiveness is to measure the learning outcomes of training and development. It measures how much participants’ knowledge, skills, and attitudes have been increased or changed from before to after a training program. Learning measures are normally operationalized by using paper-and-pencil pre- and post-tests. Positive learning outcomes might be necessary but “not sufficient prerequisite for behavior changes” (Tannenbaum & Yukl, 1992, p. 425).

The third level of the Kirkpatrick model, behavior measures, identifies effects of on-the-job performance (Arthur & Bennett, 2003). Behavior measures evaluate changes in participants’ job-related behavior pre and post training. Although learning and behavioral changes do not uncover numerical or monetary effects, increases in employee knowledge, skills, attitudes, and behavior must be followed by increases in the firm’s bottom line performance. Garavan (1997) found that there was significant improvement in customer service quality after training in lodging industry.

The fourth level of Kirkpatrick training effectiveness model measures how training and development programs affect organizational goals. Whereas the previous three levels—reaction, learning, and behavior—focus on individual-level measures, results emphasize effects at the organizational level. Results are assessed in terms of return on
investment (ROI). At this level, costs and benefits of training and development are compared, and it is concluded that there is a positive return on investment if benefits are higher than costs.

Self-efficacy theory has often been used to rationalize the positive relationship between training and development and an organization’s success. Self-efficacy refers to “a belief in one’s capabilities to successfully perform a specific task” (Bandura, 1986 in Saks, 1996, p. 126). Social learning theorists (e.g., Bandura, 1982, 1989; Zimmerman, Bandura, & Martinez-Pons, 1992) have argued that people’s beliefs in their own capability affect their behavior, the choice of activities, their efforts, and ultimately their learning and performance (Ormrod, 1999). Self-efficacy theory explains that a person with high self-efficacy sets a realistic but hard to achieve goal and tries with all his or her effort to accomplish the goal. A person with low self-efficacy does not try hard enough to achieve goals because of the belief that he or she does not have the capability to perform the task. Research has showed that training can strengthen employees’ self-efficacy, which results in increased performance (Gist, Stevens, & Bavetta, 1991; Martocchio, 1994). In a study by Tannenbaum, Mathieu, Salas, and Cannon-Bowers (1991), trainees showed significant improvement in their self-efficacy after completion of training. Tannenbaum et al. (1991) also found that trainees’ post-training attitudes and performance were significantly related to trainees’ self-efficacy.

Numerous studies have suggested that training and development play critical roles in developing and maintaining competitive advantages (e.g., Barrett & O’Connell, 2001; Cho et al., 2001; Saks, 1996). Training and development have significant direct effects on employee retention (Panitz, 1999) and significant indirect effects on organizational
commitment (Roehl & Swerdlow, 1999). Saks (1996) found that training was significantly related to newcomers' job attitudes such as intention to quit, commitment, and job satisfaction. Barrett and O'Connell (2001) found that longer training days increased labor productivity. The number of hours of training also had a significant effect on turnover rates for employees and managers (Cho et al., 2001). One study found that companies spending $218 per employee in training and development had a 16% turnover rate, whereas companies spending $273 per employee had less than a 7% turnover rate ("Training proves," n.a., 2001).

Due to the positive effects of training and development on organizational performance, more companies have increasingly emphasized the importance of training and development to maintain competitive advantage and to enhance employee skills, knowledge, and ability. In 2000, organizations with 100 or more employees in the United States planned to spend $54 billion on employee training and development annually (Industry report, 2000).

Despite their importance in business success, training and development have received less attention in hospitality organizations than in other industries (Barrow, 2000; Wilson, Murray, Black, & McDowell, 1998). Breiter and Woods (1997) found that 65% of participating hotels spent less than 1.5% of payroll costs on training, whereas ASTD recommended 2.5% of payroll costs (Kimmerling, 1993). Clements and Josiam (1995) noted the reason for the lack of training programs in the hospitality industry was that the benefits of training are rather nebulous, whereas the costs are up-front and evident. Additionally, another reason could be attributed to academicians who have not successfully demonstrated the effects of training and development on organizational
performance. Many studies in the hospitality industry have focused on training techniques and tools (Harris, 1997; Harris & Bonn, 2000; Harris & Cannon, 1994) rather than investigating whether training and development bring positive returns on investment at individual and organizational levels.

**Performance Appraisal**

Performance appraisals focus on identifying, encouraging, measuring, evaluating, and improving employee performance. Mathis and Jackson (2003, p.342) defined performance appraisal as “the process of evaluating how well employees perform their jobs when compared to a set of standards, and then communicating that information to those employees.” Cleveland, Murphy, and Williams (1989) suggested four usages of performance appraisal: (a) between individuals (i.e., for salary administration, promotion, and identifying poor performance); (b) within individuals (i.e., for identifying individual strength and weaknesses, identifying individual training needs, and performance feedback); (c) systems maintenance (i.e., for identifying organizational training needs, evaluating goal achievement, and assisting goal identification); and, (d) documentation (i.e., for criteria for validation research, documenting personnel decisions, and meeting legal requirements).

According to Thomas and Bretz’s (1994), the first important use of performance appraisal is to improve work performance, followed by administering merit pay and advising employees of work expectations, the second and the third important uses, respectively. Recent studies have suggested that performance appraisal improves employee job performance (Shah & Murphy, 1995; Smith, Hornsby, & Shirmeyer, 1996). Woods, Sciarini, and Breiter (1998) found that performance appraisals were used for
compensation decisions by 86.4% of the hotels, for employee objectives (78% of the hotels), for assessing training needs (73% of the hotels), and for promotions (65% of the hotels). Their study also found that 95% of the hotels perceived that performance appraisals were important to successful job performance. Another study found that 36% of the participating companies responded that they did not have the standardized performance appraisal procedures (Shah & Murphy, 1995).

Bretz, Milkovich, and Read (1992) found that for employees at higher organizational levels, companies spent 7 hours per year assessing the employees' performance and 3 hours for an employee at lower levels. Longenecker and Goff (1992, p.21) found that three most important reasons for ineffective performance appraisals from the perspective of management were “(1) lack of information on subordinate’s actual performance, (2) employee defensiveness/bad attitude, and (3) taking insufficient time to prepare” and from the subordinate perspective “process not taken seriously by the manager, unclear performance standards/subjective ratings, and manager has insufficient knowledge of subordinate’s performance.” Most companies require a review and feedback session as a part of the performance appraisal process. Dorfman, Stephan, and Loveland (1986) showed that a review and feedback session with performance appraisals increased employee overall satisfaction and employee motivation. Feedback on employee performance also increases employees’ performance (Kluger & DeNisi, 1996; London, Larsen, & Thisted, 1999). However, Kluger and DeNisi’s study (1996) also showed that in over 33% of the literature reviewed feedback indeed reduced job performance. The authors concluded that feedback should be given in a constructive way in order to increase performance. Studies showed that lodging properties required a feedback session
with employees less often (Woods, Sciarini, & Breiter, 1998) than companies in other industries (Smith, Hornsby, & Shirmeyer, 1996).

Mathis and Jackson (2003) stated that performance appraisals are the managerial processes of evaluating employees’ performance against a set of standards. A set of standards refers to goals set up in advance between employees and managers. A goal set up in advance can be an anchor motivating employees to achieve the goal in a given time period. Goal setting theory explains this by depicting the positive relationship between performance appraisal and job performance. Goal setting theory suggests that behavior is driven by goals that are specific and difficult but that are achievable. Numerous studies have shown that specific and difficult but achievable goals increases employee productivity significantly (Latham & Saari, 1982; Locke & Latham, 1984, 2002). Terpstra and Rozell (1994) conducted a study of the relationship between goal setting theory and organizational profitability. They found that companies employing goal setting to increase employee performance showed higher profitability. Locke and Latham (1990) argued that there would be no reinforcing effects on performance in absence of goal setting. In other words, feedback on employee performance on goals that a supervisor and subordinates have agreed on for a specified time limit acts as a reinforcer so that feedback truly changes employee behavior and increases performance.

**Performance Rewards**

Performance rewards emphasize how to increase employee performance through rewarding their good work. Performance rewards are designed to motivate employees to increase their morale, commitment, productivity, and teamwork. Organizations reward an employee’s performance with either monetary incentives or non-monetary rewards such
as social attention or recognition. A survey reported that Fortune 1000 firms used monetary reward plans (Lawler & Mohrman, 1995). A meta-analytic study (Luthans & Stajkovic, 1999) found that monetary rewards improved employee performance by 39% in manufacturing organizations and by 14% in service organizations. Social attention or recognition reward programs led employees to performance improvement by 15% in service firms. Banker, Potter, and Srinivasan (2000) conducted a longitudinal study of the effectiveness of incentive plans in the hotel industry. The study showed incentive plans resulted in increased revenue and profit and in decreased cost. According to Medoff and Abraham (1980), however, two large manufacturing firms showed that monetary incentive was not closely related to employee performance, despite the firms’ merit pay reward systems.

Pay-for-performance programs, such as incentive or merit pay programs, are designed to reward employees in monetary terms for good performance. According to Lawler (1987, p.255), “reward systems are one of the most prominent and frequently discussed features of organizations.” An effective reward system is the backbone of HRM policies and practices (Alpander, 1982, cited in Lowery, Petty, & Thompson, 1995). However, there are mixed results for effectiveness of pay for performance. Lowery, Petty, and Thompson’s (1995) study found that incentive plans had a positive effect on improving employee work habits and performance, but no effect on productivity and work quality. Heneman’s (1992) study showed that a monetary reward plan positively influenced employee motivation and performance. Marler, Milkovich, and Yanadori (2002) found that higher performance companies paid higher incentives than lower performing organizations. This finding indicates that higher incentives do not lead to higher firm
performance; rather higher performance companies provide higher incentives. The study also showed that higher performing organizations paid less incentive to employees at lower levels within the organizations.

Pay for performance is classified into two categories: individual-based and team-based programs. Individual-based plans include piecework incentives, standard hour programs, merit pay, bonus programs, on-time awards, and commissions. Team-based pay-for-performance programs include cost-saving plans, profit-sharing plans, and stock ownership. Individual-based plans refer to rewarding an individual’s performance improvement, and team-based programs refer to rewarding a team’s improved performance. Team-based incentive programs such as profit sharing or stock ownership have received much attention despite the free-rider problem (Baker, Jensen, & Murphy, 1988) and a lack of fit with individualism culture. Some research noted that most employees preferred to be paid on individual-based performance rather than on team or organization-based performance (Cable & Judge, 1994). Yet, several studies suggested positive effects of pay for performance on a team-basis (Ehrenberg & Milkovich, 1987; Gerhart & Milkovich, 1990; Welbourne & Andrews, 1996). Gerhart and Milkovich (1990) reported that companies offering stock options to 80% of managers had 25% higher returns on assets than companies where only 20% of managers were eligible for stock options. Welbourne and Andrews (1996) found that new companies had higher survival rates when more employees received organizational-performance-based pay than companies where fewer employees were eligible for organizational-performance-based pay. Cooke (1994, p.598) explained the logic of positive impact of group-based incentives using the studies of Weitzman and Kruse (1990) and Kruse (1993):
If employees’ earnings are tied to [team-] performance, they will adjust their effort to optimize income. Because bonuses are tied to overall workforce effort, employees have an incentive to work more cooperatively among themselves. Group based incentives, consequently, reduce the monitoring costs associated with supervisory control.

The effectiveness of rewarding performance has been explained by several organizational behavior theories. Maslow’s (1943) hierarchy of needs theory, and Herzberg’s (1966) two factors theory are the most commonly applied to illustrate the impact of rewarding performance on organizational performance.

According to Maslow’s (1943) hierarchy of needs theory, humans have five hierarchies of needs: physiological, safety and security, social, self-esteem, and self-actualization. His theory suggests that higher needs cannot be fulfilled until lower needs are satisfied. When employees’ physiological, safety and security, and social needs are satisfied at work, they seek a way of fulfilling self-esteem needs. Self-esteem needs refers to satisfaction with oneself, sense of worth, or sense of achievement. Self-esteem is achieved when one feels good about one’s abilities and when others recognize one’s abilities or achievements. Rewarding an employee’s performance is one of the best ways to fulfill employees’ self-esteem needs. Employees may satisfy their self-esteem needs through being promoted, received incentives, or awarded intangible rewards such as the employee of year, vacation, or parking space next to a president of a company.

Herzberg (1966) suggested the two-factor theory. He suggested that two factors explain human behavior in work environment. Two factors include hygiene and
motivator factors. Hygiene factors do not lead employees to satisfaction with work, but employees may feel dissatisfied when hygiene factors are lacking. Examples of hygiene factors are company policies on pay structure, relationship with peers, personal life, job status, and job security. Hygiene factors are often considered extrinsic rewards because the hygiene factors are provided by others such as a company or peers rather than by oneself. Motivators, the second factor, make employees satisfied with work and motivated to perform better. Examples of motivators are achievement, recognition, responsibility, and opportunities to grow. Motivators usually refer to intrinsic rewards since those feeling, satisfied and motivated, has to be evoked from inside oneself. Hygiene factors referred to extrinsic rewards do not guarantee employee satisfaction and motivation, but they are absolutely necessary to maintain employees’ good work. In case of absence of some hygiene factors which consequently result in generating dissatisfied employees, the employees may consider leaving their companies or their productivity may decrease.

**Employee Relations**

Employee relations are systems provide fair and consistent treatment to employees so that they will be committed to the organization (Gomez-Mejia et al., 2001). Employees have sought ways to solve conflicts or unfair treatment in workplaces through unions. It is true that increased employee power and participation in organization governance lead to higher employee satisfaction and thus increase employee motivation and result in higher service quality and employee performance (Gittell, Nordenflycht, & Kochan, 2004; Hammer & Stern, 1986). However, since there has been shrinkage in unionization in workplaces due to enforcing federal employment laws (such as equal employment
opportunity laws), private companies have turned their efforts to developing employee relations programs such as complaint resolution processes, formal employee participation programs, and routine employee attitude surveys, to increase and maintain employees’ satisfaction and high firm productivity.

Formal complaint resolution processes or formal grievance systems are important in shaping trust in management among employees (Fryxell & Gordon, 1991). Employees’ belief in workplace justice has been considered to have a positive relationship with organizational outcomes (e.g., Colquitt, Wesson, Porter, Conlon, & Ng, 1986; Fryxell & Gordon, 1991). Research found that employees’ belief in workplace justice affects their attitude including organizational commitment, loyalty, job satisfaction, and performance (Colquitt, et al., 1986; Lind & Tyler, 1988). Fryxell and Gordon (1989) investigated effects of workplace justice and employees’ satisfaction toward management and they found that there was a strong positive effect of workplace justice on employees’ satisfaction to management.

The basic proposition that employee participation programs including such things as quality improvement groups, problem solving groups, and suggestion systems, enhance firm performance is hypothesized on that line employees have generally more accurate and complete knowledge and information about their work and products than do managers (Levine & Tyson, 1990; Miller & Monge, 1986). Employee participation programs also satisfy employees’ self-esteem needs through providing them with intrinsic rewards since employees have voice to suggest or participate in planning work tasks and identifying obstacles to achieve optimal work performance (Hammer, 1988; Cooke, 1994). As noted in the previous section, the greater intrinsic rewards increase job satisfaction.
satisfaction and motivate employees to achieve work goals (Miller & Monge, 1986; Hammer, 1988) and, in turn, result in higher firm productivity.

A formal employee attitude survey is “designed to measure employee likes and dislikes of various aspects of their jobs” (Gomez-Mejia, et al., 2001, p.444). Organizations implement employee attitude surveys to proactively detect potential problems that may cause employees dissatisfaction with their work and rectify the potential problematic areas at workplace. Kesselman (1984) argued beneficial uses of employee attitude surveys by presenting real examples of attitude surveys results. According to his study, attitude surveys provide fundamental grounds for companies to rebuild their career paths for highly trained professionals, to reshape their marketing strategies, to implement programs to improve workplace safety and working conditions, and to develop human resource management functions including job description, performance appraisal systems, and a salary plan. As these examples indicate, employee attitude surveys affect significantly a firms’ performance.

**Internal Communication System**

People have been tried to bond with others and create relationships with each other through a human activity, communication (Duncan & Moriarty, 1998). According to Thomson, Chematony, Arganbright, and Khan (1999) there are three types of communication channels: external communication (company–customer), internal communication (company–employees), and interactive communication (customer–employees;). A number of researchers have emphasized the importance of effective external communication, which typically result in positive return on investment of marketing. On the other hand, few studies have been conducted to explore effective
internal communication. It is impossible to create relationships between organizations and employees without communication (Duncan & Moriarty, 1998). Effective internal communication is achieved when organizations communicate successfully to their employees about mission, vision, new products or projects, new developments, the firm’s financial status, and so on. There are a number of ways to communicate with employees: newsletters, bulletin boards, face-to-face meetings, Intranet, written memos, and so on. Klein (1994) argued that face-to-face communication is the most effective (referred in Wood, 1999). Brewer (1995) found that employees think newsletters should be a primary source of communication, while companies do not think so (referred in Wood, 1999). Effective internal communication brings increased employee satisfaction, morale, commitment, and as a consequence greater firm performance (Lievens, Moenaert, S’Jegers, 1997; Sprague & Brocco, 2002).

Summary of Measurements of Human Resource Management Practices

In this section measurements of HRM used in previous studies were reviewed. The measurements were classified using the six domains: staffing, training and development, performance appraisal, performance rewards, employee relations, and internal communication system. Table 1 shows the detailed measurement items used in the previous studies. The measurements included in the Table 1 were used in empirically examined studies. Thus, suggested measurements without empirically tested were excluded. There were fifteen studies with 84 different measures of HRM practices. Staffing included 20 individual questions and practices of internal recruiting (4 out of 15 studies) and pre-employment tests (4 of 15 studies) were most frequently used, followed by job classification (3 of 15 studies), job description (3 of 15 studies), and status barriers.
(3 of 15 studies). However, there was no individual questions distinctively appeared. There were thirteen questions used to measure training and development. Formal training was most commonly adapted (7 out of 15 studies) to measure effects of training and developments, followed by training hours for new (4 of 15 studies) and experienced employees (3 of 15 studies). The fifteen studies used nine questions to measure effects of performance appraisal. Formal performance appraisal (4 of 15 studies) and results-based appraisal (3 of 15 studies) were most frequently used to examine their effects on organizational performance. There were 20 different questions used to measure performance rewards systems. Incentives (5 out 15 studies) and group-based pay (4 out 15 studies) were most commonly used, followed by individual equity (3 of 15 studies) and external equity (3 of 15 studies). Fourteen different questions were adapted for measuring employee relations. Employee participation programs (6 of 15 studies) and access to grievance system (6 of 15 studies) were the most frequently used questions, followed by attitude surveys (5 of 15 studies). Eight different questions were used to measure internal communication system; information sharing (5 of 15 studies) was the most frequently used and operating information sharing (4 of 15 studies) and strategic plan sharing (4 of 15 studies) were followed by.

As Table 1 shows, there is a lack of consensus on what to measure for HRM practices and policies. Out of 15 studies, only four studies (e.g., Becker & Huselid, 1998; Datta, Guthrie, & Wright, 2003; Delery & Doty, 1996; Youndt, Dean, & Lepak, 1996) included questions for HRM practices for all six domains. This finding indicates that HRM researchers should need to devote more efforts on examining what should be included in
## Table 1

**Measures of HRM**

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measuring HRM practices influencing organizational performance and how many domains should be covered.

Measurements of Organizational Performance

Organizational performance is well-discussed in the HRM literature (e.g. Becker & Huselid, 1998; Clark, 1984; Cooke, 1994; Datta, et al. 2003). However, there is little consensus on basic definitions and technical issues. Kanter (1981, p.321) stated that the problem is “not how to measure effectiveness or productivity, but what to measure; how definitions and techniques are chosen.” Studies about the impact of HRM on firm performance have adopted measures or indicators of firm performance without prior conceptual questioning of what to measure, how measures are defined, and why they are chosen.

Organizational performance is a complex and multidimensional concept. For example, productivity can be one element of organizational performance, but cannot represent organizational performance by itself (Seashore & Yuchtman, 1967). The questions, then become which organizational performance indicators reflecting the impact of human resources should be measured and how the organizational performance indicators interact with each other.

A number of HRM researchers (e.g., Bamberger & Meshoulam, 2000; Kaplan & Norton, 1992; Steers, 1975) have suggested that HRM research has to focus on developing a model that examines hierarchical impacts of HRM on organizational performance, and on developing measures of organizational performance that can be used for organizations at business unit level. Despite these numerous suggestions, the hierarchical relationships among measures of organizational performance have not been
examined yet. Therefore, this section is devoted to investigating the diverse measures of organizational performance that reflect contributions of human resources on organizational success and the hierarchical relationships among the measures.

**Theoretical Background of Hierarchical Relationships among Organizational Performance Measures**

In reviewing the literature on measuring organizational performance affected by HRM, there emerged six studies that discussed hierarchical relationships among organizational performance indicators. The six studies in alphabetical order are Becker and Huselid (1998), Dyer and Reeves (1995), Mavrinac, Jones, and Meyer (1995), Paauwe and Richardson (1997), Phillips (1996), Rucci, Kim, and Quinn, (1998). While hierarchical relationships of measures of organizational performance have been discussed on theoretical rationales (Dyer & Reeves, 1995; Paauwe & Richardson, 1997; Mavrinac, Jones, & Meyer, 1995; Becker & Huselid, 1998), one study (Rucci, Kim, & Quinn, 1998) of only six empirical studies have been empirically conducted to examine the hierarchical relationships.

**Becker and Huselid**

Becker and Huselid (1998) proposed a model of the HR-shareholder value relationship. They proposed five indicators of organizational performance affected by HRM practices. They hypothesized HRM practices influence employee motivation first, and then the employee motivation affects labor productivity. The increased labor productivity would have a positive relationship with operational performance, which, in return, increases a company’s profits and growth. Increased profits and growth would ultimately affect market value. However, in Becker and Huselid (1998)’s study, the
proposed interrelationships among the organizational performance measures were not empirically tested. Instead of examining interrelationships among organizational performance indicators, they treated the relationships as individual. For example, they found that HRM practices increased labor productivity, gross rate of return, and market value and decreased turnover rate. Yet, no test was conducted to determine if a decreased turnover rate could increase the gross rate of return, and if the gross rate of return could increase market value, and so on.

Dyer and Reeves

Dyer and Reeves (1995) suggested four types of organizational performance measures: 1) human resource outcomes; 2) organizational outcomes; 3) financial accounting outcomes; and, 4) capital market outcomes. The category of human resource outcomes relates to changes in employees' behavior. It includes turnover rates, absentee rate, and employee satisfaction. Organizational outcomes contain labor productivity, customer satisfaction, quality of products and services. Financial accounting outcomes include three measures: return on assets; return on equity; and, profitability. Capital market outcomes reflect how market evaluates an organization. Capital market outcomes consist of three indicators: stock price; stock price growth rate; and, market returns. Out of all four categories of organizational performance, the organizational outcomes need more explanation due to its ambiguous meaning; organizational outcomes may be confused with organizational performance. Organizational outcomes are consisted with two main characters: customer outcomes and operational efficiency outcomes. Customer outcomes refer to changed customers' behavior and perceptions such as customer satisfaction, customer complaints, perceived product quality, and service quality.
Operational efficiency outcomes refer to the efficiency level that a company achieves through operational functions. Labor productivity is the representative example. Labor productivity means organizational efficiency in achieving operational goals (Folser, 1978). Labor productivity represents an operational efficiency in maximizing a company’s revenue with a limited number of its employees.

Dyer and Reeves (1995) argued that HRM practices have hierarchical impacts on organizational performance. For example, HRM practices are likely to have the greatest direct effects on human resource outcomes, next most on organizational outcomes, and so forth. Dyer and Reeves’ categorization can be depicted as follows:

![Figure 1. A conceptual model of the relationship between HRM and organizational performance](image)

Rogers and Wright (1998) reviewed 29 studies containing 80 observations of an empirically tested the linkage between HRM and organizational performance. They adopted the four organizational performance categories of Dyers and Reeves (1995) to examine the frequency of use of each category. Of a total of 80, the organizational outcomes (34 of 80) were the most commonly used, followed by accounting outcomes
(24 of 80), financial-market outcomes (19 of 80), and HR outcomes (3 of 80). Yet, their study did not indicate whether the studies included examined the interrelationships among the four organizational performance categories.

**Mavrinac, Jones, and Meyer**

Mavrinac, Jones, and Meyer (1995) suggested three categories of organizational performance: workplace outcomes; customer outcomes; and, financial performance. They also proposed hierarchical relationships between HRM and organizational performance, but did not empirically examine the hierarchical relationships. They conceptualized HRM has a direct effect on workplace outcomes and customer outcomes. Customer outcomes and workplace outcomes influence each other. Financial performance is affected by both customer outcomes and workplace outcomes. The category of workplace outcomes contains four items: production time to market; productivity; quality certification; and, conformance quality. Customer outcomes include three elements: customer satisfaction; market share; and, product quality. Financial performance contains four measures: income; return on sales; share price; and, return on investment. They stated that workplace outcomes and customer outcomes are operational performance measures, since the two outcomes are end-products of operating-business function. Figure 2 presents the proposed relationships between HRM and organizational performance.

Cho and Mayer (2003) reviewed 18 studies containing 50 observations of an empirically tested link between HRM and organizational performance. They adopted the categorization of Mavrinac, et al., (1995). Of the total of 50 observations, the category of financial performance outcomes (54%) was the most frequently used, followed by workplace outcomes (38%) and customer outcomes (4%). Out of 18 studies, only two
studies employed all three categories, but these two studies again did not examine interrelationships among the categories of organizational performance. The findings of their study indicated that most HRM studies have not precisely examined the total effects of HRM on organizational performance.

Paauwe and Richardson

Paauwe and Richardson (1997) classified effects of HRM into two categories, HRM outcomes and organizational performance. They argued that HRM activities have direct impacts on HRM outcomes and organizational performance. HRM activities can also have indirect impacts on organizational performance with mediating variables of HRM outcomes. It is worthy to note that Paauwe and Richardson (1997) suggested that organizational performance affects directly HRM activities. In other words, high performing organizations may have better established HRM systems due to their financial advantages. The category of HRM outcomes contains six items: turnover; dismissal/lay-offs; absenteeism; disciplinary actions and grievances; social climate between workers and management; and, employee involvement/trust loyalty. The organizational
performance category includes seven measures: profit; market value; productivity; market share; product/service quality; customer satisfaction; and, development of products/services.

Phillips

Phillips (1996) classified the effects of HRM into two categories: HR performance measures and organizational effectiveness measures. Phillips conceptualized the effects of HRM on organizational performance with one mediating and one moderating variable. The category of human resource performance measures was used as a mediating variable which mediates effects of HRM on organizational effectiveness measures including such things as labor productivity and profitability. Phillips’ model depicts that the first impact by HRM is appeared in workforces’ behavior changes before the impact is realized on organizational level. The moderating variable labeled as other factors is introduced to control variances on organizational performance effectiveness measures. Revenue growth rate, industry type, economy condition, market forces, and strategic choices are the factors may affect increases or decreases in organizational performance effectiveness measures.

Human resource investments can be calculated by dividing employee costs by total operating expenses, and this ratio shows employee costs relative to all operating costs that include compensation as well as other employee related expenses. It is suggested that the average ratio is between 2 to 4% and any ratio above 5% is most unusual. Absence rate is an important measure because higher absenteeism means greater lost productivity. Phillips (1996) noted that job satisfaction is probably the most important overall human resource performance measure based on the assumption that happy workers are better
performers. Organizational commitment can be measured by a standardized questionnaire such as organizational commitment questionnaire (OCQ). He suggested two methods to calculate labor productivity. One is dividing total revenue by total number of full-time employees and this number indicates the efforts of employees to produce sales and service income for the organization. The other can be calculated by dividing total assets by employee costs. This ratio reflects that employees are charged with the responsibility for securing and managing assets. Profitability is the ratio of operating income that excludes revenues from interests and taxes and employee costs. The ratio represents operating profitability relative to the number of employees needed to generate the profit.

Rucci, Kim, and Quinn

Rucci, Kim, and Quinn’s (1998) employee-customer-profit chain model is one of few models that employed balanced organizational performance. They argued business success comes from satisfying three stakeholders – employees, customers, and shareholders. They suggested a model describing that higher employee retention would increase customer retention, and the greater customer retention ultimately affects on higher return on assets, operating margin, and revenue growth. While the model suggested in their study had no intention to measure the impacts of HRM, but the model described how employees can affect bottom-line. They examined the model for Sears Corporation in 1995 and found a 5 point improvement in employee attitude. The improved employee attitude led to a 1.3 points increase in customer satisfaction, which resulted in a 0.5% increase in revenue growth. However, it is not possible to determine the magnitude of these improvements because the study did not provide sufficient information on the scale. In addition, the study did not present a statistical significance
level and did not examine if there was any direct impact of human resources on organizational performance. Despite the limitations, the employee-customer-profit chain model can be incorporated in developing a model of effectiveness of HRM on organizational performance.

Summary of Measures of Organizational performance

Table 2 summarizes measures of organizational performance used to measure the effects of HRM practices in previous empirical studies. For constructing the table, Dyer and Reeves’ clarification (1995) was adopted. Table 2 shows there is a lack of agreement on which organizational performance outcomes should be included in measuring the impact of human resources on organizations. There were 39 different measures of organizational performance: five items in human resource outcomes, 12 items in organizational outcomes, 12 items in financial accounting outcomes, and 10 items in capital-market outcomes. The most frequently used one was labor productivity (13 times of 26), followed by Tobin’s Q (7 of 26) and Gross Rate of Return on Assets (GRATE; 4 of 26). Twenty-five measures were used only once. The results indicate that HRM researchers must address the issue of how to measure properly organizational performance leading to the business success. Only Kalleberg and Moody (1994) adopted all four types of organizational performance measures as suggested by Dyers and Reeves (1995). Yet, they did not investigate if there were interrelationships among the four organizational performance measures.

Labor productivity, often calculated by dividing total revenue by a number of employees, has a primary advantage as a measure because it provides compatibility (Huselid, 1995). However, it does not measure whether an employee contributes on increasing an
organization’s profitability. For example, labor productivity can be increased by implementing automatic production and advanced technology, but not by innovative or effective HRM practices. It might mislead industries and audiences if a model of the relationship between HRM practices and organizational performance fails to account for other organizational structure such as technology or automatic production line.

GRATE is an accounting-based profitability indicator. It is calculated by dividing cash flow by gross capital stock (Hall, et al., 1988; Hirsch, 1991). Huselid (1997) stated that GRATE is more superior to traditional accounting indicators such as ROA or ROE because it is less sensitive to depreciation and other non-cash transactions.

Tobin’s Q is a market-based indicator and is calculated by dividing the market’s valuation of a firm’s assets by its current replacement costs (Hall, et al., 1988; Hirsch, 1991). Tobin’s Q reflects both current and future profitability and is future oriented and risk adjusted capital-market measure of organizational performance. Despite of the popularity in terms of measuring the impact of HRM practices, both GRATE and Tobin’s Q are not appropriate for private companies and companies at the business unit level due to the inability to compare to stock prices.

The impact of HRM has been measured by various types of organizational performance measures such as turnover rate, labor periodicity, ROA, ROE, Tobin’s Q, and so on. Yet, no single organizational performance measure can provide a true assessment of organization’s performance (Kaplan & Norton, 1992; Steers, 1975) influenced by HRM. Researchers suggested that the impact of human resources appears in a rather sequential manner. For example, training programs may change employees’
Table 2

Measures of Organizational performance of HRM

| Measures of organizational performance | Bank, Potter, & Srivastav, 00 | Bartel, 94 | Becker & Huselid, 98 | Berg et al., 96 | Cappell & Neumark, 99 | Clark, 84 | Cutcher-Gershenfeld, 91 | Dana, Guthrie, & Wright, 03 | Davison, III, 96 | Delyn & Deys, 96 | Citell et al., 04 | Huselid, 95 | Huselid & Becker, 96 | Kalleberg & Moody, 94 | Lehmann, 90 | Lehmann & Moynihan, 92 | Lawrence, 92 | Liu & MacDuffie, 94 | Liu & MacDuffie, 96 | Richard, 00 | Russell, Terborg, & Powers, 85 | Terpstra & Rozell, 93 | Youn and et al., 96 | Watson & May, 02 | Welbourne & Andrews, 96 |
|--------------------------------------|--------------------------------|------------|---------------------|-----------------|----------------------|---------|------------------------|--------------------------|----------------------|----------------------|-----------------------|--------------|-------------------------|---------------------|----------------|-------------------|-------------------|----------------|------------------------|-------------------|-----------------|-------------------|-------------------|
| Turnover rate                        |                                |            |                     |                 |                      |         |                        |                          |                      |                      |                       |              |                          |                      |                   |                  |                          |                   |                      |                     |                   |                      |                      |
| Job Satisfaction                     |                                |            |                     |                 |                      |         |                        |                          |                      |                      |                       |              |                          |                      |                   |                  |                          |                   |                      |                     |                   |                      |                      |
| Attract employees                    |                                |            |                     |                 |                      |         |                        |                          |                      |                      |                       |              |                          |                      |                   |                  |                          |                   |                      |                     |                   |                      |                      |
| Retain employees                     |                                |            |                     |                 |                      |         |                        |                          |                      |                      |                       |              |                          |                      |                   |                  |                          |                   |                      |                     |                   |                      |                      |
| Employee commitment                  |                                |            |                     |                 |                      |         |                        |                          |                      |                      |                       |              |                          |                      |                   |                  |                          |                   |                      |                     |                   |                      |                      |
| Sales/worker                         |                                |            |                     |                 |                      |         |                        |                          |                      |                      |                       |              |                          |                      |                   |                  |                          |                   |                      |                     |                   |                      |                      |
| Total labor costs/worker             |                                |            |                     |                 |                      |         |                        |                          |                      |                      |                       |              |                          |                      |                   |                  |                          |                   |                      |                     |                   |                      |                      |
| Machine efficiency                   |                                |            |                     |                 |                      |         |                        |                          |                      |                      |                       |              |                          |                      |                   |                  |                          |                   |                      |                     |                   |                      |                      |
| Labor productivity                  |                                |            |                     |                 |                      |         |                        |                          |                      |                      |                       |              |                          |                      |                   |                  |                          |                   |                      |                     |                   |                      |                      |
| Quality of product                   |                                |            |                     |                 |                      |         |                        |                          |                      |                      |                       |              |                          |                      |                   |                  |                          |                   |                      |                     |                   |                      |                      |
| Service quality                      |                                |            |                     |                 |                      |         |                        |                          |                      |                      |                       |              |                          |                      |                   |                  |                          |                   |                      |                     |                   |                      |                      |
| Aircraft productivity                |                                |            |                     |                 |                      |         |                        |                          |                      |                      |                       |              |                          |                      |                   |                  |                          |                   |                      |                     |                   |                      |                      |
| Quality                              |                                |            |                     |                 |                      |         |                        |                          |                      |                      |                       |              |                          |                      |                   |                  |                          |                   |                      |                     |                   |                      |                      |
| Customer impression                  |                                |            |                     |                 |                      |         |                        |                          |                      |                      |                       |              |                          |                      |                   |                  |                          |                   |                      |                     |                   |                      |                      |
| Customer satisfaction                |                                |            |                     |                 |                      |         |                        |                          |                      |                      |                       |              |                          |                      |                   |                  |                          |                   |                      |                     |                   |                      |                      |
| Customer alignment                   |                                |            |                     |                 |                      |         |                        |                          |                      |                      |                       |              |                          |                      |                   |                  |                          |                   |                      |                     |                   |                      |                      |
| Customer complains                   |                                |            |                     |                 |                      |         |                        |                          |                      |                      |                       |              |                          |                      |                   |                  |                          |                   |                      |                     |                   |                      |                      |
| Store image                          |                                |            |                     |                 |                      |         |                        |                          |                      |                      |                       |              |                          |                      |                   |                  |                          |                   |                      |                     |                   |                      |                      |

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behavior. The improved employees' behavior may increase customers' satisfaction, then high customer satisfaction affects firms' productivity, and thus, increased productivity may increased firms' profit and market value. While a number of conceptual organizational performance models have been proposed, (e.g., Dyer & Reeves, 1995; Rogers & Wright, 1998), a little empirical research has examined the sequence of linkage of HRM with organizational performance (Wright, Gardner, & Moynihan, 2002). Therefore, this dissertation incorporates HRM researchers' suggestions on investigating interrelationships among organizational performance measures.

Dyer and Reeves' (1995) organizational performance categorization was adapted in this study. Three categories, human resource outcomes, organizational outcomes, and financial accounting outcomes, were used. Capital-market outcomes did not employ since this study focused on private companies whose capital market indicators are not available.

Summary

This chapter presented the literature review on effective HRM practices on an organization's performance. Effective HRM practices were distinguished into six domains. The six domains are staffing, training and development, performance appraisal, performance rewards, employee relations, and internal communication systems. Next, measures of organizational performance were discussed. Organizational performance will be measured in three categories, HR outcomes, organizational outcomes, and financial accounting outcomes. Table 3 provides summaries of six constructs and measures of organizational performance and key citations. Finally, conceptual models of interrelationships among organizational performance measures were discussed.
<table>
<thead>
<tr>
<th>Construct</th>
<th>Description</th>
<th>Key Citations</th>
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<tbody>
<tr>
<td>Staffing</td>
<td>Includes human resources planning and forecasting, recruiting, and selecting employees. Human resources planning and forecasting is the process that a firm uses to ensure that it has the right amount and the right kind of people to deliver a particular level of output or services in the future. Recruiting is the process used to form a pool of job candidates for a particular job. Selection is the process of making a “hire” or “no hire” decision regarding each job applicant for a job.</td>
<td>Crowley (1999); Czaplewski et al. (2001); Fitz-enz &amp; Davison (2002); Gomez-Mejia et al. (2001); Johnson (2000)</td>
</tr>
<tr>
<td>Training and development</td>
<td>The process of systematically developing expertise in individuals for the purpose of improving performance. Strategically implemented programs by an organization to improve employees' skills and knowledge for their current jobs and to make employees prepared for future jobs. Includes needs assessment, training and development, and measuring outcomes. The longer hours in training and development result in higher employee retention, increased employee commitment, and higher labor productivity.</td>
<td>Barrett &amp; O’Connell (2001); Kirkpatrick (1956); Panitz (1999); Roehl &amp; Swerdlow (1999); Saks (1996); Swanson (1995)</td>
</tr>
<tr>
<td>Performance appraisal</td>
<td>The process of evaluating how well employees perform their jobs when compared to a set of standards, and then communicating that information to those employees. Standardized performance appraisal increases job performance.</td>
<td>Mathis &amp; Jackson (2003); Shah &amp; Murphy (1995); Smith et al. (1996)</td>
</tr>
<tr>
<td>Performance rewards</td>
<td>A system that rewards employees' performance through monetary and nonmonetary terms. Is designed to motivate employees to increase morale, commitment, productivity, and teamwork. For example, monetary rewards result in higher job performance and increased revenue and profits.</td>
<td>Banker et al. (2000); Lowery et al. (2002); Luthans &amp; Stajkovic (1999)</td>
</tr>
<tr>
<td>Employee relations</td>
<td>A system that provides fair and consistent treatment to employees so that they will be committed to the organization. Includes a formal complaint resolution process, formal participation processes, an employee attitude survey, and employee suggestion programs.</td>
<td>Fryxell &amp; Gordon, 1991; Gittell et al. (2004); Gomez-Mejia et al. (2001); Hammer &amp; Stern (1986); Levine &amp; Tyson, 1990; Miller &amp; Monge, 1986</td>
</tr>
<tr>
<td>Internal communication system</td>
<td>A system that an organization uses to communicate successfully to employees about mission, vision, new products and services, new developments, and its financial status. Successful communication can be achieved through a newsletter, bulletin boards, face-to-face meetings, Intranet, or written memos. Effective internal communication results in higher employee satisfaction, morale, commitment, and organizational performance.</td>
<td>Lievens et al. (1997); Sprague &amp; Brocco (2002)</td>
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<tr>
<td>Human resource outcomes</td>
<td>Changes in employees’ behavior that result from HRM practices. Turnover rate, absentee rate, and employee</td>
<td>Dyers &amp; Reeves (1995)</td>
</tr>
</tbody>
</table>
satisfaction are the examples of HR outcomes.

<table>
<thead>
<tr>
<th>Organizational outcomes</th>
<th>Changes in customers’ behavior, service and product quality, and labor productivity that result from HRM practices. Customer satisfaction, service and product quality, and labor productivity are examples.</th>
<th>Becker &amp; Huselid (1998); Dyers &amp; Reeves (1995); Lawrence (1992)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial accounting outcomes</td>
<td>The positive impacts on an organization’s accounting performance that resulted from HRM practices. Examples are sales growth rates, profit margin, or ROI.</td>
<td>Dyers &amp; Reeves (1995); Kalleberg &amp; Moody (1994)</td>
</tr>
</tbody>
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CHAPTER 3

METHODOLOGY

Introduction

This chapter addresses the methodology that is used to examine the hypotheses developed in the preceding chapter. The first section of this chapter presents the survey instrument development processes. Because there is little consensus on what to measure for effective HRM practices and for organizational performance, new measurements for HRM practices and organizational performance had to be developed in this dissertation. Thus, the first section presents detailed scales and the survey instrument for HRM practices and organizational performance measures.

In the second section of this chapter, the sampling methods and data collection procedures are presented. The third section discusses the issue of nonresponse bias in the mail survey. Nonresponse biases are errors that occur when respondent observations differ from those who do not respond. Definitions and methods of estimation of the nonresponse bias are discussed in the third section. Finally, the fourth section presents data analysis procedures for examining the effects of HRM practices on organizational performance.
Survey Instrument Development

Six constructs were developed from the extensive literature review of domains of HRM practices. They are staffing; training and development; performance appraisal; performance rewards; employee relations; and, internal communication system. The survey instrument was pretested via a mini survey with 28 human resource managers. The survey instrument used for the pretest contained 27 items that purported to measure six HRM constructs and four measures of organizational performance. The self-administered questionnaire was mailed to 28 human resource managers. Out of 28, four questionnaires were returned. The results of the pretest indicated that the respondents were reluctant to respond to the questions for financial accounting outcomes, such as revenue and sales growth rates. Because items measuring financial accounting outcomes were very important to the objectives of this study, however, these questions were retained.

Taking into consideration of the findings of the pretest, the final version of the survey instrument contained 35 items. HRM practices were measured by 25 items. Organizational performance was measured by 5 items. Demographic profile information of the responded hotels was measured by 5 items. Appendix A presents the self-administered questionnaire mailed to the participants in this study.

Independent Variables

For independent variables, a bipolar 6-point scale without a midpoint was used. For questions of HRM practices, the scale was from 1 (very inaccurate) to 6 (very accurate). A midpoint was not included because it was assumed that a midpoint was not necessary due to the nature of the questions. Some suggest including a midpoint when one believes
that some individuals truly have neutral positions about their attitudes or feeling (Lyberg et al., 1997). However, it was assumed that there should not be neutral positions because respondents were asked to provide the degree of their companies’ efforts in terms of implementing HRM practices and policies.

As stated by several researchers (Bamberger & Meshoulam, 2000; Delery, 1998), one of the measurement challenges in HRM is the level of analysis. As Bamberger and Meshoulam (2000) pointed out, HRM measures at different levels within an organization (e.g., line employees, managers, executives) and between organizations (e.g., workgroups, properties, business units, corporation) are likely to yield different results. Delery (1998) argued that the assumption that the use of practices across an organization would be the same for all levels of employees is probably a false assumption. He stated that this assumption argues that all employees across the organization are equally important. Given this suggestion, this study attempted to reconcile the limitation that existed in the previous studies by measuring HRM practices at two different levels, managerial employees and non-managerial employees. For all independent variables, participants were asked to respond to the degree of use of HRM practices for managerial employees and for non-managerial employees.

Staffing consisted of three components; human resources planning and forecasting; recruitment; and, selection. Successful staffing starts with accurate human resource planning and forecasting. With information about how many employees and what kind of talents will be needed in the future for a particular job, an organization can make effective decisions on a pool of job candidates and on hiring the right person for the job. Staffing was measured by four items. Respondents were asked to rate the statements on a
scale of 1 (very inaccurate) to 6 (very accurate) in terms of how accurate each of the statements was in describing the situation in the respondents’ firms. The items were as follows:

- There is formal employment planning in my organization.
- My company uses internal recruiting sources extensively to fill open positions.
- Job applicants undergo structured interviews before being hired.
- Job applicants take formal pre-employment tests before being hired.

Training and development is the process of systematically developing expertise in individuals for the purpose of improving employees’ job performance for their current jobs and of preparing employees for future jobs (Swanson, 1995). Training and development start with training needs assessments and ends with measuring outcomes of training and development programs. To have successful training and development programs, companies should know which employees need training and development and what kind of training and development programs employees need to receive to improve their job performance (Breiter & Woods, 1997; Goldstein & Ford, 2002). Training needs assessment is used to identify skills and knowledge employees lack. After employees receive training and development, they are subject to the measurement of their job performance improvement that resulted from the training and development programs. Five items were used to measure training and development practices in this study. Respondents were asked to rate 4 items using a 6-point scale from 1 (very inaccurate) to 6 (very accurate) in terms of how accurate each of the statements was in describing the situation in the respondents’ firms. One item was used to measure the average training
hours received by an employee over that last year. A format of open-ended question was used to measure the average training hours. The items were as follows:

- A training needs assessment is conducted before training is provided.
- There are formal training programs to teach new hires the skills they need to perform their jobs.
- Formal training programs are offered to employees in order to increase their promotability in the organization.
- Training programs are evaluated in order to improve their effectiveness.
- What is the average number of hours of formal training received by an employee in your firm over the last year?

Performance appraisal is "the process of evaluating how well employees perform their jobs when compared to a set of standards, and then communicating that information to those employees" (Mathis & Jackson, 2003, p. 342). Four questions were developed to measure performance appraisal based on the definition by Mathis and Jackson (2003). Respondents were asked to rate the questions on a 6-point scale from 1 (very inaccurate) to 6 (very accurate). The four items were as follows:

- Employees regularly (at least once a year) receive a formal evaluation of their performance.
- Performance appraisals are based on objective results.
- Performance appraisals are based on quantifiable results.
- Employees receive performance appraisal feedback on a routine (at least twice a year) basis.
Performance rewards refer to systems that reward employees’ performance through monetary and non-monetary terms. Respondents were asked to rate each of the following statement on a scale of 1 (very inaccurate) to 6 (very accurate). Three items were used to measure performance rewards:

- Promotions are contingent on performance (versus seniority).
- Employees receive monetary rewards based on the profit of the organization.
- Employees receive monetary rewards based on their performance.

Employee relations refer to systematical organizational governance that provides fair and consistent treatment of employees. Good employee relations provide employees with opportunities to voice their reactions to management decisions and policies (Gomez-Mejia et al., 2001). Employers can implement employee attitude surveys to proactively identify employees' attitudes and reactions toward management decisions and policies. Organizations can also use a formal participation program that encourages employees to participate in decision making so that employees can provide input into management decision making first hand. On the other hand, employees can have an appeal process to solve unfair and inconsistent treatment through complaint-resolution programs or formal grievance procedures. Respondents were asked to rate each of the following statement on a scale of 1 (very inaccurate) to 6 (very accurate). Four items were used to measure employee relations:

- Employees have a reasonable and fair complaint-resolution process.
- Employees are involved in formal participation processes such as quality improvement groups, problem solving groups, or suggestion systems.
- Employees regularly (at least once a year) complete an attitude survey.
• Employees are provided the opportunity to suggest improvements in the way things are done.

An internal communication system is one that an employer can use to communicate successfully with employees about the mission, vision, new products and services, new developments, and financial performance. To foster good internal communication channels, newsletters, bulletin boards, face-to-face meetings, Intranet, or written memos can be used. Five items were developed to measure an internal communication system. The first item measured whether an organization had formal internal communication channels, and was measured on a 6-point scale from 1 (very inaccurate) to 6 (very accurate). The question is stated as follows:

• There is a formal information sharing program (a newsletter or regular meetings) in the organization.

Information shared with employees was measured by four items. Respondents were asked to check the appropriate frequency in communicating four types of organizational information on a 4-point scale, with 1 being never, 2 being annually, 3 being quarterly, and 4 being weekly and more. The four types of organizational information are as follows:

• Company goals such as mission, objectives, actions, etc.
• Operating performance such as quality, customer satisfaction, etc.
• Financial performance such as profitability, stock price, etc.
• Competitive performance such as market share, competitor strategies, etc.
Dependent Variables

Organizational performance affected by HRM was measured in three categories: human resource outcomes; organizational outcomes; and, financial accounting outcomes. Dyer and Reeves’ (1995) four categories were used, except for capital-market outcomes because the population of this study was hospitality business units, which are unable to provide figures that reflect capital market evaluation.

Turnover rates were used to measure human resource outcomes. Respondents were asked to provide voluntary turnover rates for managerial employees and non-managerial employees in percentages. Other recommended measures such as employee satisfaction were not included because of inconsistent scales across the participating companies.

Labor productivity was used to measure organizational outcomes. Labor productivity refers to organizational efficiency in achieving organizational goals (Fosler, 1978), thus labor productivity represents an organization’s efficiency in maximizing its revenue with a limited number of its employees. Respondents were asked to provide hotel revenue and a number of employees. Labor productivity was measured by dividing total revenue by the number of employees.

Two measures were used for financial accounting outcomes, revenue per available room (RevPar) and sales growth rate in revenues. RevPar is the most widely used measure for hotel productivity (Brown & Dev, 1999). RevPar is a balance measure between low occupancy/high rate and low rate/high occupancy rate (Aronson & Barkoff, 2004). It is a combined form of average daily room rate and average occupancy rate. Respondents were asked to provide their average daily room rate and average occupancy rate.
rate. RevPar was computed by multiplying average daily rate with average occupancy rate.

Sales growth rates over the last 3-year period was measured. Respondents were asked to check the box that represented their hotel's sales growth rates in revenue on an 8-interval scale, 1 being "declining" and 8 "51% or higher." Growth rates reflect "how well an organization relates to their environment" (Hofer & Schendel, 1978, p. 4) by successfully expanding their product market scope (Dess & Robinson, 1984).

Demographic Variables

Five questions collected the demographic information of participating companies, including the number of rooms, the number of years in the lodging business, the operation type, the location, and the market price segment.

Sample and Data Collection

The target population of this study were hotels at the business-unit level in the United States. Population refers to a group to which one wishes to generalize the findings of a study (Trochim, 2001). The findings of this study would have implications for lodging companies at the business unit. Therefore, this study does not intend to generalize the findings to other industries. The sample of this study were individuals on a list of certified hotel administrators and certified human resources executives by the American Hotel & Lodging Educational Institute. There were a total of 824 individuals after excluding those working at hotels abroad and at corporate lodging companies. These individuals were selected for the sample because it was assumed that they would provide accurate information about HRM practices and policies and organizational performance.
such as occupancy rates and sales growth rates, because most of the individuals were
either vice president of human resource department or general managers. The sampling
method used was nonprobability sampling. Probability sampling is recommended to
reduce sampling error, but it was not feasible for this study due to the matter of data
access. Therefore, the judgmental sampling method was used. Judgmental sampling is a
form of convenience sampling in which the population elements are selected based on the
judgment of the researcher.

A self-administered questionnaire was used to collect the necessary data. Three pages
of questions, along with a cover letter, a supporting letter from American Hotel &
Lodging Educational Institute, and a self-addressed envelop, were mailed to the
individuals on the list. To increase the response rate, a tea bag was included in the survey
as an incentive. The repeated-contact method is suggested as the best method to increase
response rate (Fowler, 2002). Therefore, repeated contacts were attempted. About 10
days after the initial mailing, a thank-you card was mailed with a reminder note for those
who had not yet responded. About 10 days after mailing the thank-you card, another
reminder, survey, and a self-addressed envelop were mailed.

A total of 147 responses were returned, including 41 returned for wrong addresses.
The usable response rate after accounting for wrong addresses and the like was 14.36%.
A total of 106 responses were used for further analyses.

Sample Size

The sample size has a direct impact on the power of statistical analysis and the
generalizability of results (Hair, Anderson, Tatham, & Black, 1998). A small sample size
increases Type II error, or beta (β), thus lowering statistical power. Power is “the
probability that statistical significance will be indicated if it is present” (Hair et al., 1998, p. 11), and statistical power is computed by subtracting Type II error from 1. Type II error is “the probability of failing to reject the null hypothesis when it is actually false” (Hair et al., 1998, p. 11). With small samples, greater $R^2$ is required to be significant for multiple regression analysis. On the other hand, a very large sample size is overly sensitive in that it detects almost any relationship that is statistically significant. Sample size also has direct impact on the generalizability of findings. The recommended ratio of observations to independent variables is greater than 5 to 1. Hair et al. (1998) stated that the ratio should never fall below 5 to 1. They noted that a ratio below 5 to 1 results in a lack of generalizability of findings, because the results are too specific to the sample of the population. Therefore, the pertinent sample size is recommended.

For confirmatory factor analysis and structural equation modeling, Schumacker and Lomax (1996) recommended 5 to 10 objects per measurement variable, and Ding, Velicer, and Harlow (1995) found numerous studies suggested that 100 to 150 participants are the minimum satisfactory sample size for structural equation modeling. As Schumacker and Lomax (1996) suggested, in this study, it is required to have a minimum of 110 (25 items of HRM practices times 5) cases for a confirmatory factor analysis (CFA) and a minimum of 140 (28 items including 25 items of HRM practices and 3 measures of organizational performance times 5) participants for a structural equation modeling (SEM). To satisfy the recommendation, a reduction of the number of measurement variables was needed, because the sample size of 106 was not sufficient for both CFA and SEM. However, Marsh and Hau (1999) argued that a larger number of measurement variables per latent factor (p/f) is needed for small samples. Boomsma (1983, cited in
Marsh & Hau, 1999) stated that the recommended sample size is a minimum $N = 100$ when the ratio of the number of indicators per latent factor is 3 or 4. Marsh and Hau (1999) showed the effects of a relationship between $p/f$ ratio and sample size on the convergent validity of measurements using Marsh, Hau, and Balla’s (1997, cited in Marsh & Hau, 1999) study. They found that studies with $N = 50$ and $p/f = 12$ or $N = 1,000$ and $p/f = 2$ converged properly most of the time. These results indicated that it is required to have larger number of measurement variables per latent factor for small samples. Therefore, if the number of measurement variables per latent variable were reduced, the convergence validity would be questionable for this study. Thus, it was decided to follow the recommendation of Marsh and Hau (1999), with three or four measurement variables per latent factor for this study, and there was no intentional reduction of the number of measurement variables. The sample size of 106 in this study met the minimum requirement of $p/f = 3$ or 4.

Nonresponse Bias

Nonresponse bias is a concern when a mail survey is conducted (Smith, Olah, Hansen, & Cumbo, 2003). Nonresponse bias occurs when nonrespondents of the population have substantially different opinions about measurement items (Groves, 1991). The most commonly recommended rectification for nonresponse bias is to increase the response rate (Armstrong & Overton, 1977). Armstrong and Overton (1977) stated that nonresponse bias is under control when response rate is higher than 70%. However, a 70% response rate is almost impossible to attain from mail surveys. Therefore, it is the researchers’ responsibility to estimate if there is a nonresponse bias. There are three
methods to estimate nonresponse bias: comparisons with known values for the population, subjective estimates, and extrapolation (Armstrong & Overton, 1977). Comparisons with known values for the population can be used when a researcher knows values of some measures (e.g., age, income, gender). The values of the population and values from the sample of the population are compared, and any significant differences between the population and the sample indicate a nonresponse bias. Subject estimates of nonresponse bias compare differences between measures of responses and nonresponses. Examples of the measures include age, income, gender, location, and so on. Subject estimates can only be used when a researcher has data on nonrespondents. Extrapolation methods can be used when a researcher does not know some of the values of the population or nonrespondents. Extrapolation methods assume that “subjects who respond less readily are more like nonrespondents. Less readily has been defined as answering later” (Armstrong & Overton, 1977, p. 397). Extrapolation methods compare early respondents with later respondents. Armstrong and Overton stated that later respondents are more similar to nonrespondents.

The extrapolation method is used to estimate nonresponse bias in this study, using the first 30 respondents and last 30 respondents for all questions. An independent two-sample t test was used to determine a nonresponse bias. The results of the independent two-sample t test are presented in Appendix C along with the coding book for detailed explanation of variable labels. The results showed that 7 of the 60 variables had significant differences at a .05 level between the first and last respondent groups. The variables were Q1, Q2, Q10, Q19, QN20, occupancy rates, and sales growth rates. It was
determined that the number of variables (7) was minimal and not considered serious as a nonresponse bias. Therefore, the nine variables were kept in the further analysis.

Validity and Reliability Issues of the Survey Instrument

Construct validity is defined as "representing the correspondence between a construct (conceptual definition of a variable) and the operational procedure to measure or manipulate that construct" (Schwab, 1980, p. 6). Along with reliability of measurements, construct validity has to be estimated before drawing implications of relationships of independent variables on dependent variables. Construct validity was evaluated with three types of validity: content (face) validity, convergent validity, and discriminant validity (Carmines & Zeller, 1979).

Content validity assesses the degree to which a measurement accurately translates the construct into operationalizations. To increase content validity it is suggested that one include the full domain of constructs. If it is not feasible to include the full domain, some researchers recommended selecting representative questions. An item-sorting procedure (Achrol & Etzel, 2003; Anderson & Gerbing, 1991) was conducted to evaluate the content validity of the measures used in this study. The item-sorting procedure produces two indices to measure the content validity: proportion of content agreement and a content validity coefficient. The proportion of content agreement, $P_{as}$, reflects "the proportion of respondents who assign an item to its intended construct" (Anderson & Gerbing, 1991, p.734), and it is calculated as follows:

$$P_{as} = \frac{n_c}{N},$$
where $n_c$ represents the number of judges assigning an item correctly and $N$ represents the total number of judges. The value of $P_{as}$ ranges from 0 to 1 with the larger number indicating greater agreement among judges. The other index is called the substantive-validity coefficient. The content validity coefficient, $C_{sv}$, measures the extent to which judges assign a measure to its posited construct more than to any other construct. The content validity coefficient provides more accurate estimates of validity. It is computed as follows:

$$C_{sv} = \frac{n_c - n_o}{N},$$

where $n_c$ and $N$ are defined same as $P_{as}$, and $n_o$ represents the highest number of assignments of items to another constructs in the set. The value of $C_{sv}$ ranges from -1 to 1 with a larger number indicating greater content validity. The item-sorting procedure was conducted with 10 judges (undergraduate students with senior-year school standing). Given definitions and descriptions of six constructs, the judges were asked to evaluate the correspondence between items and construct and assigned each item accordingly. The 25 items were randomly listed using Excel random number generation. The results of the item-sorting procedure are presented in Chapter 4.

Convergent validity examines the degree to which the indicator is similar to other indicators to which it theoretically should be similar. Convergent validity can be evaluated by determining whether each item loads significantly on its hypothesized construct. The loading coefficients can be estimated by a measurement model through CFA (Achrol & Etzel, 2003; Anderson & Gerbing, 1988).
Discriminant validity examines the degree to which the construct is not similar to other constructs to which it theoretically should be not similar. Discriminant validity can be assessed by conducting chi-square difference tests using CFAs (Anderson, 1987). A measurement model containing only a pair of constructs is measured twice – once freeing the inter-construct correlation and once constraining the inter-construct correlation to 1. CFAs were run separately for all possible combination of pairs of two constructs. Chi-square difference is calculated between a model unconstrained correlation and a model of which the inter-construct correlation is constrained to 1. Then, the statistical significance of difference in $\chi^2$ values is examined with the degree of freedom of 1. It is assumed the constructs have discriminant validity if the chi-square difference is statistically significant with a degree of freedom of 1.

Reliability shows the quality of measurement and indicates consistency or repeatability of the measures. In other words, it is concluded that a measurement is reliable when a measurement yields the same results for repeated applications (Carmines & Zeller, 1979). Reliability for the constructs was estimated using a formula (Fornell & Larcker, 1981; Hair et al., 1998) as follows:

$$
\rho_{\eta} = \frac{(\sum \lambda_{yi})^2}{(\sum \lambda_{yi})^2 + \sum(e_i)}
$$

where $\rho_{\eta}$ represents construct reliability for scale $\eta$, $\lambda_{yi}$ reflects standardized factor loadings for scale item $yi$, and $e_i$ indicates measurement error for scale item $yi$. A confirmatory factor analysis by means of the Analysis of Moment Structures (AMOS) program provided the standardized factor loadings and measurement errors. The results of evaluating reliability are presented in Chapter 4.
Data Analysis Procedures

Measurement Model

A confirmatory factor analysis by means of AMOS program was conducted to evaluate the validity and reliability of each construct for estimating the causal relationships. A confirmatory factor analysis is very similar to an exploratory factor analysis except that confirmatory factor analysis allows a researcher more control to specify items on a certain factor. Standardized factor loading scores, significant levels for items, and fit indexes were used to determine whether the proposed model possessed validity and reliability so that it could be used to examine the causal relationships with dependent variables. Figure 3 depicts the proposed measurement model for the 6 constructs of HRM. Table 4 shows the corresponding questions used in the measurement model.

All items, except the questions of the number of training hours (TH) and C2 through C5, were measured on a 6-point scale from 1 (very inaccurate) to 6 (very accurate). The number of training hours was measured with an open-ended question (see Appendix A). Questions C2 to C5 were measured on a 4-point scale from 1 (never) to 4 (weekly & more).
Table 4

*Scale Items Used In the Measurement Model*

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
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<tbody>
<tr>
<td><strong>Staffing (ST)</strong></td>
<td></td>
</tr>
<tr>
<td>S1</td>
<td>There is formal employment planning in my organization.</td>
</tr>
<tr>
<td>S2</td>
<td>My company uses internal recruiting sources extensively to fill open positions.</td>
</tr>
<tr>
<td>S3</td>
<td>Job applicants undergo structured interviews before being hired.</td>
</tr>
<tr>
<td>S4</td>
<td>Job applicants take formal pre-employment tests before being hired.</td>
</tr>
<tr>
<td><strong>Training and development (TD)</strong></td>
<td></td>
</tr>
<tr>
<td>T1</td>
<td>A training needs assessment is conducted before training is provided.</td>
</tr>
<tr>
<td>T2</td>
<td>There are formal training programs to teach new hires the skills they need to perform their jobs.</td>
</tr>
<tr>
<td>T3</td>
<td>Formal training programs are offered to employees in order to increase their promotability in the organization.</td>
</tr>
<tr>
<td>T4</td>
<td>Training programs are evaluated in order to improve their effects.</td>
</tr>
<tr>
<td>TH</td>
<td>What is the average number of hours of formal training received by an employee in your firm over the last year (2003)?</td>
</tr>
<tr>
<td><strong>Performance appraisal (PA)</strong></td>
<td></td>
</tr>
<tr>
<td>P1</td>
<td>Employees regularly (at least once a year) receive a formal evaluation of their performance.</td>
</tr>
<tr>
<td>P2</td>
<td>Performance appraisals are based on objective results.</td>
</tr>
<tr>
<td>P3</td>
<td>Performance appraisals are based on quantifiable results.</td>
</tr>
<tr>
<td>P4</td>
<td>Employees receive performance feedback on a routine (at least twice a year) basis.</td>
</tr>
<tr>
<td><strong>Performance rewards (RW)</strong></td>
<td></td>
</tr>
<tr>
<td>R1</td>
<td>Promotions are contingent on performance (versus seniority).</td>
</tr>
<tr>
<td>R2</td>
<td>Employees receive monetary rewards based on the profit of the organization.</td>
</tr>
<tr>
<td>R3</td>
<td>Employees receive monetary rewards based on their performance.</td>
</tr>
<tr>
<td><strong>Employee relations (ER)</strong></td>
<td></td>
</tr>
<tr>
<td>E1</td>
<td>Employees have a reasonable and fair complaint-resolution process.</td>
</tr>
<tr>
<td>E2</td>
<td>Employees are involved in formal participation processes such as quality improvement groups, problem solving groups, or suggestion systems.</td>
</tr>
<tr>
<td>E3</td>
<td>Employees regularly (at least once a year) complete an attitude survey.</td>
</tr>
<tr>
<td>E4</td>
<td>Employees are provided the opportunity to suggest improvements in the way things are done.</td>
</tr>
<tr>
<td><strong>Internal communication system (IC)</strong></td>
<td></td>
</tr>
<tr>
<td>C1</td>
<td>There is a formal information-sharing program (a newsletter or regular meetings) in the organization.</td>
</tr>
<tr>
<td>C2</td>
<td>How often do employees receive formal company communication regarding company goals?</td>
</tr>
<tr>
<td>C3</td>
<td>How often do employees receive formal company communication regarding operating performance?</td>
</tr>
<tr>
<td>C4</td>
<td>How often do employees receive formal company communication regarding financial performance?</td>
</tr>
<tr>
<td>C5</td>
<td>How often do employees receive formal company communication regarding competitive performance?</td>
</tr>
</tbody>
</table>
Figure 3. Hypothesized model of human resource management.

A Test of the Hypotheses

Figure 4 shows the conceptual model developed to test the seven hypotheses and Table 5 presents restated hypotheses 1 through 7. As stated earlier in this Chapter, HR
outcomes were measured with a single item, turnover rate; organizational outcomes were measured by a single item, labor productivity; and, financial accounting outcomes were measured with two items, sales growth rates and RevPar. Structural equation modeling by means of AMOS program was used to examine the hypotheses 1 through 7.

Figure 4. Hypothesized model of the relationships between HRM and organizational performance.
Table 5

Restated hypotheses and corresponding paths

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Independent variable</th>
<th>Dependent variable</th>
<th>Path</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1-1 ST directly affects lower turnover rates (TR).</td>
<td>ST</td>
<td>TR</td>
<td>$\gamma_{st, tr} &lt; 0$</td>
</tr>
<tr>
<td>H1-2 ST directly affects higher labor productivity (LP).</td>
<td>ST</td>
<td>LP</td>
<td>$\gamma_{st, lp} &gt; 0$</td>
</tr>
<tr>
<td>H1-3(a) ST directly affects higher sales growth rates (GW).</td>
<td>ST</td>
<td>GW</td>
<td>$\gamma_{st, gw} &gt; 0$</td>
</tr>
<tr>
<td>H1-3(b) ST directly affects higher RevPar (RP).</td>
<td>ST</td>
<td>RP</td>
<td>$\gamma_{st, rp} &gt; 0$</td>
</tr>
<tr>
<td>H2-1 TD directly affects lower TR.</td>
<td>TD</td>
<td>TR</td>
<td>$\gamma_{td, tr} &lt; 0$</td>
</tr>
<tr>
<td>H2-2 TD directly affects higher LP.</td>
<td>TD</td>
<td>LP</td>
<td>$\gamma_{td, lp} &gt; 0$</td>
</tr>
<tr>
<td>H2-3(a) TD directly affects higher GW.</td>
<td>TD</td>
<td>GW</td>
<td>$\gamma_{td, gw} &gt; 0$</td>
</tr>
<tr>
<td>H2-3(b) TD directly affects higher RP.</td>
<td>TD</td>
<td>RP</td>
<td>$\gamma_{td, rp} &gt; 0$</td>
</tr>
<tr>
<td>H3-1 PA directly affects lower TR.</td>
<td>PA</td>
<td>TR</td>
<td>$\gamma_{pa, tr} &lt; 0$</td>
</tr>
<tr>
<td>H3-2 PA directly affects higher LP.</td>
<td>PA</td>
<td>LP</td>
<td>$\gamma_{pa, lp} &gt; 0$</td>
</tr>
<tr>
<td>H3-3(a) PA directly affects higher GW.</td>
<td>PA</td>
<td>GW</td>
<td>$\gamma_{pa, gw} &gt; 0$</td>
</tr>
<tr>
<td>H3-3(b) PA directly affects higher RP.</td>
<td>PA</td>
<td>RP</td>
<td>$\gamma_{pa, rp} &gt; 0$</td>
</tr>
<tr>
<td>H4-1 RW directly affects lower TR.</td>
<td>RW</td>
<td>TR</td>
<td>$\gamma_{rw, tr} &lt; 0$</td>
</tr>
<tr>
<td>H4-2 RW directly affects higher LP.</td>
<td>RW</td>
<td>LP</td>
<td>$\gamma_{rw, lp} &gt; 0$</td>
</tr>
<tr>
<td>H4-3(a) RW directly affects higher GW.</td>
<td>RW</td>
<td>GW</td>
<td>$\gamma_{rw, gw} &gt; 0$</td>
</tr>
<tr>
<td>H4-3(b) RW directly affects higher RP.</td>
<td>RW</td>
<td>RP</td>
<td>$\gamma_{rw, rp} &gt; 0$</td>
</tr>
<tr>
<td>H5-1 ER directly affects lower TR.</td>
<td>ER</td>
<td>TR</td>
<td>$\gamma_{er, tr} &lt; 0$</td>
</tr>
<tr>
<td>H5-2 ER directly affects higher LP.</td>
<td>ER</td>
<td>LP</td>
<td>$\gamma_{er, lp} &gt; 0$</td>
</tr>
<tr>
<td>H5-3(a) ER directly affects higher GW.</td>
<td>ER</td>
<td>GW</td>
<td>$\gamma_{er, gw} &gt; 0$</td>
</tr>
<tr>
<td>H5-3(b) ER directly affects higher RP.</td>
<td>ER</td>
<td>RP</td>
<td>$\gamma_{er, rp} &gt; 0$</td>
</tr>
<tr>
<td>H6-1 IC directly affects lower TR.</td>
<td>IC</td>
<td>TR</td>
<td>$\gamma_{ic, tr} &lt; 0$</td>
</tr>
<tr>
<td>H6-2 IC directly affects higher LP.</td>
<td>IC</td>
<td>LP</td>
<td>$\gamma_{ic, lp} &gt; 0$</td>
</tr>
<tr>
<td>H6-3(a) IC directly affects higher GW.</td>
<td>IC</td>
<td>GW</td>
<td>$\gamma_{ic, gw} &gt; 0$</td>
</tr>
<tr>
<td>H6-3(b) IC directly affects higher RP.</td>
<td>IC</td>
<td>RP</td>
<td>$\gamma_{ic, rp} &gt; 0$</td>
</tr>
<tr>
<td>H7-1 TR directly affects LP.</td>
<td>TR</td>
<td>LP</td>
<td>$\beta_{tr, lp} &lt; 0$</td>
</tr>
<tr>
<td>H7-2 TR directly affects GW.</td>
<td>TR</td>
<td>GW</td>
<td>$\beta_{tr, gw} &lt; 0$</td>
</tr>
<tr>
<td>H7-3 TR directly affects RP.</td>
<td>TR</td>
<td>RP</td>
<td>$\beta_{tr, rp} &lt; 0$</td>
</tr>
<tr>
<td>H7-4 LP directly affects RW.</td>
<td>LP</td>
<td>RW</td>
<td>$\beta_{lp, rw} &lt; 0$</td>
</tr>
<tr>
<td>H7-5 LP directly affects RP.</td>
<td>LP</td>
<td>RP</td>
<td>$\beta_{lp, rp} &lt; 0$</td>
</tr>
</tbody>
</table>
Examining the Data

The data collected for testing the hypotheses was examined for its coding accuracy and normality. SEM is more sensitive to violation of multivariate normality and strong kurtosis and skewness (Hair et al., 1998). A descriptive analysis was conducted to identify coding problems and revealed that there were several coding errors. Coding errors were identified if there were unusual values such as values that are greater than the allowed maximum number. These errors were corrected by checking the corresponding returned questionnaires. Multivariate normality was examined by normal probability plots. A descriptive analysis was employed to estimate kurtosis and skewness for the measures, and multiple regression analyses were conducted to produce normal probability plots. For multiple regression analyses, 25 items were treated as independent variables, and four organizational performance measures were used as dependent variables.

The skewness for all variables ranged from -2.267 to 3.688, and kurtosis had a range of between -1.398 and 20.142. There were five variables that had strong skewness and kurtosis values, and the five variables may cause distortion of the results on SEM. The five variables were the number of hours of training managers, the number of training hours for non-managerial employees, turnover rate for managers, turnover rate for non-managerial employees, and RevPar. Log transformation was conducted to improve the skewness and kurtosis. Table 6 shows the skewness and kurtosis values for the problematic variables before and after the log transformation.
Table 6

*Skewness and Kurtosis of Training hours, Turnover rates, and RevPar*

<table>
<thead>
<tr>
<th>Variables</th>
<th>Before log</th>
<th>After log</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Skewness</td>
<td>Kurtosis</td>
</tr>
<tr>
<td>Number of training hours for managers</td>
<td>3.61</td>
<td>20.14</td>
</tr>
<tr>
<td>Number of training hours for non-managerial employees</td>
<td>3.71</td>
<td>18.40</td>
</tr>
<tr>
<td>Turnover rate for managers</td>
<td>3.69</td>
<td>14.24</td>
</tr>
<tr>
<td>Turnover rate for non-managerial employees</td>
<td>1.80</td>
<td>4.50</td>
</tr>
<tr>
<td>RevPar</td>
<td>2.56</td>
<td>8.07</td>
</tr>
</tbody>
</table>

Normal probability plots were examined to evaluate multivariate normality of the variables. Normal probability was produced by applying multiple regression analyses to 4 dependent variables with 25 independent variables. The normal probability plots are presented in Appendix E. They indicated that turnover rates of managers and non-managerial employees, and RevPar had some departure from multivariate normality. The normal probability plots were examined again after applying log transformation on the problematic dependent variables. The normal probability plots for log transformed dependent variables are presented in Appendix E. The plots appear to show that the transformation improved the multivariate normality.

The descriptive analysis showed that some values were missing. The percentage of missing values for each variable ranged from .94% to 14.15%. Because the sample size was a critical issue for this study, it was decided to impute the missing values. There are two suggested imputation methods for missing values: regression and mean values. The mean value imputation method uses the mean scores of variables with complete data. A method of mean substitution is relatively easy and quick and provides all cases with complete information. However, it has the disadvantage of distorting the actual distribution of data. In a regression imputation method, a regression analysis is used to predict the missing values for a variable. The variable that has the strongest relationship
to other variables is identified with a correlation coefficient. Missing values for a variable are computed by using the formula produced by a simple regression analysis. In the simple regression analysis, a variable with missing values is dependent variable and another variable highly correlated with the variable is independent variable. The missing values are computed by using a formula that a regression analysis generates. Regression imputation has the disadvantage of reinforcing the relationships in the data. Yet, the regression method has no impact on the generalizability of the results in cases where moderate levels of widely scattered missing data are present and where the relationships between variables are strong enough to generate the predicting model for variables with missing values (Hair et al., 1998). Therefore, the regression method was used to impute the missing values in this study.

Summary

This chapter presented the research methodology designed to examine the proposed hypotheses. The development of measurement instruments of HRM followed by discussion of organizational performance measures. Next, the methods of selecting sample population and data collection were presented. The issue of sample size was addressed, with the caution of effects of a small sample size on the statistical power and the convergent validity in SEM.

The chapter continued with a discussion of issues for nonresponse bias, validity, and reliability. The discussion focused mainly on methodological aspects and techniques to estimate the nonresponse bias and to evaluate the validity and reliability of the measurement. The results of these issues are presented in Chapter 4.
A discussion of data analysis procedures followed. Statistical methods to examine the hypotheses were addressed along with presentation of the measurement model and the hypothesized model of the relationships between HRM and organizational performance. Finally, the chapter concluded with an examination of the data. Multivariate normality and missing value treatment were addressed.
CHAPTER 4

ANALYSIS AND RESULTS

Introduction

The first section of this chapter discusses the demographic profile of the respondents and a descriptive summary. The descriptive summary includes means and standard deviations for all variables used in the study.

The second section of this chapter presents the results of estimation of validity and reliability of the measurement. The reliability of the measurement in this study was assessed by a construct reliability method.

In the third section of this chapter, results of testing hypotheses are presented for each group of managerial and non-managerial employees.

Demographic Profile of Respondents

The demographic profile of the respondents in this study is presented in Table 7. The hotels had from 30 to 590 rooms, with a mean of 192 rooms. The hotels employed between 9 and 1,630 employees, with a mean of 133 employees. The hotels employed from 1 to 110 managerial employees, with a mean of 14.5 managers. The hotels have operated in the lodging industry for 22 years on average, with a range of 1 to 108 years.
Table 7

Demographic Profile of the Respondents

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>N</th>
<th>Min</th>
<th>Max</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of rooms</td>
<td>95</td>
<td>30</td>
<td>590</td>
<td>191.98</td>
<td>116.35</td>
</tr>
<tr>
<td>Number of managerial employees</td>
<td>93</td>
<td>1</td>
<td>110</td>
<td>14.51</td>
<td>18.08</td>
</tr>
<tr>
<td>Number of non-managerial employees</td>
<td>93</td>
<td>7</td>
<td>1614</td>
<td>118.44</td>
<td>223.72</td>
</tr>
<tr>
<td>Total number of employees</td>
<td>93</td>
<td>9</td>
<td>1630</td>
<td>132.95</td>
<td>233.56</td>
</tr>
<tr>
<td>Number of years in lodging industry</td>
<td>90</td>
<td>1</td>
<td>108</td>
<td>22.10</td>
<td>18.27</td>
</tr>
<tr>
<td>Turnover rates of managers (%)</td>
<td>91</td>
<td>0</td>
<td>100</td>
<td>9.01</td>
<td>20.40</td>
</tr>
<tr>
<td>Turnover rates of non-managerial employees (%)</td>
<td>89</td>
<td>0</td>
<td>97</td>
<td>23.17</td>
<td>20.40</td>
</tr>
<tr>
<td>Occupancy rate (%)</td>
<td>89</td>
<td>29</td>
<td>98.9</td>
<td>66.04</td>
<td>15.14</td>
</tr>
<tr>
<td>Revenue (in thousands)</td>
<td>89</td>
<td>500</td>
<td>24,000</td>
<td>5,330.25</td>
<td>5,240.38</td>
</tr>
<tr>
<td>Average daily room rate ($)</td>
<td>89</td>
<td>24.5</td>
<td>300</td>
<td>95.76</td>
<td>57.92</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Frequency</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of the property (N = 91)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chain managed</td>
<td>17</td>
<td>18.68</td>
</tr>
<tr>
<td>Franchise</td>
<td>48</td>
<td>52.75</td>
</tr>
<tr>
<td>Independent</td>
<td>19</td>
<td>20.88</td>
</tr>
<tr>
<td>Other</td>
<td>7</td>
<td>7.69</td>
</tr>
<tr>
<td>Location (N = 92)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urban</td>
<td>19</td>
<td>20.88</td>
</tr>
<tr>
<td>Suburban</td>
<td>24</td>
<td>26.37</td>
</tr>
<tr>
<td>Highway</td>
<td>17</td>
<td>18.68</td>
</tr>
<tr>
<td>Airport</td>
<td>11</td>
<td>12.09</td>
</tr>
<tr>
<td>Resort</td>
<td>20</td>
<td>21.74</td>
</tr>
<tr>
<td>Market price segment (N = 91)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Luxury</td>
<td>4</td>
<td>4.40</td>
</tr>
<tr>
<td>Upscale</td>
<td>18</td>
<td>19.78</td>
</tr>
<tr>
<td>Mid-price</td>
<td>64</td>
<td>70.33</td>
</tr>
<tr>
<td>Economy</td>
<td>4</td>
<td>4.40</td>
</tr>
<tr>
<td>Budget</td>
<td>1</td>
<td>1.10</td>
</tr>
</tbody>
</table>

The turnover rates for managers ranged from 0%-100%, with a mean of 9%. The hotels' average daily room rate (ADR) ranged from $24.5 to $300, with an average of $95.76. This is slightly higher than the ADR of $83.54 in 20021 (“2003 Lodging,” 2003). The average occupancy rate was 66%, with a range of 29% to 98.9%. This figure was also

1 The figures for 2003 and 2004 were not available at the time of the writing of this dissertation.
slightly higher than the industry average of 59.1%, in 2002 ("2003 Lodging," 2003). The revenue of the participating hotels ranged between $500,000 and $24 million, with an average of $5.33 million. The slight differences in ADR and occupancy rate may be attributed to the different demographic profiles by location. According to the American Hotel & Lodging Association (U.S. Lodging, 2002), 75% of hotels in the United States in 2002 were located in either suburban (33%) or highway (42%) areas. The remaining 25% of the hotels were located in urban (11%), airport (8%), and resort (5%) areas. In this study, the profile of the participating hotels is shown in Table 7. The hotels were located almost uniformly in the five locations. About 26% of hotels indicated that they were located in suburban, followed by resort (21.74%), urban (20.88%), highway (18.68%), and airport (12.08%) areas. More than half of the participating hotels were franchised, and 20% of them were independent. About 19% of the hotels were chain managed. Most of the hotels had a market price segment for either upscale (20%) or mid-price (70%).

The average turnover rates for managers and non-managers were 9% and 23%, respectively. There was no study available to compare with the turnover rate for managers and non-managers. However, Simons and Hinkin (2001, cited in Woods, Sciarini, & Heck, 1998) showed that the average employee turnover rate was 47.35%, which decreased from the 52% in 1997.

Descriptive Statistics

Table 8 reports the means and standard deviations of all items used to test hypotheses H1 to H7. The correlation matrix among the variables is provided in Appendix F. The means and standard deviations were computed with missing values imputed by using a
simple regression analysis. Thus, a sample size of 106 was used for analyzing the
descriptive statistics, and the complete sample ($n = 106$) was used for testing the
hypotheses.

An independent two-sample $t$ test was conducted to examine if there were significant
differences between managerial employees and non-managerial employees in terms of
implementing HRM practices. The results show that there were significant differences ($p \
\leq .05$) between managerial employees and non-managerial employees in several HRM
practices such as S1, R2, C2-C5, and TH. The detailed information such as degrees of
freedom and $p$ values are presented in Appendix D. It appears that the hotels used more
formal employment planning for managerial employees than for non-managerial
employees, $t(202) = 2.2, p = .03$ (two-tailed). The hotels indicated that they rewarded
managerial employees more with monetary rewards based on the profit of the
organization than they did non-managerial employees, $t(210) = 3.50, p = .001$. The
responding hotels provided about 10 hours more training for managerial employees ($M = \\n41.46, SD = 38.37$) than for non-managerial employees ($M = 30.19, SD = 27.66$), $t(210) = 
2.45, p = .02$. There were significant differences between managerial employees and non-
managerial employees in terms of frequency of sharing information regarding all four
types of a company’s performance such as company goals, operating performance,
financial performance, and competitive performance. The participating hotels indicated
that they shared information about the company’s performance more often with
managerial than with non-managerial employees. The $t$ test showed that the turnover
rates for managers ($M = 10, SD = 18.86$) was significantly lower than the turnover rate
for non-managerial employees ($M = 24.38, SD = 18.43$), $t(210) = -5.61, p < .001$. 

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Table 8

Means and Standard Deviations of Dependent and Independent Variables (n = 106)

<table>
<thead>
<tr>
<th>Construct</th>
<th>Items</th>
<th>Managerial employees</th>
<th>Non-managerial employees</th>
<th>M</th>
<th>SD</th>
<th>M</th>
<th>SD</th>
<th>t value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staffing</td>
<td>S1*</td>
<td>4.50</td>
<td>1.52</td>
<td>4.07</td>
<td>1.63</td>
<td>2.01</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>S2</td>
<td>4.42</td>
<td>1.56</td>
<td>4.28</td>
<td>1.64</td>
<td>.64</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>S3</td>
<td>4.89</td>
<td>1.41</td>
<td>4.57</td>
<td>1.50</td>
<td>1.61</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>S4</td>
<td>2.55</td>
<td>1.84</td>
<td>2.31</td>
<td>1.75</td>
<td>.97</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Training and Developing</td>
<td>T1</td>
<td>2.97</td>
<td>1.71</td>
<td>2.91</td>
<td>1.66</td>
<td>.25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(TH = number of hours)</td>
<td>T2</td>
<td>4.26</td>
<td>1.58</td>
<td>4.57</td>
<td>1.47</td>
<td>-1.43</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>T3</td>
<td>4.13</td>
<td>1.60</td>
<td>3.94</td>
<td>1.45</td>
<td>.90</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>T4</td>
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<td>P1</td>
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<td>5.14</td>
<td>1.03</td>
<td>5.06</td>
<td>1.19</td>
<td>.56</td>
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<tr>
<td></td>
<td>R2**</td>
<td>4.01</td>
<td>1.96</td>
<td>3.09</td>
<td>1.85</td>
<td>3.50</td>
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<tr>
<td></td>
<td>R3**</td>
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<td>1.57</td>
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<td>1.23</td>
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<td>5.01</td>
<td>1.22</td>
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<td></td>
<td>E2</td>
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<td>1.53</td>
<td>4.10</td>
<td>1.47</td>
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<td></td>
<td>E3</td>
<td>2.53</td>
<td>1.96</td>
<td>2.57</td>
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<td>-.140</td>
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<td></td>
<td>E4</td>
<td>4.93</td>
<td>1.22</td>
<td>4.96</td>
<td>1.14</td>
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<td>4.45</td>
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<td>.82</td>
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<td>(C2-C5: 4 = weekly &amp; more</td>
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<td>3.05</td>
<td>1.01</td>
<td>2.68</td>
<td>0.88</td>
<td>2.81</td>
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<tr>
<td>1 = never)</td>
<td>C3**</td>
<td>3.61</td>
<td>0.75</td>
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<td>0.84</td>
<td>3.30</td>
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<td></td>
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<td>3.31</td>
<td>0.96</td>
<td>2.34</td>
<td>0.98</td>
<td>7.27</td>
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<td></td>
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<td>2.33</td>
<td>0.96</td>
<td>6.89</td>
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**Dependent variables**

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<tr>
<th></th>
<th>M</th>
<th>SD</th>
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<tbody>
<tr>
<td>Turnover rate for managers</td>
<td>10.00</td>
<td>18.86</td>
</tr>
<tr>
<td>Turnover rate for non-managerial employees</td>
<td>24.38</td>
<td>18.43</td>
</tr>
<tr>
<td>RevPar</td>
<td>66.89</td>
<td>42.24</td>
</tr>
<tr>
<td>Labor productivity</td>
<td>73.13</td>
<td>57.08</td>
</tr>
<tr>
<td>Growth (8 = 51% or higher, 1 = declining)</td>
<td>3.08</td>
<td>1.38</td>
</tr>
</tbody>
</table>

* p < .05, ** p < .01

Because there were several variables differing significantly between managerial and non-managerial employees, the hypotheses were examined separately for managerial employees and non-managerial employees.
Evaluation of Validity and Reliability of the Measurement

Three types of validity were tested: content validity, convergent validity, and discriminant validity. Content validity was measured by an item-sorting procedure (Anderson & Gerbing, 1991). Content validity consisted of two elements: \( P_{as} \) and \( C_{sv} \). \( P_{as} \) refers to the proportion of respondents who agree with an item assigned to its intended construct. \( C_{sv} \) is the estimated content validity coefficient. \( C_{sv} \) measures the proportion of variation between assigning an item to its intended construct and assigning the item to another construct in the measurement set. Table 9 shows the results of content validity analysis. The results of the content validity analysis show that all seven constructs had satisfactory levels of content validity. The proportion of respondents ranged from .90 to 1.0 and the coefficients of content validity ranged from .80 to 1.0.

Construct reliability and validity were evaluated using CFAs for each group of employees, managerial and non-managerial employees. Before assessing reliability and validity coefficients, the overall model fit should be examined. The model fit evaluates whether a proposed model is a correct one given the sample data. The model fit was assessed using chi-square (\( \chi^2 \)), Tucker-Lewis index (TLI), Comparative fit index (CFI), and Root-mean-square error of approximation (RMSEA) (Kenny & McCoach, 2003; Lievens & Keer, 2001). RMSEA has been recognized in recent years as one of the most informative criteria in covariance structure modeling (Byrne, 2001). Values of RMSEA that range from .08 to .10 indicate a mediocre fit, and those greater than .10 indicate a poor fit (MacCallum, Browne, & Sugawara, 1996). A RMSEA value of .06 is indicative of a good fit (Hu & Bentler, 1999 cited in Byrne, 2001). Bentler (1990) revised the
Table 9

Results of Content Validity Analysis (n = 10)

<table>
<thead>
<tr>
<th>Construct</th>
<th>Items</th>
<th>( P_{ai} )</th>
<th>( Csv )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staffing</td>
<td>Average</td>
<td>.98</td>
<td>.95</td>
</tr>
<tr>
<td></td>
<td>S1</td>
<td>.90</td>
<td>.80</td>
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<td></td>
<td>S2</td>
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<td>1.0</td>
</tr>
<tr>
<td></td>
<td>S3</td>
<td>1.0</td>
<td>1.0</td>
</tr>
<tr>
<td></td>
<td>S4</td>
<td>1.0</td>
<td>1.0</td>
</tr>
<tr>
<td>Training and Developing</td>
<td>Average</td>
<td>.96</td>
<td>.92</td>
</tr>
<tr>
<td></td>
<td>T1</td>
<td>1.0</td>
<td>1.0</td>
</tr>
<tr>
<td></td>
<td>T2</td>
<td>1.0</td>
<td>1.0</td>
</tr>
<tr>
<td></td>
<td>T3</td>
<td>1.0</td>
<td>1.0</td>
</tr>
<tr>
<td></td>
<td>T4</td>
<td>.80</td>
<td>.60</td>
</tr>
<tr>
<td></td>
<td>TH</td>
<td>1.0</td>
<td>1.0</td>
</tr>
<tr>
<td>Performance appraisal</td>
<td>Average</td>
<td>.90</td>
<td>.80</td>
</tr>
<tr>
<td></td>
<td>P1</td>
<td>.80</td>
<td>.60</td>
</tr>
<tr>
<td></td>
<td>P2</td>
<td>1.0</td>
<td>1.0</td>
</tr>
<tr>
<td></td>
<td>P3</td>
<td>1.0</td>
<td>1.0</td>
</tr>
<tr>
<td></td>
<td>P4</td>
<td>.80</td>
<td>.60</td>
</tr>
<tr>
<td>Performance rewards</td>
<td>Average</td>
<td>1.0</td>
<td>1.0</td>
</tr>
<tr>
<td></td>
<td>R1</td>
<td>1.0</td>
<td>1.0</td>
</tr>
<tr>
<td></td>
<td>R2</td>
<td>1.0</td>
<td>1.0</td>
</tr>
<tr>
<td></td>
<td>R3</td>
<td>1.0</td>
<td>1.0</td>
</tr>
<tr>
<td>Employee relations</td>
<td>Average</td>
<td>.93</td>
<td>.85</td>
</tr>
<tr>
<td></td>
<td>E1</td>
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<td>1.0</td>
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<tr>
<td></td>
<td>E2</td>
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<td>.80</td>
</tr>
<tr>
<td></td>
<td>E3</td>
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<td>E4</td>
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<td>.80</td>
</tr>
<tr>
<td>Internal communication</td>
<td>Average</td>
<td>1.0</td>
<td>1.0</td>
</tr>
<tr>
<td></td>
<td>C1</td>
<td>1.0</td>
<td>1.0</td>
</tr>
<tr>
<td></td>
<td>C2</td>
<td>1.0</td>
<td>1.0</td>
</tr>
<tr>
<td></td>
<td>C3</td>
<td>1.0</td>
<td>1.0</td>
</tr>
<tr>
<td></td>
<td>C4</td>
<td>1.0</td>
<td>1.0</td>
</tr>
<tr>
<td></td>
<td>C5</td>
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</tr>
</tbody>
</table>

normed fit index to adjust for sample size and proposed a CFI that has been a practical criterion of choice. Values of CFI range from zero to 1.0, and a value close to 1 indicates a good model fit (Byrne, 2001). Values of TLI range from zero to 1.0, and a value close to .90 reflects a good model fit (Schmacker & Lomax, 1996).
The first CFA was conducted with 25 HRM indicators and six constructs for each group. In Table 10, the results of the first CFA are presented. For the group of managerial employees, the statistic of chi-square ($\chi^2 = 411, p < .001$) was significant, which indicated a lack of model fit. However, chi-square is sensitive to sample size and does not provide stable information of the degree of fit (Gerbing & Anderson, 1993). Chi-square can be adjusted with the degrees of freedom to assess model fit. The normed chi-square (NC) adjusted for the degrees of freedom is computed by using the formula, $NC = \chi^2/df$.

The acceptable NC range is between 1.0 and 5.0. An NC less than 1.0 signifies a poor model fit; higher than 5.0 reflects a need for improvement (Schmacker & Lomax, 1996). The normed chi-square statistic of the first model for the managerial employee group was 1.57, which was at an acceptable level. The statistics of the model fit index of TLI (.839), CFI (.861), and RMSEA (.074) indicate a poor fit of the model to the data. Therefore, model improvement was applied.

Anderson and Gerbing (1988) suggested four methods for improving model fit: relate the indicator to a different factor; delete the indicator from the model; relate the indicator to a multiple factor; or, use correlated measurement error. They stated that the first two methods are preferred because they preserve unidimensional measurement, whereas the other two ways do not. Next, factor loadings and significance levels were examined. Low factor loading scores indicate a lack of explanatory power. Therefore, following the suggestions of Anderson and Gerbing (1988) three items having low factor loadings were eliminated although all items had positive and significant loadings. The three items are S4 (.34), E3 (.32), and R2 (.39).
### Table 10

*Results of the First CFA for Managerial and Non-managerial Employees*

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<th>Fit Index</th>
<th>Managerial employees</th>
<th>Non-managerial Employees</th>
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<tr>
<td>$\chi^2$</td>
<td>409.14 ($p &lt; .001$)</td>
<td>368.19</td>
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<tr>
<td>$df$</td>
<td>260</td>
<td>260</td>
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<tr>
<td>Normed $\chi^2$</td>
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<td>1.42</td>
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<tr>
<td>TLI</td>
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<tr>
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<th>Std. loading</th>
<th>Critical Ratio</th>
<th>Reliability</th>
<th>Std. loading</th>
<th>Critical Ratio</th>
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<td>2.74</td>
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<tr>
<td>Training &amp; development</td>
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<td>.73</td>
<td>4.73</td>
<td>.66</td>
<td>.66</td>
<td>4.92</td>
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<td>.64</td>
<td>4.84</td>
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<td>4.24</td>
<td>.50</td>
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</tr>
</tbody>
</table>

Note: $p < .01$ for CR $\geq 2.58$. 

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The next step to evaluate the model fit with the data is to estimate reliability. Construct reliability was computed using a formula presented in Chapter 3. The construct reliability revealed that two constructs had lower reliability coefficients than the minimum acceptance level of .70. However, the reliability coefficients for all six constructs were over .60, which is acceptable if the research is exploratory in nature (Hair et al., 1998). With the findings from the CFA for Model 1 for the group of managerial employees, the three indicators with low factor loadings were deleted because the items contributed little to the measurement of the constructs. A second measurement model analysis was conducted with 22 variables for the group of managerial employees.

For the group of non-managerial employees, the fit indexes revealed contradictory results: some were not in the acceptable range, but some were in the acceptable range. The $\chi^2$ statistic was 368.19, with degrees of freedom of 260, significant at .001 level. The normed chi-square adjusted with the degrees of freedom was 1.42, which was in the acceptable range. The statistics of TLI (.85) and CFI (.87) were lower than .90, indicating a poor fit of the model with the data. The value of RMSEA (.06) was acceptable and indicated a good fit of the model.

Next, significances of each indicator's loading were investigated. As shown in Table 10, the loading of item R2 was not significant. Thus, this item was deleted. The next step was to examine the factor loading scores. Three indicators, P4 (.36), S4 (.34), and E3 (.33), had low factor loadings, which indicate a low explanatory power for each corresponding construct. It was decided to exclude these four indicators for the second CFA for the non-managerial employee group.
The second measurement model analysis was conducted. As shown in Table 11, the second measurement model for both groups of managerial and non-managerial employees had acceptable levels of fit indexes, and its reliability for all six constructs was improved.

For the managerial employee group, the $\chi^2$ fit statistic was 265.21 with 192 degrees of freedom ($p < .001$). The TLI was .91; the CFI was .93; the RMSEA was .06; and the NI was 1.38. All goodness of fit indexes supported the overall quality of the measurement model. Next, the reliability was assessed. The reliability of six constructs ranged from .65 to .84, all exceeding a suggested minimum of .60 (Fornell & Lacker, 1981; Hair et al., 1998). The convergent validity was examined with factor loadings and critical ratios. AMOS provides a critical ratio instead of a $t$ value. Critical ratios can be interpreted as $z$ values of statistics and are considered to be significant if values are greater than 1.96 at the .05 level. Critical ratios for 22 indicators ranged from 3.92 to 11.25 and showed significance at the .05 level. Therefore, the convergent validity of the six constructs was satisfied. Discriminant validity was assessed using chi-square difference tests (Anderson, 1987). A measurement model containing only a pair of constructs was measured twice: once without constraining the interfactor correlation and once constraining the interfactor correlation to 1. The CFAs were run for all possible combination of pairs of two constructs. Fifteen CFAs were conducted. A chi-square difference was calculated between a model with unconstrained correlation and a model in which the interfactor correlation was constrained to 1. Next, the statistical significance of difference in $\chi^2$ values was examined with the degree of freedom of 1. The $\Delta$s of $\chi^2$s ranged from 5.7 to 78.1, suggesting that the constructs were indeed distinct. As such, 22 variables and six
constructs for the group of managerial employee were considered valid and reliable in the
context of this study.

Table 11

Results of the Second Measurement Model

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<th>Fit Index</th>
<th>Managerial employees</th>
<th>Non-managerial Employees</th>
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<td>$\chi^2$</td>
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<tr>
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<td>.74</td>
<td>5.55</td>
<td>.78</td>
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</tr>
<tr>
<td>T4</td>
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<td>6.74</td>
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<td>.60</td>
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Note: $p < .01$ for CR $\geq 2.58$. 

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For the group of non-managerial employees, the second CFA was conducted with 21 variables. The statistics of fit indexes showed a good fit of the model to the data. The value of $\chi^2$ was 205.79 with degrees of freedom of 174 and was significant at the .05 level. The normed chi-square was 1.18, which was in the acceptable range. The values of TLI (.95), CFI (.96), and RMSEA (.04) were all indicative of a good fit of the model to the data. The reliability for six constructs was assessed using the same formula discussed in Chapter 3. The reliability was also improved from the first CFA model. All constructs had reliability coefficients over .60, except performance rewards. The reliability of performance rewards was .54, which is lower than the acceptable level of .60. However, it was decided to keep the construct for further analyses because of its importance in HRM. Therefore, the results of the SEM with the non-managerial employees should be carefully interpreted. Convergent validity was evaluated by the significances of factor loadings. Critical ratios for all indicators were significant at the .001 level. Thus, it is assumed that the six constructs had convergent validity. Discriminant validity was evaluated with chi-square difference tests. The differences in chi-square between constrained and unconstrained measurement models were computed. Again, a CFA of a measurement model containing only two constructs was conducted. A total of 15 CFAs was employed. The differences in chi-square ranged from 4.2 to 69.9, with degrees of freedom of 1. The $\Delta$s of $\chi^2$'s indicated there was discriminant validity for all six constructs.

Testing Hypotheses: H1-H6

Structural equation modeling was conducted to examine Hypotheses 1 through 6. The SEMs were employed separately for each group of employees, managerial and non-
managerial. Model 1 (managerial employees) and Model 3 (non-managerial employees) were developed to test the effects of six HRM constructs on turnover rates, labor productivity, and sales growth rates. Model 2 (managerial employees) and Model 4 (non-managerial employees) were developed to test the direct effects of the six HRM constructs on turnover rates, labor productivity, and RevPar.

The main objective of the hypothesis testing was to examine the relative importance of each HRM construct in each of the organizational performance measures. The results of the analyses of SEM for the group of managerial employees (Models 1 and 2) are presented first and followed by the results of the analyses for the group of non-managerial employees (Models 3 and 4).

Results of Analyses for Model 1 and 2 for Managerial employees

Table 12 shows the standardized parameter estimates, their corresponding critical ratios, and the fit statistics for the group of managerial employees.

Table 12

<table>
<thead>
<tr>
<th>Fit Index</th>
<th>Model 1 for labor productivity &amp; growth rates in revenue</th>
<th>Model 2 for labor productivity &amp; RevPar</th>
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<td>RMSEA</td>
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Results of Testing the Hypotheses for Managerial Employees

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<th>P</th>
<th>Std. loading</th>
<th>C.R.</th>
<th>P</th>
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<tr>
<td>IC → TR</td>
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<tr>
<td>TR</td>
<td>RP</td>
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<td>.02</td>
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</table>

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Results of Analysis for Model 1 for Managerial employees

Model 1 was proposed to investigate the relationships of HRM constructs with turnover rates, labor productivity, and sales growth rates. As shown in Table 11, the fit statistics indicate that the hypothesized model achieved acceptable fit, NC = 1.32, TLI = .91, CFI = .93, and RMSEA = .06. Figure 5 presents ten significant paths at the .10 level. Out of ten paths, two significant paths are related to hypothesis 7. Thus, these two paths are discussed in later this chapter. The direct effects of the six HRM constructs on three measures of organizational performance received mixed results. Specifically, the hypothesized significant effects of staffing and internal communication system on three measures of organizational performance (turnover rates, labor productivity, and sales growth rates) were close to zero ($p > .05$) and did not support H1-1, H1-2, H1-3(a), H6-1, H6-2, and H6-3(a).

Figure 5. Significant paths resulting from analysis of Model 1.
The proposed significant effects of training and development on the measures of organizational performance revealed mixed results. The greater degree of implementing training and development appeared to be positively related to sales growth rates \( (p < .05) \) and labor productivity \( (p = .096) \), thereby lending support for H2-3(a) and H2-2. However, the hypothesized significant effect of training and development on turnover rates was not supported by the current data \( (p > .05) \). Therefore, H2-1 was not supported.

The hypothesized significant direct effects of performance appraisal on the three measures of organizational performance showed opposite results. It was hypothesized that the greater degree of implementation of performance appraisal would decrease turnover rates and increase labor productivity and sales growth rates. However, there was a positive relationship between performance appraisal and turnover rates; there was no significant effect of performance appraisal on labor productivity; and there was a negative effect on sales growth rates. These results did not support H3-1, H3-2, and H-3(a).

Hypotheses 4-1, 4-2, and 4-3(a) stated that there would be significant direct effects of performance rewards on the three measures of organizational performance. The results revealed mixed support for the Hypotheses 4s. The performance rewards had a positive effect on turnover rates, indicating that the performance rewards increased turnover rates, thereby not supporting H4-1. However, the direct significant effect on labor productivity was in a positive direction, supporting H4-2. There was no significant effect of performance reward on sales growth rates \( (p > .05) \), therefore, H4-3(a) was not supported.

It was hypothesized that employee relations would have a negative effect on turnover rates and a positive effect on labor productivity and sales growth rates. The results of
SEM show that employee relations indeed decreased turnover rates \((p < .05)\), supporting H5-1. However, employee relations also had a significant negative effect on labor productivity, thereby not supporting H5-2. Hypothesis 5-3(a), which hypothesized a positive relationship with sales growth rates, was not supported with the current data \((p > .05)\).

**Results of Analysis for Model 2 for Managerial Employees**

Model 2 proposed to investigate the relationships of HRM constructs with turnover rates, labor productivity, and RevPar. The fit statistics indicated that the hypothesized model achieved acceptable fit, \(NC = 1.27, TLI = .92, CFI = .94, \) and \(RMSEA = .05\). Figure 6 shows eight significant paths at the .05 level and one significant path at the .10 level. The direct effects of the six HRM constructs on three measures of organizational performance revealed mixed results.

The analysis of the hypothesized direct effects of staffing on three measures of organizational performance revealed that there were no significant effects on turnover rate, H1-1, or on labor productivity, H1-2. However, staffing had a negative and significant effect on RevPar \((p < .05)\) and did not support H1-3(b), despite its significance.

The hypothesized significant direct effects of training and development on organizational performance measures were somewhat supported. The results showed that the greater usage of training and development indeed increased labor productivity \((p < .1)\) and RevPar \((p < .05)\), and supported H2-2 and H2-3(b). However, the direct effect of training and development on turnover rate was close to zero, and H2-1 was not supported by the current data.
The analysis of the effects of performance appraisals on turnover rates, labor productivity, and RevPar reveals that performance appraisals had significant effects on turnover rate, but the direction was opposite to the hypothesized direction. The greater usage of performance appraisals increased turnover rates, not supporting H3-1. There were no significant relationships between performance appraisals and labor productivity and RevPar, thus, H3-2 and H3-3(b) were not supported.

The analysis of the hypotheses that proposed positive effects of performance rewards on the three measures of organizational performance revealed mixed results. There was a significant relationship with performance rewards ($p < .05$), but the direction was opposite to that hypothesized. Therefore, H4-1(b) was not supported by the current data.
The greater usage of performance rewards results in higher labor productivity \( (p < .05) \), thus, H4-2 was supported. There was no significant relationship between performance rewards and sales growth rates, thus not supporting H4-3(b).

The proposed direct effects of employee relations on turnover rate, labor productivity, and RevPar showed mixed support. The greater usage of employee relations resulted in decreases in turnover rates, supporting H5-1. However, there was a significant and negative effect on labor productivity, indicating that H5-2 was not supported. Employee relations did not affect changes in RevPar, thereby H5-3(b) was not supported.

The analysis did not show a significant direct effect of an internal communication system on organizational performance measures. Three hypotheses, H6-1, H6-2, and H6-3(b), were not supported.

**Results of Analysis for Models 3 and 4 for Non-managerial Employees**

Structural equation modeling was conducted to examine Hypotheses 1 through 6 for non-managerial employee group. Two different SEMs were conducted with a different set of endogenous variables: (1) turnover rates, labor productivity, and sales growth rates; and (2) turnover rates, labor productivity, and RevPar. In Model 3, the direct effects of the six HRM constructs were hypothesized to be significant on turnover rate for non-managerial employees, labor productivity, and sales growth rates. In Model 4, it was proposed that there would be direct effects of the HRM constructs on turnover rates, labor productivity, and RevPar. The results of the analyses are presented in Table 13. The results of SEMs are discussed separately for model 3 and model 4.
Table 13

Results of Testing the Hypotheses for Non-managerial Employees

<table>
<thead>
<tr>
<th>Fit Index</th>
<th>Model 3 for labor productivity &amp; sales growth rates in revenue</th>
<th>Model 4 for labor productivity &amp; RevPar</th>
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</thead>
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<td>-1.75</td>
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</table>

Results of Analysis for Model 3 for Non-managerial Employees

Model 3 was developed to investigate the significant direct effects of the six HRM constructs with turnover rates, labor productivity, and sales growth rate. The fit statistics...
indicated that the hypothesized model achieved acceptable model fit with the data, NC = 1.17, TLI = .94, CFI = .95, and RMSEA = .04. Figure 11 shows one significant path at the .05 level and two significant paths at the .10 of significance level.

As shown in Table 13 and Figure 7, all hypotheses were not supported except H2-3(a) and H4-2. The results showed that the greater usage of training and development significantly affected increases in sales growth rates, \( p = .06 \), supporting H2-3(a). The hypothesized significant direct effect of performance rewards on labor productivity appeared as predicted \( p = .06 \), supporting H4-2. The proposed positive relationship of employee relations with labor productivity turned out to be a negative effect on labor productivity \( p = .03 \).

![Diagram of significant paths]

*Note.* Significant at the .10 level for the dotted paths.

*Figure 7.* Significant paths resulting from analysis of Model 3.
Results of Analysis for Model 4 for Non-managerial Employees

The hypothesized direct effects of HRM constructs on turnover rates, labor productivity, and RevPar were examined using SEM. The results of the analysis are shown in Table 13 and Figure 8. The results showed that there was a significant and positive direct effect of training and development on RevPar ($p = .04$), supporting H2-3(b). Employee relations also had a significant direct effect on labor productivity at the .05 level, but labor productivity decreased with the degree of usage of employee relations. Thus, H5-2 was not supported. Performance rewards had a moderate effect on labor productivity, resulted in supporting H4-2. All other hypotheses were not supported by the current data.

![Diagram showing the significant paths resulting from analysis of Model 4.]

Note. Significant at the .10 level for the dotted path.

Figure 8. Significant paths resulting from analysis of Model 4.
Summary

The results of testing Hypotheses 1 through 6 for the groups of managerial employees and non-managerial employees were discussed in this section. A set of two SEMs were conducted for each employee group for a different combination of organizational measures. The first SEM was conducted with six HRM constructs and turnover rates, labor productivity, and sales growth rates. The second SEM was employed with six HRM constructs and turnover rates, labor productivity, and RevPar.

With a significance level of .10, for the group of managerial employees, five hypotheses were supported: H2-2, H2-3(a), H2-3(b), H4-2, and H5-1. At the same significance level, for the group of non-managerial employees, three hypotheses were supported: H2-3(a), H2-3(b), and H4-2.

Testing Hypothesis: H7

The interrelationships among the three measures of organizational performance were examined by conducting SEMs. The results of the interrelationships are shown in Table 14, Table 15, and Figures 9 through 12. The results of the SEMs are discussed for each group of employees.

For the group of managerial employees, the results show that the higher turnover rate affects lower labor productivity at the .05 significance level, indicating that H7-1 was supported. There was a significant direct effect of labor productivity on sales growth rates ($p = .05$), which implies that greater labor productivity increases sales growth rates, thus H7-4 was supported. There was no significant relationship between turnover rate, and
either sales growth rates in revenues or RevPar. Thus, H7-2, H7-3, and H7-5 were not supported by the current data.

For the non-managerial employee group, only turnover rate had a significant effect on RevPar ($p = .09$). The higher turnover rate indeed lowered RevPar, therefore H7-3 was supported.

Summary

This chapter presented the results of the analyses of testing hypotheses. Demographic profile of the respondents was discussed, followed by a summary of descriptive analysis. Next, the results of measurement models for each group of employees, managerial and non-managerial employees were presented with discussion of reliability and validity of the measurement. The results showed that the measurement was valid and reliable.

The chapter continued with a discussion of the findings and results of testing the hypotheses. The implications of the results are presented in Chapter 5.
CHAPTER 5

SUMMARY AND CONCLUSIONS

Introduction

This chapter summarizes and discusses the findings of this study. Then, implications of the findings for academicians and practitioners are addressed. The results of each hypothesis are summarized in the first section of the chapter. The second section of this chapter presents general implications suggested by the findings of the study. Next, limitations of the study are addressed. Finally, the last section of this study presents a number of recommendations for future study.

Summary of the Study

This dissertation investigated the direct effects of HRM practices on organizational performance. The main goal of this study was to develop a conceptual model to measure the direct effects of the six domains of HRM practices on the three measures of organizational performance. To accomplish the main goal of this study, three sub-objectives were investigated. The first sub-objective was to develop a valid and reliable HRM measurement model. The second sub-objective was to investigate the direct effects of the HRM practices on the three measures of organizational performance. The third sub-objective of this study was to investigate the interrelationships among the three measures of organizational performance that were influenced by the HRM practices.
Six domains of HRM practices emerged from the thorough literature review: staffing; training and development; performance appraisal; performance rewards; employee relations; and internal communication systems. The elements of each domain were searched based on their impacts on organizational performance. Each domain consisted of three, four, or five HRM practices that influence an organization’s bottom line.

The interrelationships among the measures of organizational performance were examined. Most studies have focused on the effects of HRM practices on a single measure of organizational performance, such as return on assets or return on equity. Numerous researchers, however, have proposed that the effects of HRM practices should be investigated with regard to hierarchical relationships. Dyer and Reeves’ (1995) categorization of organizational performance was adapted in this study. Three types of organizational outcomes were measured: HR outcomes, organizational outcomes, and financial accounting outcomes.

The population of this study consisted of lodging properties in the United States. The participants responded to the questionnaire over a 5-week period in April and May, 2004. A total of 824 questionnaires were mailed to the individuals possessing either CHA or CHRE in the United States. Of 824, 106 usable responses were returned, which resulted in a 14.36% usable response rate. The respondents were asked to rate the degree of implementing HRM practices at their organizations for two groups of employees, managerial and non-managerial employees. The degree of implementation of HRM practices was measured separately for managerial and non-managerial employee groups because numerous researchers (e.g., Bamberger & Meshoulam, 2000; Delery, 1998) have argued that it would be a false assumption to measure the average use of HRM practices
across an organization for all levels of employees. This stems from the possibly false assumption that all employees are equally important in terms of their impacts on an organization’s bottom-line.

This study was exploratory in nature. The measurement scales for HRM practices and organizational performance measures for this study had to be developed based on the pre-existing literature. To test the validity and reliability of the measurement scales, CFAs were conducted. The results of CFAs showed that the measurement scales were indeed valid and reliable. A total of seven hypotheses were developed in this study. SEMs were employed to test the hypotheses. The summaries of findings from testing the hypotheses are presented in the following section. The findings are discussed separately for managerial and non-managerial employees. Table 14 presents the summary of the results of testing the hypotheses.
### Table 14

**Summary of the Results of Testing the Hypotheses**

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<th>Non-managerial employees</th>
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<td>H1-1</td>
<td>ST directly affects lower TR.</td>
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</tr>
<tr>
<td>H1-2</td>
<td>ST directly affects higher LP.</td>
<td>No</td>
</tr>
<tr>
<td>H1-3(a)</td>
<td>ST directly affects higher GW.</td>
<td>No</td>
</tr>
<tr>
<td>H1-3(b)</td>
<td>ST directly affects higher RP.</td>
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</tr>
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</tr>
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</tr>
<tr>
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</tr>
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</tr>
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</tr>
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Note: ST = staffing; TD = training & development; PA = performance appraisal; RW = performance rewards; ER = employee relations; IC = internal communication systems; TR = turnover rates; LP = labor productivity; GW = sales growth rates; RP = RevPar.
Discussion of Findings for Managerial Employee Group

Hypothesis 1

H1-1: Staffing directly affects lower turnover rates

This hypothesis was not supported by the current data. Therefore, no direct relationship between staffing and turnover rates was found in this study. Hiring the right people for a company has been assumed to be one of the most important steps to increase its retention rate, resulting in lower turnover rates (Farr, O’Leary, & Bartlett, 1973). However, this assumption was not supported in this study. This result is consistent with the findings in a study by Shaw, Delery, Jenkins, and Gupta (1998).

H1-2: Staffing directly affects greater labor productivity

This hypothesis was not supported by the SEM analysis. A direct effect of staffing on labor productivity was not found in this study. Desirable recruitment and selection may increase firm productivity without incurring major costs (Burke, 1988). However, there is a lack of empirical support for this assertion. Guzzo (1988) found that the effect size of a selection method on performance was small. Burke (1988) stated that selection may increase productivity, but this improvement may be temporary. After being hired, many other factors may affect an employee’s productivity, such as company culture, work structure, reward system, and involvement in decision making. Therefore, the effect of staffing may not show up in a company’s bottom line.

H1-3: Staffing has a direct effect on higher sales growth rates and higher RevPar

A direct effect of staffing on sales growth rates was not found in this study. This result does not support the findings in a study by Terpstra and Rozell (1993). They examined a relationship between sales growth rates and the use of staffing practices, such
as recruiting studies, validation studies, structured interviews, cognitive tests, and the use of biographical information blanks or weighted application blanks. They found that three out of five practices had significant and positive effects on the sales growth rates in the service industry. However, they did not find any significant relationships between those staffing practices and the sales growth rates in the manufacturing industry. The inconsistent results may stem from the fact that this study examined a parsimony model including six HRM constructs, whereas Terpstra and Rozell (1993) tested only staffing’s impact. Terpstra and Rozell’s study might have inflated the true effects of staffing on organizational performance because their model was not controlled by other HRM practices such as training and development or performance appraisal. Burke’s (1988) argument again can be applied to this finding; the effect of staffing may be temporary, and there are other factors that can affect organizational performance, such as rewards, training and development, work structure, and so on, as an employee continues working for a company.

The interesting finding of this study is the significant and direct effect of staffing on RevPar, but staffing affected RevPar negatively. This finding indicates that the greater use of staffing would lead to a lower RevPar level. Because there is little research that investigates the link between RevPar and staffing, it is difficult to compare the findings of this study with other studies. Further investigation on this issue would be very useful for academia and practitioners.
Hypothesis 2

H2-1: Training and development directly affect lower turnover rates

This hypothesis was not supported in this study, as a direct effect of training and development on turnover rate was not found by the current data. This finding is consistent with the result of a study by Shaw et al. (1998), who investigated the effect of training on employee quit rates but did not find a significant connection between training and quit rates. However, the results of this study are not consistent with previous studies (e.g., Cho et al., 2001; Panitz, 1999; Saks, 1993). It should be noted that the method chosen to test the effect of training and development on turnover rates in this study is different than those chosen in other studies. For example, Saks (1993) examined the relationship between training and the intention to leave an organization. He found a significant relationship between training and the intention to leave an organization. However, there would be a possible conceptual departure between intention and the actual behavior of leaving an organization. In addition, a SEM analyzes causal relationships between two constructs or two variables after accounting for measurement errors, whereas ordinary least squared analyses tend to leave errors behind. These methodological and conceptual differences may cause the inconsistent findings of the previous studies.

H2-2: Training and development directly affect higher labor productivity

There was a moderate effect of training and development on labor productivity at a significance level of .10. The findings suggest that the greater use of training and development will lead to higher labor productivity. This result is somewhat consistent with the findings in Barrett and O’Connell’s (2001) study. They found that longer days of
training had a significant and positive impact on labor productivity. In this study the construct of training and development consisted of five items: needs assessment, skill training program for new hires, formal training programs, training evaluation, and the number of training hours. The findings imply that when companies use all five practices successfully, it leads to greater labor productivity. It would be useful to examine if there are better training and development practices than others in terms of contributing to increased labor productivity.

H2-3: Training and development directly affect greater sales growth rates and greater RevPar

This hypothesis was supported by the current data. The path coefficient between training and development was significant at the .05 level. The greater use of training and development practices would lead to higher sales growth rates and RevPar. This finding is somewhat inconsistent with the results of Delery and Doty’s study (1996). They used ROA and ROE for financial accounting outcomes and found no significant relationships between training and both dependent variables. However, Delaney and Huselid’s (1996) study found a significant path between training and perceived market performance. The perceived market performance consisted of four items covering marketing performance to market share. They measured the perceived market performance with four items by asking respondents to rate their opinion of the organization’s performance in terms of marketing, growth in sales, profitability, and market share. Therefore, the direct comparison with the findings of this study to the result of Delaney and Huselid’s (1996) study would not be possible, but it may be concluded that training and development programs have a positive effect on organizational performance.
The findings of this study indicate that when employees received more training and
development programs to increase their skills to perform better at work, and the training
and development help employees for promotion, the employees are more likely to
generate more revenue per available room and to increase more sales.

Hypothesis 3

H3-1: Performance appraisal directly affects lower turnover rates

A significant link was found between performance appraisal and turnover rates, but
the effect was positive rather than negative. This finding indicates that the greater use of
performance appraisal would lead to higher turnover rates. Research on the effect of
performance appraisal on turnover rates has shown mixed results. There was no
significant relationship between performance appraisal and the intention to leave an
organization (Shaw et al., 1998). Roberts (2001) found that organizations implementing
performance appraisals had a higher turnover rate than those without performance
appraisals.

Well designed performance appraisals provide feedback on employee performance
and can be used as a main source of motivating employees. By the same token, managers
and employees perceive performance appraisal as frustrating if they do not know how to
appraise employees’ performance and conduct performance appraisal feedback sessions.
It requires managers and employees to invest extensive participation time and effort for
effective performance appraisal (Roberts, 2001). Managers are often evaluators and
require extensive training, which should include the skills of recording employee
performance, feedback skills, and goal setting techniques (Ilgen & Feldman, 1984;
Roberts, 2001). When managers lack these skills, performance appraisals will hurt the bottom line.

**H3-2: Performance appraisal directly affects greater labor productivity**

This hypothesis was not supported by the SEM analysis. The standardized regression coefficient between performance appraisal and labor productivity was close to zero at a significance level of .05. This finding indicates that the greater use of performance appraisal would not affect labor productivity either positively or negatively.

**H3-3: Performance appraisal directly affects higher sales growth rates and higher RevPar**

This hypothesis was not supported by the current data. A significant relationship between performance appraisal and RevPar was not found by the SEM analysis. This finding indicates that the greater use of performance appraisal would not influence increases in RevPar. However, there was a significant and negative relationship between performance appraisal and sales growth rates at the .05 level. This finding implies that if a company implements performance appraisal in great depth, the company would experience lower RevPar. According to Kearney (1978), there are three fundamental conditions for effective performance appraisal: (1) motivated employees to achieve an organization’s goal; (2) employees who have the ability and skills to perform performance appraisal; and (3) employees who clearly understand their job requirements. He also stated that if any of these conditions are lacking, performance appraisal will be ineffective. Therefore, it is recommended that future research investigate these three conditions more thoroughly to examine the true effects of performance appraisal on a company’s bottom line.
Hypothesis 4

H4-1: Performance rewards directly affect lower turnover rates

This hypothesis was not supported by the current data. Despite the significant path, the hypothesized negative path turned out to be a positive path. This finding indicates that the greater use of performance rewards will lead to higher turnover rates. Performance rewards such as promotions and monetary rewards that are contingent on an individual’s performance may act as a source of stress for managers who do not possess the necessary skills and knowledge. Consequently, performance-based rewards result in less productive managers leaving organizations because their expected future earnings are lower than their prior earnings (Milgrom & Roberts, 1992, cited in Banker, Lee, Potter, & Srinivasan, 2001). In that sense, the higher turnover rate caused by voluntary separation of less productive managers is not necessarily a bad phenomenon for companies. Moreover, individual performance-based rewards attract more productive managers because they expect to earn more wages through the performance reward system.

H4-2: Performance rewards directly affect higher labor productivity

This hypothesis was supported by the current data. The standardized path coefficient was significantly greater than zero at the .05 level. This finding indicates that if a company uses performance rewards to a greater degree, the company will most likely experience higher labor productivity. This result does not support the finding by Lowery et al. (1995). Lowery et al. (1995) did not find a positive effect of performance rewards on labor productivity. The result in this study can be interpreted on the same continuum as the result of testing H4-1. There are two ways to increase labor productivity: lower the number of employees or increase sales volume. Because performance rewards may force
managers performing poorly to leave a company, the company where only high performing managers will stay may generate more revenue, resulting in higher labor productivity.

**H4-3: Performance rewards directly affect sales growth rates and RevPar**

This hypothesis was not supported by the current data. The path coefficients between performance rewards and sales growth rates and RevPar were not significant at the .05 level. The results are somewhat inconsistent with the results of the studies by Delaney and Huselid (1996) and Delery and Doty (1996). Although neither Delaney and Huselid (1996) or Delery and Doty (1996) directly investigated the relationships between performance appraisal and sales growth rates and RevPar, both studies found a positive relationship between performance rewards and perceived market performance (Delaney & Huselid, 1996) and ROA and ROE (Delery & Doty, 1996). The inconsistent findings in this study may stem from the fact that different measurements were used in this study. In Delery and Doty’s (1996) study, performance rewards were measured with a single item, amount of bonuses based on an organization’s profit. Recall that in this study the item of group-based performance rewards was eliminated due to its lack of explanatory power. This difference in measurement may be the reason for the inconsistent results. For future research, it is recommended that one investigate whether there is a significant difference between group-based and individual-based reward systems in terms of affecting company bottom-line.
Hypothesis 5

H5-1: Employee relations directly affect lower turnover rates

This hypothesis was supported by the SEM analysis. A significant path coefficient was found between employee relations and the turnover rates. This finding indicates that if a company implements employee relations to a greater degree, the company more likely will experience lower turnover rates. Employee relations, including formal complaint resolution procedures, participation programs, and employee attitude surveys, affect employees' trust in their companies' management (Colquitt et al., 1986; Cordon, 1991; Lind & Tyler, 1988). Employee trust in management will affect employee satisfaction, which may prevent employee voluntary separation.

H5-2: Employee relations directly affect higher labor productivity

This hypothesis was not supported by the current data. Although there was a significant path between employee relations and labor productivity, the direction was negative, indicating that the greater use of employee relations will decrease labor productivity. This finding in the study is surprising, that more use of employee relations would result in lower labor productivity. Testing H5-1 showed that employee relations affect decreased turnover rates, and it is conceptualized that the lower turnover rate may be the result of increased employee satisfaction. However, employee relations have a negative impact on labor productivity in this study.

Employee participation programs in quality improvement or problem solving may require a significant amount of time and effort from managers. The required time from managers can be interpreted as lost productivity if the time is not used in more productive way. In other words, managers can spend quite an amount of their working hours on
quality improvement or problem solving meetings, but if the suggestions produced during
the meetings are not implemented in front-line operations, the managers’ time would be
wasted, which result in lost productivity. The lost productivity is another hidden cost to
companies. For future research, a more thorough investigation of the relationship
between employee relations and labor productivity is needed.

**H5-3: Employee relations directly affect higher sales growth rates and RevPar**

This hypothesis was not supported by the current data. The path coefficients between
employee relations and the sales growth rates and RevPar were not significant at the .05
level. The results indicate that employee relations will not result in either increased or
decreased sales growth rates or RevPar. These findings are somewhat consistent with the
results of the Delery and Doty (1996) and Delaney and Huselid (1996) studies. As
discussed earlier, an exact comparison is not suitable between the results of this study and
the others (Delery & Doty, 1996; Delaney & Huselid, 1996) because of some variation in
measurements of independent and dependent variables. Therefore, caution is required
when comparing the results of this study and the other two studies.

**Hypothesis 6**

Three hypotheses were developed to test the relationship between internal
communication system and organizational performance. The three hypotheses are as
follows:

- **H6-1:** Internal communication systems directly affect lower turnover rates;
- **H6-2:** Internal communication systems directly affect higher labor productivity; and
- **H6-3:** Internal communication systems directly affect higher sales growth rates and
  RevPar.
The results of SEM analyses indicate that there is little evidence to accept all three hypotheses at a significance level of .05. The results imply that a company would not experience either a lower turnover rate, higher labor productivity, higher sales growth rates, or higher RevPar due to the greater use of internal communication systems among managerial employees. The findings in this study are consistent with results of Delery and Doty’s study (1996). They did not find enough evidence to support significant relationships between employee participation and ROA and ROE. Effective internal communication systems increase employee satisfaction, morale, and commitment (Leivens, Moenaert, & S’Jegers, 1997; Sprague & Brocco, 2002). However, the results of this study suggest that effective internal communication systems may increase employee satisfaction, morale, and commitment, but it does not have a direct effect on increasing a firm’s bottom-line performance.

Discussion of Findings for Non-Managerial Employee Group

As presented in Table 14, the results of SEMs with a non-managerial employee group indicate that there are not many direct effects between HRM constructs and organizational performance. There are a total of 18 possible paths between HRM constructs and organizational performance measures. Of the 18, only three hypotheses were supported at a significance level of .10. The findings have a very important implication for academia and the hospitality industry. As discussed earlier, most research on relationships between HRM and organizational performance have not examined the relationships separately for different employee groups. Most studies have measured HRM practices on employees including both managerial and non-managerial employees. This
methodological approach has a fundamental flaw; the approach assumes that all employees are equally important within an organization in terms of influencing the organization's bottom-line. The findings from this study provide evidence that the assumption is false. The findings in this study demonstrate the need of measuring HRM practices separately for different employee groups within an organization.

The following hypotheses were supported:

H2-3(a, b): Training and development directly affect higher sales growth rates and RevPar.

H4-2: Performance rewards directly affect higher labor productivity.

The results of the SEM analysis imply that if a company provides more training and development to non-managerial employees, the company's sales growth rates and RevPar will increase. The findings also indicate that if a company implements performance rewards to a greater degree to non-managerial employees, the company will most likely experience higher labor productivity.

Although H5-2 was not supported, the results show a significant path between employee relations and labor productivity; employee relations again have a negative effect on labor productivity for the non-managerial employee group. This finding implies that although employees may become more satisfied with their job because they develop trust in management by a formal complaint procedure and participation programs, job satisfaction does not affect an organization's performance. Rather, the time and effort required to participate in the suggestion and participation programs may negatively affect the company's labor productivity.
Discussion of Findings of Interrelationships among Organizational Performance Measures

Hypothesis 7

Hypothesis 7 was developed to investigate interrelationships among four measures of organizational performance. Five sub-hypotheses were constructed as follows:

H7-1: Turnover rates directly affect labor productivity.
H7-2: Turnover rates directly affect sales growth rates.
H7-3: Turnover rates directly affect RevPar.
H7-4: Labor productivity directly affects sales growth rates.
H7-5: Labor productivity directly affects RevPar.

The results of the SEMs revealed that two hypotheses, H7-1 and H7-4, were supported by the current data at significance levels of .05 for the managerial employee group. One hypothesis, H7-3, was supported for the non-managerial employee group at a significance level of .10.

Turnover rates for managers had a negative effect on labor productivity, which indicates that lowered turnover rates influenced by HRM practices increase labor productivity. Low turnover rates have the advantage not only of reducing HR costs (such as hiring and training costs) but also of promoting employee loyalty, which leads to improved productivity, because long-term employees understand their organizations more thoroughly than do new hires (Salierno, 2000). Labor productivity was positively correlated with the sales growth rates for the managerial employee group. This finding indicates that increased labor productivity by HRM practices would lead to improved sales growth rates.
For the non-managerial group, only the turnover rate for non-managerial employees had a significant effect on RevPar at a .10 level. This finding means that lowered non-managerial employee turnover rates will lead to higher RevPar. The result implies that turnover rates for line employees affects hotels' average room rates and occupancy rate. Long-term line employees may have a better understanding of customers and thus can provide the services that customers want to receive. Better customer service creates customer loyalty, which leads to higher occupancy rates and average room rates.

General Implications Arising from the Study

At the general level, the fundamental purpose of this study was to develop a practical as well as theoretically sound model, illustrating a link between a firm's HRM and the firm's bottom-line. This would help academicians and practitioners understand how HRM affects an organization's performance. Although numerous studies have shown a positive relationship between HRM and organizational performance, few have studied this thoroughly. This study addressed several methodological challenges in such a project.

First and foremost, a reliable and valid measurement model for HRM practices covering six domains (staffing, training and development, performance appraisal, performance rewards, employee relations, internal communication systems) was developed and tested by a CFA. Although this measurement model could not cover every HRM practice adopted and implemented by companies, it included the most representative domains of HRM suggested by HRM researchers (e.g., “Best practices,” n.a., 1999; Ulrich & Lake, 1990). Furthermore, a SEM revealed the relationship between each HRM domain and organizational performance while six HRM domains interact with
each other at the same time. Practitioners can adopt a specific HRM practice to boost their company’s bottom-line.

Second, this study tested interrelationships among dependent variables. It has been theorized that organizational performance indicators influence one another. For example, lower turnover rates influenced by HRM practices reduce labor expenses, resulting in increased profits. Despite numerous studies that suggest interrelationships among organizational performance measures, there were no studies incorporating such complete information. This study examined the interrelationships among the dependent variables and found that managers’ turnover rates reduced by HRM practices indeed increased labor productivity. Labor productivity increased sales growth rates. In addition, lowered turnover rates for non-managerial employees increased RevPar. Therefore, the findings from this study successfully took the theoretical model to a practical level.

Third, the effects of HRM on organizational performance in this study were examined separately for managerial and non-managerial employees. This analytical approach has very important implications for both academicians and practitioners. For instance, the degree of implementation of HRM has been measured for general employee groups that included both managerial and non-managerial groups. However, as stated earlier in this chapter, this approach assumes that all employees are equally important in terms of a firm’s success. The findings of this study indicate that this assumption is indeed false. Although there were only seven HRM practices that were significantly different between managerial and non-managerial employee groups (see Appendix D), the effects of HRM implemented for the managerial employee group were very different from the effects of HRM implemented for non-managerial employees in terms of influencing a firm’s
bottom line. The results have very important implications for the hospitality industry and academicians. As a start, this study establishes that practitioners should evaluate the bottom-line impact of HRM when they execute a certain type of HRM practice. This study also shows how to accomplish this and establishes baseline results for comparison. Academicians would find the results interesting and they should start to elaborate as to which HRM practices have a greater impact on a firm’s performance when they are employed for non-managerial employees. As this study has shown, not all HRM practices are likely to have the same impact on various employee groups.

Finally, as Becker and Gerhart (1996) stated, indicators of organizational performance at the corporate level (e.g., Tobin’s Q or market value) are not sufficient to measure an organization’s performance at the business unit level. This study employed four indicators of organizational performance at the business unit level: turnover rate, labor productivity, sales growth rates, and RevPar. However, these four indicators are not sufficient to reflect overall organizational performance, especially for hospitality companies. For this reason, future research should elaborate on the indicators of a hospitality organization’s performance that do or do not have positive effects. Indicators of operating outcomes, such as a labor cost percentage (determined by dividing labor costs by revenue) and an operating efficiency ratio should be investigated more thoroughly.

Key Limitations of the Study and Suggestions for Future Study

Although this study made several contributions in HRM research and the hospitality industry, it has many limitations. First, although the sample size of this study has met the
minimum required sample size for SEM, the sample size of 106 is not sufficient to
genralize the findings in this study to the population. The author suspected that the
opposite significant directions hypothesized were due to the small sample size. Therefore,
another set of SEM analyses was conducted to test if there was an effect of small sample
size on the statistical findings. Since it is recommended to have a minimum of 5
observations for a measured variable, the number of measurement variables was reduced.
Therefore, reduced models consisting of only three latent variables were developed. The
results of this analysis are presented in Appendix G and H. In the SEM analyses, two
reduced models were examined for each employee group. The first model contains only
three HRM constructs (staffing, training and development, and performance appraisal)
and three organizational performance measures. In the second model, there were also
three HRM constructs (performance rewards, employee relations, and internal
communication systems) and three organizational performance measures. Because each
model includes only three HRM constructs, the number of measurement variables ranges
from 14 to 15, which allows sufficient statistical power with a sample size of 106. As
Appendix H shows, the analyses showed very similar results as one of the full models
that includes six HRM constructs and three organizational performance measures.
Therefore, it was concluded that the effect of a small sample size on statistical findings
was minimum. However, it is necessary to reexamine the conceptual model developed in
this study with a larger sample size for future study.

Second, the respondents in this study were required to provide information about both
HRM practices and their organization’s performance. When a single respondent is asked
to answer for both independent and dependent variables, a self-report bias could occur.
Self-report bias refers to the fact that respondents tend to report positively on their own abilities, knowledge, beliefs, or their company's performance, in the case of this study. Self-report bias often threatens the construct validity of research (Donalson & Grant-Vallone, 2002). Sackett and Larson (1990) found that 83% of studies published in organizational behavior journals used a cross-sectional design, and 52% of them relied on self-report data. It is difficult to ignore the possibility that the respondents in this study might have manipulated HRM practices and their firm's performance. However, it was necessary to ask the respondents to provide information on both variables, HRM practices, and organizational performance indicators because it was not feasible to gather data on organizational performance from a third party or archival databases for private companies. To overcome self-report bias, it is recommended that one gather data on independent and dependent variables from different sources. It would be optimal if future research could access a company's performance database to collect information of the organization's financial performance.

The results of this study were also limited by the organizational outcomes, labor productivity. Labor productivity was computed by dividing total revenue by total number of employees. However, recall that the information on HRM practices was collected separately for managerial and non-managerial employees, and the link between these HRM practices and labor productivity, which includes the labor productivity for both employee groups was examined. These methodological techniques actually produce methodological contradiction stemming from testing the direct effects of independent variables collected separately from two groups of employees on a dependent variable containing impacts from the two employee groups. Therefore, the labor productivity used...
in this study did not distinguish managerial labor productivity and non-managerial labor productivity. This data collection method may misrepresent the relationship between HRM practices and labor productivity. For future study, it is recommended that one develop a more precise measure of labor productivity that distinguishes between managerial and non-managerial employees' productivity.

Another suggestion for data collection is related to mono-method bias. Mono-method bias can occur when researchers use a single respondent per organization. There could be a possible gap between intentions of HRM departments and realized practices by other line managers in terms of the degree of implementing HRM practices. Future studies should consider using multi-raters within an organization to collect data on HRM practices.
APPENDIX A

SURVEY QUESTIONNAIRE
**SECTION 1: General Human Resource Management Practices**

Please circle the number that best describes your organization based on the following scale:

| How accurate are each of the following statements in describing the situation in your firm? |
|---------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|                                | 6 Very Accurate | 5 Mostly Accurate | 4 Slightly Accurate | 3 Slightly Inaccurate | 2 Mostly Inaccurate | 1 Very Inaccurate |

**HRM Practices**

1. There is formal employment planning in my organization.  
   For Managerial Employees: 6 5 4 3 2 1  
   For Non-managerial Employees: 6 5 4 3 2 1

2. My company uses internal-recruiting sources extensively to fill open positions.  
   For Managerial Employees: 6 5 4 3 2 1  
   For Non-managerial Employees: 6 5 4 3 2 1

3. Job applicants undergo structured* interviews before being hired.  
   For Managerial Employees: 6 5 4 3 2 1  
   For Non-managerial Employees: 6 5 4 3 2 1

*Structured interview: applying job-related questions with predetermined answers consistent across all interviews for a job.

4. Job applicants take formal pre-employment tests before being hired.  
   For Managerial Employees: 6 5 4 3 2 1  
   For Non-managerial Employees: 6 5 4 3 2 1

5. A training needs assessment is conducted before training is provided.  
   For Managerial Employees: 6 5 4 3 2 1  
   For Non-managerial Employees: 6 5 4 3 2 1

6. There are formal training programs to teach new hires the skills they need to perform their jobs.  
   For Managerial Employees: 6 5 4 3 2 1  
   For Non-managerial Employees: 6 5 4 3 2 1

7. Formal training programs are offered to employees in order to increase their promotability in the organization.  
   For Managerial Employees: 6 5 4 3 2 1  
   For Non-managerial Employees: 6 5 4 3 2 1

8. Training programs are evaluated in order to improve their effects.  
   For Managerial Employees: 6 5 4 3 2 1  
   For Non-managerial Employees: 6 5 4 3 2 1

9. Employees regularly (at least once a year) receive a formal evaluation of their performance.  
   For Managerial Employees: 6 5 4 3 2 1  
   For Non-managerial Employees: 6 5 4 3 2 1

10. Performance appraisals are based on objective results.  
    For Managerial Employees: 6 5 4 3 2 1  
    For Non-managerial Employees: 6 5 4 3 2 1

11. Performance appraisals are based on quantifiable results.  
    For Managerial Employees: 6 5 4 3 2 1  
    For Non-managerial Employees: 6 5 4 3 2 1

12. Employees receive performance feedback on a routine (at least twice at year) basis.  
    For Managerial Employees: 6 5 4 3 2 1  
    For Non-managerial Employees: 6 5 4 3 2 1

13. Promotions are contingent on performance (versus seniority).  
    For Managerial Employees: 6 5 4 3 2 1  
    For Non-managerial Employees: 6 5 4 3 2 1

14. Employees receive monetary rewards based on the profit of the organization.  
    For Managerial Employees: 6 5 4 3 2 1  
    For Non-managerial Employees: 6 5 4 3 2 1

15. Employees receive monetary rewards based on their performance.  
    For Managerial Employees: 6 5 4 3 2 1  
    For Non-managerial Employees: 6 5 4 3 2 1

16. Employees have a reasonable and fair complaint procedure.  
    For Managerial Employees: 6 5 4 3 2 1  
    For Non-managerial Employees: 6 5 4 3 2 1
resolution process.

17. Employees are involved in formal participation processes such as quality improvement groups, problem solving groups, or suggestion systems.  
   6 5 4 3 2 1 6 5 4 3 2 1

18. Employees regularly (at least once a year) complete an attitude survey.  
   6 5 4 3 2 1 6 5 4 3 2 1

19. Employees are provided the opportunity to suggest improvements in the way things are done.  
   6 5 4 3 2 1 6 5 4 3 2 1

20. There is a formal information sharing program (a newsletter or regular meetings) in the organization.  
   6 5 4 3 2 1 6 5 4 3 2 1

SECTION 2: Strategic Human Resource Management

Please circle the number that best describes your organization based on the following extent scale:

Very great extent Not at all

6 5 4 3 2 1 6 5 4 3 2 1

1. To what extent are HR managers throughout the firm viewed by those outside the function as partners in the management of the business and agents for change?  
   6 5 4 3 2 1

2. To what extent does your firm make an explicit effort to align business and HR strategies?  
   6 5 4 3 2 1

3. To what extent is the HR department involved in your firm’s strategy planning process?  
   6 5 4 3 2 1

4. To what extent is HR seen primarily by senior management as a cost to be minimized versus a source of value creation throughout the organization?  
   6 5 4 3 2 1

5. Do you outsource HR functions other than payroll?  
   □ Yes  □ No
SECTION 3: General Human Resource Management Practices

Please respond to the following questions on the blanks provided.

1. What is the average number of hours of formal training received by an employee in your firm over the last year (2003)?
   
   Managerial employees: ________ hours  Non-managerial employees: ________ hours

2. What percent of employees in your firm are unionized? ________

3. How often do employees receive formal company communication regarding the items below:

<table>
<thead>
<tr>
<th>For Managerial Employees</th>
<th>For Non-Managerial Employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weekly &amp; more</td>
<td>Quarterly</td>
</tr>
<tr>
<td>--------------------------</td>
<td>-----------------------------</td>
</tr>
<tr>
<td>Company goals (mission, objectives, actions, etc.)?</td>
<td>4</td>
</tr>
<tr>
<td>Operating performance (quality, customer satisfaction, etc.)?</td>
<td>4</td>
</tr>
<tr>
<td>Financial performance (profitability, stock price, etc.)?</td>
<td>4</td>
</tr>
<tr>
<td>Competitive performance (market share, competitor strategies, etc.)?</td>
<td>4</td>
</tr>
</tbody>
</table>

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SECTION 4: General Information about Your Organization

1. How many rooms do you have at your property? ___________ rooms

2. How many people are employed by your organization? _______ managerial employees _______ non-managerial employees

3. How long has your property been in the lodging industry? _______ years and _______ months

4. Your property’s operation type:
   - [ ] Chain managed
   - [ ] Franchise
   - [ ] Independent
   - [ ] Other: ____________________

5. The location where your property is located:
   - [ ] Urban
   - [ ] Suburban
   - [ ] Highway
   - [ ] Airport
   - [ ] Resort

6. Please indicate your hotel’s market price segment.
   - [ ] Luxury
   - [ ] Upscale
   - [ ] Mid-Price
   - [ ] Economy
   - [ ] Budget

7. For the last year (2003), about what percent of your managerial employees left the company voluntarily? _______%

8. For the last year (2003), about what percent of your non-managerial employees left the company voluntarily? _______%

9. Please check the category of your hotel’s operating profit margins for the last year (2003):
   - [ ] Loss
   - [ ] Breakeven
   - [ ] 1-5%
   - [ ] 6-10%
   - [ ] 11-15%
   - [ ] 16-20%
   - [ ] 21-25%
   - [ ] 26% or higher

10. What is your hotel’s average occupancy rate for the last year (2003)? _______%

11. Please indicate the average annual growth rate in revenues over the last 3-year period:
   - [ ] Declining
   - [ ] 0%
   - [ ] 1-5%
   - [ ] 6-10%
   - [ ] 11-15%
   - [ ] 16-20%
   - [ ] 21-50%
   - [ ] 51% or higher
12. What is your hotel’s total revenue for the last year (2003)?
   $________

13. The average room rate for the last year (2003)?
   $________

14. What is your hotel’s income before interest and taxes for the last year (2003)?
   $________

15. What is your hotel’s labor cost percentage (payroll expenses ÷ total revenue).
   _________ %
APPENDIX B

COVER LETTER
April 13, 2004

Dear Manager:

This study is being conducted by Seonghee Cho and Dr. Robert Woods of the William F. Harrah College of Hotel Administration at the University of Nevada, Las Vegas in order to better understand the impact of Human Resource Management on Firms Performance. The research, which is the first attempt in the hospitality industry, will help hospitality organizations to better understand how employees positively or negatively affect hospitality organizations' performance.

Your participation in this study is voluntary. You may choose not to respond to the questionnaire, or to answer only some of the questions. We would greatly appreciate your completing the enclosed questionnaire, which should take no more than 15 minutes to complete. Upon completion of the questionnaire, please return the completed questionnaire to us in the self-addressed return envelope (if you wish, you may fax your response to us at 702-895-4872).

The information you provide will be kept CONFIDENTIAL and will NOT be disclosed. For absolute ANONYMITY the questionnaire has no ID number/identifier so your participation cannot be identified.

No reference will be made in written or oral materials that could link you to this study. All records will be stored in a locked facility at UNLV for at most 3 years after completion of the study. After the storage time the information gathered will be destroyed.

For questions regarding the rights of research subjects, any complaints or comments regarding the manner in which the study is being conducted you may contact the UNLV Office for the Protection of Research Subjects at 702-895-2794.

We believe that your participation would not only greatly aid this project, but also help to advance human resource management practices in the hospitality industry. Upon completion of this study, we will be happy to send you a summary report. If you would like this report, please enclose your business card in the return envelope or send by separate mail.

We understand that you are busy, and recognize that your time is valuable. Thank you for taking the time to assist us with this survey. Should you wish to contact us, you may reach us by phone or by e-mail.

Sincerely,

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4505 S. Maryland Pkwy. BEH 341
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702-895-4458
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702-895-3637
robert.woods@ccmail.nevada.edu
APPENDIX C

CODING BOOK AND RESULTS OF TWO SAMPLE T-TEST
FOR NON-RESPONSE BIAS
### Coding Book

| Q1 | Q1 for managerial employees |
| Q2 | Q2 for managerial employees |
| Q3 | Q3 for managerial employees |
| Q4 | Q4 for managerial employees |
| Q5 | Q5 for managerial employees |
| Q6 | Q6 for managerial employees |
| Q7 | Q7 for managerial employees |
| Q8 | Q8 for managerial employees |
| Q9 | Q9 for managerial employees |
| Q10 | Q10 for managerial employees |
| Q11 | Q11 for managerial employees |
| Q12 | Q12 for managerial employees |
| Q13 | Q13 for managerial employees |
| Q14 | Q14 for managerial employees |
| Q15 | Q15 for managerial employees |
| Q16 | Q16 for managerial employees |
| Q17 | Q17 for managerial employees |
| Q18 | Q18 for managerial employees |
| Q19 | Q19 for managerial employees |
| Q20 | Q20 for managerial employees |
| QN1 | QN17 for non-managerial employees |
| QN2 | QN18 for non-managerial employees |
| QN3 | QN19 for non-managerial employees |
| QN4 | QN20 for non-managerial employees |

- **TRAINM**: The number of hours of training managerial employees
- **TRAINNON**: The number of hours of training non-managerial employees
- **C1**: Communication regarding comm. goals for managers
- **C2**: Communication regarding operating performance for managers
- **C3**: Communication regarding fin. performance for managers
- **C4**: Communication regarding competitive perform. For managers
- **CN1**: Communication regarding comm. goals for non-managers
- **CN2**: Communication regarding operating performance for non-managers
- **CN3**: Communication regarding fin. performance for non-managers
- **CN4**: Communication regarding competitive perform. For non-managers
- **ROOM**: Number of rooms
- **MG**: Number of managerial employees
- **NMG**: Number of non-managerial employees
- **YEAR**: Number of years in lodging business
- **MONTH**: Number of months in lodging business
- **TYPE**: Operation type
- **LOCATION**: Location
- **SEGMENT**: Market price segment
- **TURNMAN**: Turnover rate for managers
- **TURNNONM**: Turnover rate for non-managerial employees
- **PROFIT**: Profit
- **Revenue**: Revenue
- **OCCUPAN**: Occupancy rate

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<table>
<thead>
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<th>QN9</th>
<th>employees</th>
<th>GROWTH</th>
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<td>QN10</td>
<td>Q10 for non-managerial employees</td>
<td></td>
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<tr>
<td>QN11</td>
<td>Q11 for non-managerial employees</td>
<td></td>
<td></td>
</tr>
<tr>
<td>QN12</td>
<td>Q12 for non-managerial employees</td>
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<tr>
<td>QN13</td>
<td>Q13 for non-managerial employees</td>
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<tr>
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<td>Q14 for non-managerial employees</td>
<td></td>
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<tr>
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<td>Q15 for non-managerial employees</td>
<td></td>
<td></td>
</tr>
<tr>
<td>QN16</td>
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Independent two sample t-test for non-response bias

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<th>df</th>
<th>p-value</th>
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<td>1.143</td>
<td>2.317</td>
<td>58.000</td>
<td>0.024</td>
</tr>
<tr>
<td>Q2</td>
<td>5.000</td>
<td>1.017</td>
<td>3.003</td>
<td>58.000</td>
<td>0.004</td>
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<td>Q3</td>
<td>5.400</td>
<td>1.003</td>
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APPENDIX D

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Group 1 = managerial employees; Group 2 = non-managerial employees

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APPENDIX E

NORMAL PROBABILITY PLOTS

Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Turnover rate of managers
Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Log turnover rate of managers

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Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Growth rate

Normal P-P Plot of Regression Standardized Residual

Dependent Variable: REM/PFR

Expected Cum Prob

Observed Cum Prob

Observed Cum Prob
Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Log RevPar

Observed Cum Prob

Expected Cum Prob

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APPENDIX F

CORRELATION MATRIX
<p>|     | Q1  | Q2  | Q3  | Q4  | Q5  | Q6  | Q7  | Q8  | Q9  | Q10 | Q11 | Q12 | Q13 | Q14 | Q15 | Q16 | Q17 | Q18 | Q19 | Q20 | Q21 | Q22 | C1  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Q1  | .37 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Q2  | .37 | .47 | .27 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Q3  | .23 | .05 | .32 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Q4  | .36 | .32 | .19 | .31 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Q5  | .32 | .32 | .27 | .21 | .45 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Q6  | .52 | .45 | .40 | .10 | .42 | .68 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Q7  | .57 | .32 | .41 | .17 | .47 | .45 | .64 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Q8  | .52 | .23 | .43 | .18 | .21 | .37 | .31 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Q9  | .47 | .09 | .39 | .30 | .22 | .18 | .30 | .31 | .65 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Q10 | .56 | .12 | .46 | .29 | .25 | .27 | .47 | .39 | .65 | .78 |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Q11 | .39 | .24 | .40 | .15 | .18 | .29 | .35 | .30 | .30 | .31 | .41 |     |     |     |     |     |     |     |     |     |     |     |     |
| Q12 | .40 | .14 | .19 | .09 | .20 | .39 | .32 | .29 | .34 | .39 | .32 |     |     |     |     |     |     |     |     |     |     |     |     |
| Q13 | .17 | .05 | .06 | .13 | .03 | .10 | .10 | .27 | .30 | .34 | .12 | .16 |     |     |     |     |     |     |     |     |     |     |     |
| Q14 | .32 | .16 | .27 | .16 | .20 | .09 | .36 | .25 | .42 | .38 | .43 | .19 | .49 | .30 |     |     |     |     |     |     |     |     |     |
| Q15 | .48 | .31 | .46 | .32 | .27 | .29 | .45 | .28 | .39 | .41 | .55 | .42 | .52 | .24 | .49 |     |     |     |     |     |     |     |     |
| Q16 | .41 | .17 | .37 | .28 | .33 | .38 | .48 | .48 | .37 | .34 | .47 | .45 | .46 | .23 | .39 | .46 |     |     |     |     |     |     |     |
| Q17 | .18 | .24 | .23 | .06 | .17 | .23 | .35 | .12 | .31 | .02 | .25 | .13 | .08 | .15 | .09 | .23 | .27 |     |     |     |     |     |     |
| Q18 | .45 | .26 | .36 | .13 | .21 | .29 | .41 | .29 | .21 | .24 | .32 | .40 | .48 | .17 | .36 | .58 | .51 | .18 |     |     |     |     |     |
| Q19 | .34 | .10 | .33 | .25 | .27 | .26 | .35 | .32 | .31 | .37 | .42 | .40 | .12 | .12 | .08 | .37 | .42 | .27 | .40 |     |     |     |     |
| C1  | .25 | .13 | .40 | .11 | .19 | .31 | .39 | .32 | .29 | .37 | .40 | .35 | .23 | .28 | .25 | .42 | .33 | .30 | .30 | .37 |     |     |     |
| C2  | .29 | .05 | .38 | .17 | .11 | .10 | .32 | .23 | .29 | .34 | .39 | .28 | .38 | .33 | .33 | .45 | .31 | .20 | .30 | .39 | .54 |     |     |
| C3  | .20 | .12 | .29 | .09 | .11 | .11 | .25 | .14 | .41 | .25 | .34 | .28 | .22 | .47 | .29 | .32 | .27 | .29 | .13 | .32 | .56 |     |     |
| C4  | .05 | .02 | .19 | .14 | .07 | .04 | .09 | .08 | .19 | .14 | .29 | .24 | .23 | .35 | .11 | .23 | .10 | .30 | .08 | .23 | .39 |     |     |
| LGTHMR | .46 | .18 | .38 | .16 | .30 | .40 | .42 | .44 | .33 | .37 | .42 | .34 | .37 | .14 | .31 | .37 | .54 | .14 | .32 | .23 | .38 |     |     |
| QN1 | .78 | .31 | .39 | .23 | .33 | .30 | .51 | .54 | .31 | .43 | .44 | .26 | .28 | .03 | .19 | .38 | .32 | .11 | .27 | .30 | .21 |     |     |
| QN2 | .30 | .62 | .31 | .10 | .23 | .35 | .37 | .22 | .25 | .15 | .19 | .26 | .16 | .16 | .20 | .35 | .18 | .16 | .34 | .11 | .19 |     |     |
| QN3 | .39 | .35 | .84 | .32 | .24 | .27 | .43 | .40 | .39 | .37 | .43 | .28 | .34 | .04 | .26 | .42 | .37 | .28 | .26 | .29 | .37 |     |     |
| QN4 | .22 | .03 | .21 | .86 | .24 | .21 | .11 | .15 | .16 | .23 | .18 | .01 | .09 | .07 | .22 | .21 | .10 | .08 | .24 | .09 |     |     |
| QN5 | .37 | .29 | .21 | .28 | .90 | .42 | .24 | .44 | .20 | .21 | .21 | .14 | .16 | .17 | .23 | .19 | .15 | .20 | .22 |     |     |     |     |
| QN6 | .42 | .29 | .34 | .24 | .33 | .79 | .57 | .43 | .26 | .25 | .27 | .26 | .13 | .05 | .07 | .22 | .27 | .17 | .22 | .20 | .34 |     |     |
| QN7 | .53 | .36 | .42 | .24 | .43 | .59 | .81 | .62 | .34 | .29 | .43 | .32 | .29 | .10 | .27 | .41 | .44 | .34 | .30 | .36 | .32 |     |     |</p>
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| LGTRMG  | .08 | .10 | .08 | .04  | .04 | .19 | .00 | -.18 | -.02 | -.11 | -.09 | -.18 | .22  | .15  | .19  | -.05 | -.03 | .16  | .12  |
| LGTRNON | -.03 | .10 | .08 | -.03 | -.01 | -.11 | -.06 | -.23 | -.00 | -.11 | -.03 | -.11 | .06  | .06  | -.02 | -.14 | .00  | -.03 | -.03  |
| GROWTH  | -.06 | -.07 | -.08 | .01  | -.07 | .20 | .06 | -.01 | .19 | .24 | .23  | .26  | .03  | .01  | -.06 | .16  | -.06 | .00  | .00  |
| PRODUC  | -.13 | -.01 | .01 | .05  | .01 | -.19 | -.09 | -.12 | -.04 | -.08 | .06  | -.18 | -.03 | -.04 | -.17 | .10  | -.10 | -.02 |      |
| LGRRevPar| .18 | .12 | .05 | .18  | .19 | .14 | .15 | .16 | .32 | .25 | .36  | .38  | .12  | .16  | .18  | .14  | .06  | .14  | .09  |</p>
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Note: significant at .05 level if $r \geq .19$; Significant at .01 level if $r \geq .25$
APPENDIX G

THE RESULTS OF TESTING HYPOTHESES IN REDUCED MODELS

Managerial Employee Group

TLI - .938
CFI - .954
RMSEA = .056

ST
TD
PA

Turnover rate
-.45
Labor productivity
Growth rate

148
TLI = .919
CFI = .945
RMSEA = .058
ST

TD

PA

Turnover rate

Labor productivity

RevPar

TLI = .955
CFI = .967
RMSEA = .047

RW

ER

IC

Turnover rate

-.40

Labor productivity

RevPar

TLI = .925
CFI = .949
RMSEA = .057

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Non-managerial Employee Group

TLI = .905
CFI = .927
RMSEA = .061

Turnover rate
Labor productivity
Growth rate

TLI = .936
CFI = .954
RMSEA = .040

Turnover rate
Labor productivity
Growth rate
TLI = .936
CFI = .954
RMSEA = .040

TLI = .901
CFI = .929
RMSEA = .053

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APPENDIX H

SUMMARY OF THE RESULTS OF TESTING HYPOTHESES FOR REDUCED MODELS

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| H7-4 LP directly affects RW. | No | No | No | No |
| H7-5 LP directly affects RP. | No | No | No | No |
REFERENCES


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