

**Uncovering the Role of Human Resource Management
in Organizational Turnarounds:
Supernumerary or Supporting Actor?**

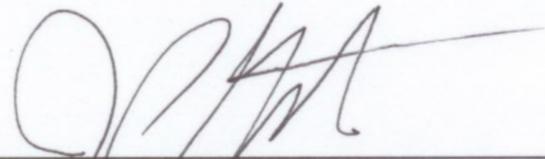
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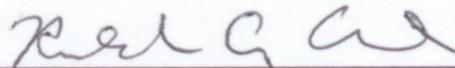
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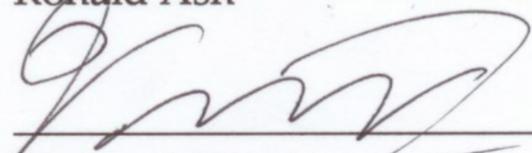


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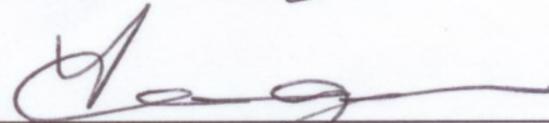
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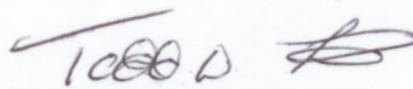
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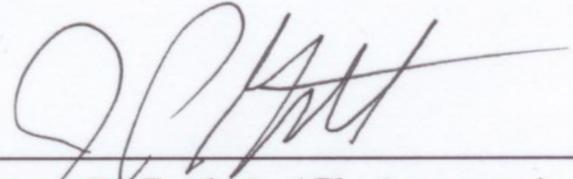
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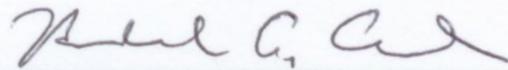
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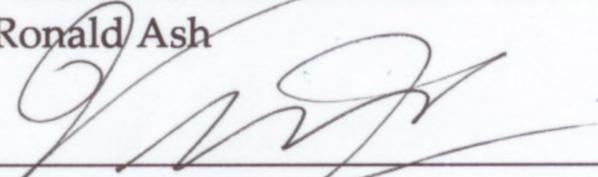
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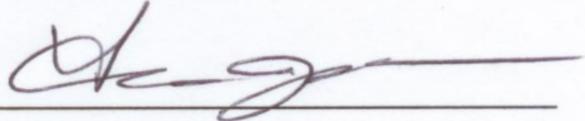
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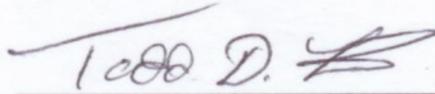
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Life is full of surprises. Related to my time in the doctoral program, a few of the surprises include: The surprising moment when I decided to study pursue a doctorate, the moment when I received an acceptance letter from the University of Kansas, the moment when I entered a classroom as an instructor, the moment I presented my first paper at a national conference, the moment when I realized I had a good idea for my dissertation, the moment when I received a job offer from Towson University, and the moment when I presented my dissertation to my committee. These are just some of the “moments” I have experienced during the last 7 years at the KU School of Business. Many of these are events that I could never have imagined when I first came to the U.S. in 1998. Further, none of these KU Business School “moments” would have come to pass without those who have supported and helped me.

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Uncovering the Role of Human Resource Management in Organizational Turnarounds: Supernumerary or Supporting Actor?

ABSTRACT

The main research question of this dissertation was derived from a few common sense perceptions most people have about health. The question that we address is how to define organizational health and how it relates to firm performance. As the recent economic crisis caused by the failure of financial markets indicates, an unbalanced or biased view of organizational health may have detrimental effects on overall organizational sustainability. This dissertation focuses on the role of human resources (HR) in promoting organizational health.

I propose three positive effects of human resource management (HRM) on firm performance in the context of organizational turnarounds. First, the inoculating effect addresses whether HR is a significant factor in determining organizational survival or failure. Second, the mitigating effect addresses the extent to which HR can help “soften” organizational decline. Finally, the restoring effect addresses the extent to which HR plays a role in helping organizations recover from organizational decline.

The HR-related information was mostly derived from 10-K annual reports and the Compustat database through content analysis. Two independent coders were selected and trained to achieve inter-coder reliability in order to accurately assess the strength of the statements on the HR index items. This allowed me to estimate firms' relative "Emphasis on HR". The relationship between Emphasis on HR and the prediction of firm performance was analyzed through hierarchical OLS/logistic regression, quantile regression, and structural equation modeling (SEM).

I found that the results generally support the inoculating effect, mitigating effect, and restoring effect. The results showed that firms with higher Emphasis on HR are more likely to a) be classified as non-declining b) perform better than other peers in the same industry, c) experience less probability of bankruptcy, d) experience a shorter declining period, and e) recover from a downturn stage even during their declining period. These findings imply that there is a positive relationship between Emphasis on HR and (1) the avoidance of organizational decline and (2) firm performance of the firms that are in a declining stage. Although HR has been neglected in the turnaround process, the results of this research offer a new way to see HR's

role: a supporting actor in the drama of organizational turnarounds rather than a supernumerary.

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I. INTRODUCTION

1. ORGANIZATIONAL HEALTH

The main research question of this dissertation is derived from a few common sense perceptions most people have about health. What does 'health' itself mean? One generally regards a person as 'healthy' when he or she is full of energy and avoids illness. Further, one can perceive an individual as healthy when he or she recovers quickly from diseases. A person's health can be positively impacted through regular exercise and the consumption of nutritious meals. This may be important for feeling good during daily life, but it could be even more important for avoiding fatal diseases or recovering quickly from a sickness. The latter could be achieved or heightened by people taking vaccination shots at the proper time.

Organizations are in many ways similar to humans and other living creatures. They have life cycles; they are born, grow, decline, and die. And just like human beings, organizations want to live a long healthy life. Again, as a person's 'healthy' life may not be achievable unless one completes a course of vaccination shots, organizations may need to take 'managerial

vaccine shots' to prevent fatal declines or at least help enable them to recover from such declines.

There are two different perspectives on the topic of 'organizational health'; the financial perspective and an alternative perspective. From the financial perspective, organizational health can be assessed based on the financial structure of the organization. This approach assumes that firms with poor financial health, such as high leverage, low liquidity, and negative return on assets, tend to fail (Walters, 1957; Van Horne, 1977; Altman, 1983). However, financial health is not the sole determinant for organizational success or failure. Some poor performing firms could survive (Daughen & Binzen, 1971; Casey & Bartczak, 1984) depending on how critical stakeholders, such as creditors, make an effort to provide assistance such as the extension of loan deadlines, refinancing of debt, adjustment of interest rates, or restructuring of the financial structure (Williams, 1984). The willingness of these critical stakeholders to make this effort may depend on the level of faith they have in management's ability (Jensen & Meckling, 1976; D'Aveni, 1989). This traditional view is based on the idea that organizational health and organizational survival are most likely influenced by either financial structure or creditors' perceptions about management's ability.

However, the alternative perspective is based upon the assumption that organizational health can be perceived from different viewpoints beyond a narrow focus on short-term financial assessments. One alternative perspective is that organizational health may be determined by the extent to which a firm emphasizes its human and social capital, which may be fundamental antecedents of long-term organizational success. Healthy organizations, with a stronger emphasis on HR, 1) are less likely to experience decline, 2) are less likely to experience severe decline or long-term decline when they are performing poorly, and 3) are more likely to persevere and overcome decline.

Thus, the main questions are, “What are the managerial vaccination shots in the world of corporate business that makes healthy organizations?” and/or “What kind of managerial vaccination shots are available to keep organizations healthy in the long run?” In order to answer these questions, it is important to briefly explain the way organizations are viewed as living creatures by looking into the organizational life-cycle research.

2. ORGANIZATIONAL LIFE CYCLE

There has been a great deal of research to identify how firms are born, grow, mature, decline, and die. Quinn and Cameron (1983) reviewed nine models of organization life cycles (Downs, 1967; Lippitt & Schmidt, 1967; Scott, 1971; Greiner, 1972; Torbert, 1974; Lyden, 1975; Katz & Kahn, 1978; Adizes, 1979; Kimberly, 1979). They found that organizational life cycle researchers explained the organizational life cycle in different ways with differing number of stages and unique sets of characteristics found within each model's stage. However, they could summarize the organizational life cycle research and assert that no matter how many stages are involved in the organizational life cycle, the stages are: (i) sequential in nature; (ii) occur as a hierarchical progression that is not easily reversed; and (iii) involve a broad range of organizational activities and structures (Quinn & Cameron, 1983; Lavoie & Culbert, 1978).

The organizational life cycle models are developed based on the assumption that after inception, organizations go through growth, maturity and decline or redevelopment. In the inception and early growth stage, organizations have been recently founded and they establish their niche in the marketplace by making different types of efforts in achieving and

implementing technological advances, innovation or entrepreneurship (Lyden, 1975; Greiner, 1972; Lorange & Nelson, 1987). One of the most fundamental concerns at this stage is to survive in the competitive world of business by securing needed financial resources (Adizes, 1979; Kimberly, 1979). Other important characteristics in this stage include long working hours (Greiner, 1972), informal communication and structure (Greiner, 1972; Torbert, 1974), centralization and personal leadership (Scott, 1971).

During the growth stage, a common phenomenon is the rapid expansion of business. Here, organizations put more emphasis on establishing rules and procedures and maintaining the stability of the organizational structure (Katz & Khan, 1978). It is extremely critical for the founder to delegate responsibilities to lower level managers and employees in order to sustain organizational survival (Thain, 1969). In addition to that, organizations place more emphasis on developing formal structures (Katz & Khan, 1978), and focusing on task performance (Torbert, 1974), functional specialization and departmentalization (Scott, 1971).

The mature stage could be best termed the process of institutionalization. In this stage, a new set of norms, values and structures are incorporated within the framework of existing patterns of norms, values

and structures. This process of institutionalization enhances stability in the early stage of the organizational development process (Kimberly, 1980). However, in this maturity stage, organizations may maintain successful or at least acceptable performance, but they tend to develop a sense of rigidity. As they do not experience the urgent needs for organizational shifts, the rules and procedures that have been established tend to lead to a rigid structure which can eventually deprive organizational flexibility and adaptability that enables organizations to change in response to market environment fluctuations (Lippitt et al., 1967). In addition, organizations may well develop and formalize policies and programs that contributed to earlier successes, but the very existence of these institutionalized programs creates an enormous sense of inertia and such formalization processes dampen organizational innovativeness, flexibility, and adaptability – keys to survival in turbulent environments (Peters & Waterman, 1982).

The decline stage results from negative aspects found in the growth stage and mature stage; rapid growth and expansion caused by initial successes, organizational inertia, organizational threat rigidity, self-deception, inflexibility, and shortsightedness (Lorange et al., 1987). Organizations in the decline stage may experience unrealistic optimism, poor communication,

commitment to past strategies, conformity, group think, over-conservatism and mistrust (Nystrom & Starbuck, 1984; Pfeffer, 1981; Lorange & Nelson, 1987; Adizes, 1979) that may put them into a deeper downward spiral.

Organizational rigidity and inertia as well as resistance to change would make it impossible for organizations to adapt to important environmental changes.

Finally, within the post-decline stage, organizations may experience two outcomes: death or survival. One aspect of conventional wisdom states that organizational survival depends on the extent to which organizations can initiate drastic organizational changes in order to rectify an adverse situation.

In addition, one fundamental action that is sometimes undertaken is the replacement of top management in order to import new ideas into the organization (Nystrom & Starbuck, 1984). The lack of ability to initiate organizational change may result in the prevalence of present practices that may usually lead to further organizational decline, including bankruptcy and corporate failure.

In sum, it is imperative that organizations change in order to adapt to volatile environments. Organizational flexibility and adaptability lengthen the growth and maturity stage, prevent organizations from falling into the

decline stage as well as enable organizations to rebound from a period of decline.

3. OVERCOMING ORGANIZATIONAL DECLINE

One of the popular attempts to overcome organizational decline is downsizing, which is known to focus on creating 'lean' organizations and 'lean' management practices. Downsizing has gained a great deal of attention because it is straightforward and direct and is argued to result in a number of positive outcomes such as lower overhead costs, less bureaucracy with faster decision making and smoother communications, greater entrepreneurship, and increased productivity (Heenan, 1989; Zemke, 1990).

However, it is important to note that downsizing is not a managerial panacea for stimulating organizational turnaround. Research has shown that the actual benefits and savings created by such downsizing fall short of what is expected for a variety of reasons. First, there may be a lack of appropriate preparation for retraining or redeploying employees or lack of proper communication with employees regarding the necessity of downsizing (Cascio, 1993, Morris et al., 1999). Downsizing without these accompanying practices may lead to negative outcomes such as an increase in tension, stress,

conflict among employees and a decrease in the sense of security, morale, motivation, and productivity in the long-run.

Buono (1995) discussed a number of management approaches that may have a detrimental impact on firm performance; 1) an overly narrow and restricted focus on technical concerns at the expense of broader organizational realities, 2) an emphasis on finances and tactics at the expense of production, service, innovation, and long-term strategies, 3) an emphasis on short-term shareholders at the expense of broader stakeholder needs, and 4) an emphasis on power and political machinations at the expense of individuals who are caught up in the process.

What seems to be important are organizational changes that focus on a restructuring of employee attitudes, values, and orientations (Whiteley, 1991; Jin & Hui, 1999; McKinley et al. 2000). As Pfeffer's one-eighth rule (1998) illustrates, firms may realize the importance of human resources as a core foundation for organizational success but only a few of them actually adopt such an approach over the long-run. Long-term managerial approaches may be neglected and treated as the last solution because they are difficult and challenging for organizations to enact. However, as Pfeffer mentioned, if you manage well and become the 'one-eighth' that focuses on putting people first,

then this pursuit of a people-oriented approach could present an opportunity for organizations to gain sustained competitive advantage.

Thus, the question is, “what should be addressed to achieve successful organizational change in the long run?” Pfeffer (1998) gives a clear answer to this question: long-term organizational health will be achieved by recognizing the important role played by employees and their firm-specific tacit knowledge.

4. RESEARCH QUESTIONS

Most research on the topic of strategic management regarding the turnaround process has focused extensively on why firms decline, how firms could respond, which response would lead to a better result, and so on.

However, previous research has not made a serious attempt to identify how human resource management could play a role in the turnaround process.

While human resources has been discussed conceptually (i.e. Barker & Duhaime, 1997), empirical research is, for all intents and purposes, non-existent.

Meanwhile, the strategic human resource management (SHRM) literature has focused on the impact of HR on firm performance. This research

has examined the impact of HR on a variety of organizational outcomes, including return on assets (ROA) or return on invested capital (ROIC) (Becker & Huselid, 1998; Huselid, 1995), productivity (Arthur, 1994; Guthrie, 2001; Huselid, 1995; MacDuffie, 1995; Youndt et al., 1996), turnover (Arthur, 1994; Guthrie, 2001; Huselid, 1995), and product quality (MacDuffie, 1995). The SHRM literature, however, has not examined the impact of HR on a firm's ability to enact a turnaround.

The goal of this research is to examine three potential effects that HR might have in the turnaround process, which I am calling inoculating, mitigating and restoring effects. The main objective of the inoculating effect model is to identify whether HR is a significant factor in determining organizational survival or failure. The mitigating effect model aims to address the extent to which HR can help "soften" organizational decline. This is measured by the bankruptcy probability and length of decline. Finally, the restoring effect model looks at the extent to which HR plays a role in helping organizations recover from organizational decline.

In sum, the primary objective of this research is to fill the gap in the SHRM and SM turnaround literature regarding the role of HR in organizational turnarounds.

II. STRATEGIC HUMAN RESOURCE MANAGEMENT LITERATURE

1. INTRODUCTION

SHRM is defined as the pattern of human resource management that is intended to enable organizations to achieve its goals (Wright & McMahan, 1992). The primary goal of SHRM is to analyze the impact of human resource management, including human capital and social capital, on firm performance. For example, some research has found a positive impact of commitment-based systems on firm performance (Arthur, 1994; Huselid, 1995; Guthrie, 2001). Other studies in SHRM have focused on how high performance work systems or levels of human and social capital within the firm influence firm performance (Bartel, 1984; Huselid, 1995; Koch & McGrath, 1996; Carmeli & Tishler, 2004; Hitt et al., 2001; Reed et al., 2006; Skaggs & Youndt, 2004; Youndt & Snell, 2004).

Human capital is the stock of employee skills that exist within the firm. Becker (1964) defines human capital as the knowledge, skills and abilities embedded within a firm's human resources that are a direct result of learning, education, and training. Human capital is one of the critical factors for organizational success (Cardon & Stevens, 2004; Deshpande & Golhar, 1994;

Huselid, 1995). In addition, social capital is defined as the strength of relationships inside the firm and the ability to facilitate knowledge-sharing and employee interaction (Youndt & Snell, 2001). In discussing the importance of social capital, MacDuffie (1995) addressed the fact that firms with strong social capital are more likely to achieve higher performance, in terms of teamwork, collaboration, and employee discretion, because stronger social capital enables firms to build up strong ties within the firms. Social capital is also known to enhance knowledge acquisition, which may result in new product development, technological distinctiveness, cost-efficiency (Yli-Renko et al., 2001), innovation capabilities (Subramaniam & Youndt, 2005), and firm performance (Youndt & Snell, 2004).

Despite a number of empirical studies on the impact of human resource management on firm performance, there has been a lamentable lack of understanding 'how' HR plays a role in gaining a competitive advantage. The criticism on the lack of theories in SHRM had been widely prevalent until the resource-based view of the firm was introduced by Barney (1991). In addition, the notion of dynamic capabilities by Eisenhardt and Martin (2000) provides an extension of the RBV perspective and perhaps a better theoretical

explanation as to how human resources and human / social capital can offer companies a competitive advantage.

2. RESOURCE-BASED VIEW (RBV) OF THE FIRM

The resource-based view of firms forwarded by Barney (1991) opened up a new paradigm as it emphasized strategic advantage as a function of the internal resources of the firm. While the traditional strategists have focused on how firms establish strategies and how they can help firms achieve competitive advantage within the industry or environment (i.e. Porter, 1980), the RBV paradigm is firm-focused as it emphasizes internal resource of the firm as a source of competitive advantage (Wright & McMahan, 1992). The RBV is based on the assumption that firm resources that are heterogeneous and immobile in nature can enable firms to gain competitive advantage. According to the RBV, firms can gain this specific competitive advantage only when firm resources 1) add positive value to the firm, 2) are unique or rare among current and potential competitors, 3) are imperfectly imitable due to unique historical conditions, causal ambiguity, and social complexity, and 4) are not substitutable with other resources by competing firms (Barney, 1991; Wernerfelt, 1984).

Human resources meet the criteria of resources as a source of competitive advantage listed in RBV (Wright, Dunford, & Snell, 2001) and human capital has great potential as a source of competitive advantage (Wright, McMahan, & Williams, 1994). In addition, the human resource practices of a firm are difficult to imitate because the characteristics of these practices may vary across firms and also due to complementarities and interdependences (Lado & Wilson, 1994). In addition, RBV provided new theoretical and contextual grounding to explain the relationship between human resource management and firm performance as well as providing a rationale for how human resources could provide a potential source of sustainable competitive advantage (Wright & McMahan, 1992).

Although the RBV opened a new paradigm in the SHRM literature by providing theoretical explanations about the relationship between human resource management and firm's ability to gain competitive advantage, the RBV is not free from criticism. RBV is sometimes argued to be conceptually vague and tautological because of the ex-post approach in analyzing firm success. For example, one criticism is that the RBV perspective has been informed by studies that have classified as successful before researchers

began to analyze the resources that might have led to successful firm performance (Foss & Knudsen, 2003; Priem & Butler, 2001).

Moreover some argue that RBV failed to focus on the mechanisms by which, for example, HR could lead to competitive advantage (Mosakowski & McKelvey, 1997; Priem & Butler, 2000; Williamson, 1999). In addition, Eisenhardt and Martin (2000) argued that RBV lacks an explanation as to how and why certain firms in dynamic environments can achieve competitive advantage. According to D'Aveni (1994), gaining sustainable competitive advantage in dynamic environment is almost implausible as long-term competitive advantages is rarely achieved in dynamic markets. Thus, some argued that firms would be successful in the long-run when they focus on a series of temporary advantage instead of long-term competitive advantages (Lengnick-Hall & Wolff, 1999). However, despite these critiques, the RBV has played a significant role in providing a framework for understanding the link between HRM and firm performance.

3. DYNAMIC CAPABILITY

Dynamic capabilities are defined as organizational and strategic routines that enable firms to achieve new firm resource configuration through

integrating, reconfiguring, gaining, and releasing resources as external markets or environments change (Eisenhardt & Martin, 2000; Teece, Pisano, & Shuen, 1997; Zahra & George, 2002; Amit & Schoemaker, 1993; Helfat & Peteraf, 2003). Organizational and strategic routines in dynamic capabilities may include product development, strategic decision making, knowledge acquisition, resource procurement, technological capabilities, organizational reputation, organizational culture, labor relations, and so on (Carmeli & Tishler, 2004; Eisenhardt & Martin, 2000; Lee, Lee, & Pennings, 2001; Yli-Renko, Autio, & Sapienza, 2001; Zollo & Winter, 2002).

Does this then mean all the organizational and strategic routines are idiosyncratic or common across firms? Some argue that dynamic capabilities are idiosyncratic processes for each firm as dynamic capabilities emerge from unique path-dependent histories of individual firms (Teece et al., 1997).

However, others such as Eisenhardt and Martin (2000) argue that there are common features across organizational and strategic routines, which does not mean that dynamic capabilities are alike across firms; instead, it means that there are multiple paths, or equifinality, to the same dynamic capabilities. Due to the equifinality nature of dynamic capabilities, firms may gain the same capabilities from many paths, which may imply that dynamic

capabilities are not a direct or proximate source of competitive advantage (Eisenhardt & Martin, 2000).

The direct and proximate sources of competitive advantage are organizational resource configurations that are derived from dynamic capabilities, and the resource configuration may include operational or substantive capabilities and resources of the firm (Helfat & Peteraf, 2003; Teece et al., 1997; Zahra, Sapienza, & Davidson, 2006; Zollo & Winter, 2002). Thus, the combination of the processes and resources that are causally ambiguous, socially complex, and path-dependent are the source of gaining competitive advantage (Reed, Lubatkin, & Srinivasan, 2006).

Because the RBV perspective lacks the ability to explain the role of resources as a source of competitive advantage for the firms in a dynamic market, the notion of dynamic capabilities are more suitable to explain the phenomenon. Firms in highly dynamic markets should rely less on existing knowledge and more on creating situation-specific new knowledge and focus on experiential actions to learn new knowledge quickly in order to compensate for the limitation of relevant existing knowledge in a dynamic market (Eisenhardt & Martin, 2000). This organizational learning process is more achievable when firms put more values on human capital and social

capital. Moreover, firms should keep their organizational routines simple so that they could easily adapt to emergent changes in external environment. This provides managers with a sense of confidence as relatively simple and repetitive learning process are required (Argote, 1999; Eisenhardt & Martin, 2000). In this sense, dynamic capabilities lead to organizational HR reconfiguration that encourages the learning process and enhances human capital and social capital.

More importantly, HR aspects such as human capital, social capital, and organizational commitment to employees could be treated as dynamic capabilities. Human capital is identified as a dynamic capability that enables firms to create and reconfigure resources to attain a sustainable competitive advantage (Adner & Helfat, 2003; Carmeli & Tishler, 2004; Reed et al., 2006). According to Subramaniam and Youndt (2005), human resource management or human resource systems are able to enhance dynamic capabilities through the creation of strong human capital and social capital by implementing more sophisticated human resource systems such as rigorous selection, extensive training, and so on (Youndt et al., 2004). The sophisticated human resource systems, such as high performance work practices, could enhance human capital, social capital and the cognitions that enhance dynamic capabilities of

the firm amidst environmental changes (Youndt & Snell, 2004; Adner & Helfat, 2003). According to Datta et al. (2005) high performance work practices would help firms build organic management systems with broad skill sets and organizational flexibility. Thus, placing a great emphasis on human resource management would enable firms to create an adaptive culture, allowing for better flexibility and adaptability when facing a volatile external environment.

III. STRATEGIC MANAGEMENT LITERATURE ON TURNAROUNDS

Turnaround studies in the strategic management literature mostly emphasize identifying the cause of decline and explaining the impact of strategic response on turnaround performance.

1. ORGANIZATIONAL DECLINE

As suggested by the organizational life cycle literature (e.g., Quinn and Cameron, 1983), there is no guarantee that firms will not fall into a decline stage as there are a number of contributing factors, both internal or external, and they become more complex and unpredictable for firms competing in dynamic markets. The real challenge for declining firms is how to overcome such adverse situations. Firms may take a number of different steps to overcome organizational crises, but those attempts may vary depending on the characteristics of such crisis or managerial/operational mistakes and failures.

McKinley (1993) used the term “inhibitor” to explain the negative impact of a decline upon subsequent firm performance. Firms cannot recover from organizational crisis when they fail to pay attention to continuous and unrecognized changes in the external environment. The lack of sensitivity to

changes in the external environment is a fatal organizational defect. The organizational sensitivity to the external environment is explained by Tichy and Devanna (1986) who used the notion of the "boiled frog phenomenon." The classic physiological response experiment to explain the boiled frog phenomenon needs two live frogs, a pan of water, and a Bunsen burner. It is predicted that the frog would react immediately as it is dropped into existing boiling water. However, the frog that is put in cold water which is gradually heated will sit in the pan and finally die without taking any actions for survival because the change in water temperature is too gradual to notice. The series of "just noticeable differences" prohibited the frog from triggering a serious response until it is too late. Thus, what is more dangerous to a living creature — or to an organization — is a fatal combination of a gradually diminishing environment and lack of sensitivity to this change. Tichy and Devanna (1986) provided a viable logic for predicting that gradual, rather than sudden environmental decline is a common accompaniment of corporate failure.

In addition, even when firms are aware that they are entering a period of decline, they may have a difficult time recovering from organizational failure. Staw et al. (1981) argue that steep organizational crises may lead to a

threat-rigidity response that decreases a firm's ability to make effective decision making. They argued that the existence of such threats put more restrictions on organizations and resulted in severe rigidity which eventually diminished a firm's adaptability. Moreover, D'Aveni and MacMillan (1990) found a distinct association between managers' narrow cognitive process and a rigid response to organizational crises. In addition, such notable failures may create deeper set of defenses that could block organizational learning process (Eisenhardt & Martin, 2000). In general, organizational failures, represented by a decline, would suppress organizational dynamic capability which would eventually impair firm's flexibility and adaptability to changes in external environment and firm's ability to recover from the decline.

However, instead of being organizational impediment to firm performance, it is important to recognize that organizational crises sometimes work as a positive "stimulus" that may catalyze better performance, (McKinley, 1993; Miles & Cameron, 1982; McKinley, 1984; Meyer, 1982). The extent to which organizational decline could have a stimulus effect on firm performance would vary depending on the severity of decline or failure. Thus it is expected that a positive impact is more prevalent when firms face a relatively less severe decline because small losses could stimulate effective

organizational learning, with steeper declines leading to inertia or threat rigidity (Sitkin, 1992). Small failures refocus attention to learning processes rather than on the existence of success or failure itself (Eisenhardt & Martin, 2000).

2. ORGANIZATIONAL RESPONSE

Researchers in strategic management argue that understanding the cause of decline allows firms to establish better plans for organizational responses that could lead to successful firm performance. The importance of considering the cause of decline was addressed by Schendel, Patton, and Riggs (1976) who classified declines and upturns as either 'strategic' or 'operating.' They argued that declines caused by operating problems call for operational cures, while declines caused by strategic problems call for strategic cures. Hofer (1980) also argued that firms should develop a different set of organizational responses depending on whether the downturn stems from poor strategy or from poor operation. According to him, firms should keep contingent views regarding organizational response. A firm's strategy should differ depending on how poorly a firm is performing based on whether the firm is performing above or below breakeven. As firms perform

well below breakeven, moderately below, or close to breakeven, they need an asset reduction strategy, revenue-generating strategy, as well as a cost-cutting strategy respectively.

Bibeault (1982) was the first who proposed that there are multiple stages in the turnaround process. For example, the emergency stage calls for a “stopping the bleeding” or “unloading strategy” whereas the stabilization stage calls for organizational rebuilding strategies. In addition, Robbins and Pearce (1992) also argued that it is important to match the cause of downturn, either internal-oriented or external-oriented, with the organizational response. Thus, when a downturn is derived from entrepreneurial problems, then a revenue-generating strategy or product/market refocusing strategy is required; but when the problem is efficiency-related, cost-cutting strategies or asset reduction strategies are necessary.

One of the most common organizational responses in turnaround attempts is retrenchment. Despite the popularity of retrenchment, the effectiveness of retrenchment is still questionable because while this response may be necessary as a initial response firms need to implement (Hofer & Schendel, 1978; Bibeault, 1982; Hambrick & Schechter, 1983; Slatter, 1984; Grinyer, Mayes, & McKiernan, 1988), it is nothing but a tactic or a component

of a short-term operating plan (Schendel et al, 1976; Schendel & Patton, 1976; Hofer, 1980). Some argue that firms with excessive retrenchment practices that lead to significant reduction in workforce with greater reduction are better positioned to achieve a turnaround at least in the short term (Slatter, 1984; Goldstein, 1988); however, others (Bibeault, 1982; Pearce, Freeman, & Robinson, 1987) point out that excessive retrenchment that is involved with cutting back too much of a workforce could lead to a detrimental situation where firms lose their momentum. This would cause firms additional problems as they lose their human resources and assets that are necessary to enhance dynamic capabilities.

Barker and Duhaime (1997) found that the extent of strategic change in turnaround attempt is determined by need for strategic change and a firm's capacity. They proposed that the need for strategic change depends on a number of factors such as the level of industry growth, the extent of firm decline, and the extent to which decline can be corrected by external events. Firm capacity includes top management team change, firm specific factors, and the level of firm resources such as financial resources, human resources, and resources relating to the firm's reputation. These researchers determined that although cost retrenchment is pervasive for a number of firms, the

average turnaround involves significant domain and policy changes as well as some levels of strategic reorientation, which implies that strategic turnaround does exist and can be effective. Firms that attribute their failure to internal causes are more likely to engage in more extensive strategic change, while firms with external attributions being less likely to. Moreover, firms with higher level of slack financial resources are more likely to implement a strategic response. Barker and Duhaime (1997) took an important step in addressing the importance of a strategic response in the turnaround process, which requires going beyond a narrow-minded focus on operational responses.

3. SUMMARY

When firms establish strong HR practices by placing a premium on their human resources, this asset can be a dynamic source of competitive advantage, promoting a firm's flexibility and adaptability. Moreover, when organizational dynamic capabilities are strong and when firms have human resources with the capability for higher levels of adaptability and flexibility, gradual- and slow-paced organizational crises may stimulate firms to engage in learning processes by utilizing new sets of knowledge (Eisenhardt & Martin, 2000). Therefore, the extent to which firms place an emphasis on their

people could be a factor determining firm performance, including prevention of decline, mitigation of decline pattern represented by severity and length of decline, and recovery from organizational crisis.

In conclusion, the value of dynamic capabilities is derived from the extent to which firms could modify their organizational resource configurations, which is a source of competitive advantage, by creating, integrating, recombining, and releasing relevant resources (Eisenhardt & Martin, 2000). Thus, a strong emphasis on a firm's HR component can be a dynamic capability or an organizational resource that can offer competitive advantage – in good times or bad. Moreover, the theoretical grounding that explains the extent to which resources can be reconfigured to match the demands of changing environment (Teece et al., 1997) provides more tangible guidance to both researchers and practitioners.

IV. RESEARCH OBJECTIVES

As discussed above, there is a wide gap in the strategic management and strategic human resource management literatures, because the strategic management literature has paid little attention to the 'role of HR' while the SHRM literature paid little attention to the role of HR in 'organizational turnarounds'. Thus, the role of human resources in the turnaround process has been neglected for decades, relegating HR to a superfluous role.

Although studies on turnarounds in the strategic management literature have evolved, little attention has been paid to the role of human resources during the turnaround process. Barker and Duhaime (1997) included human resources as one of the areas that support the implementation of strategic response, but this notion has not been examined empirically.

The main objective of this research is to explicate the role of HR in a firm's turnaround process by looking into three types of effects of HR on firm performance: the inoculating effect, mitigating effect, and restoring effect, which are illustrated in Figure 1. First, in Study 1, the inoculating effect focuses on the impact of human resources on subsequent performance, based on the assumption that a relative emphasis on human resources may

differentiate between successful firms and firms experiencing decline. In addition, HR emphasis may lead to better firm performance measured by return on assets, productivity, and so on.

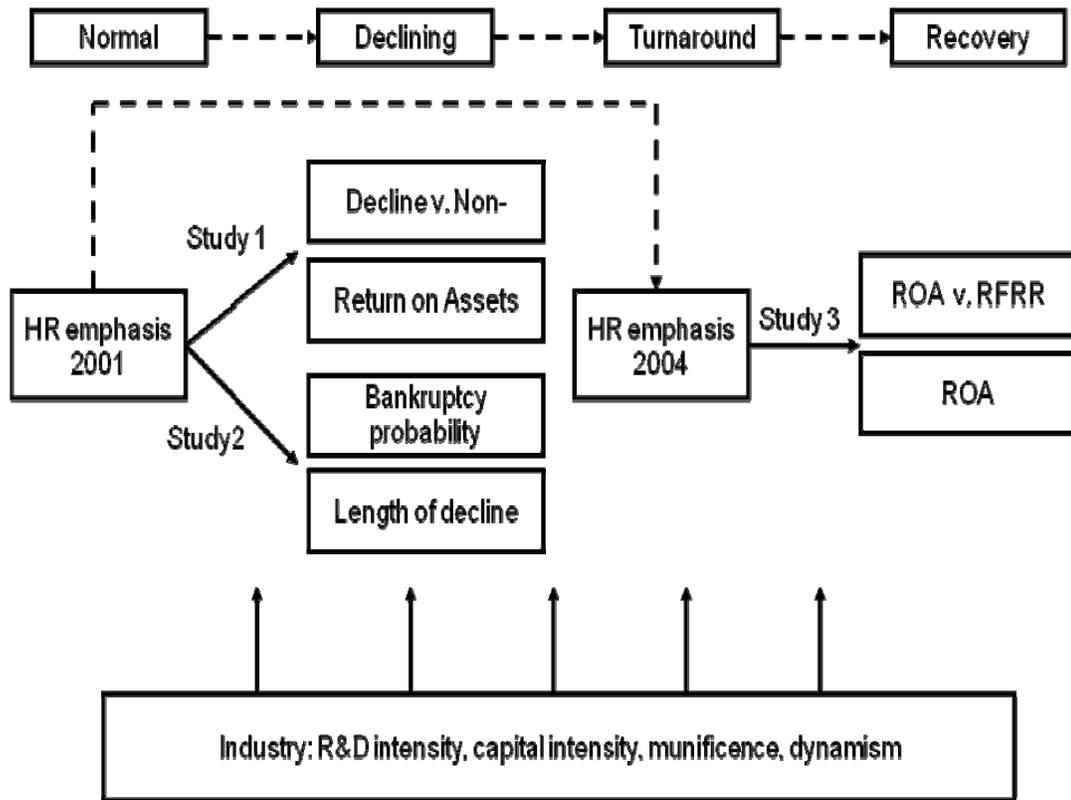


Figure 1: Research Model

Second, the mitigating effect, in Study 2, focuses on how human resources influence the extent of organizational decline measured by severity and speed of decline. The mitigating effect is based on the assumption that

firms that value human resources as a source of competitive advantage are likely to experience (1) a lower probability of bankruptcy (less severe decline) and/or (2) a shorter declining period. The severity of decline is measured by Altman Z score, which is an indicator of financial safeness because it predicts the probability of bankruptcy within two years. Thus, the main idea of the mitigating effect is that firms may experience less severe decline or shorter declining period if they put more emphasis on the value of human resources. Finally, in Study 3, the restoring effect focuses on the impact of human resources on the extent to which firms recover from a downturn situation during a turnaround process. The restoring effect is similar to the inoculating effect, but they are different in the sense that the restoring effect assesses the extent to which declining firms recover from a downturn stage, while the inoculating effect assesses the extent to which firms are more likely to be classified as non-declining.

Thus, one of the contributions this research would make is to eliminate the gap between two literatures by refocusing the role of HR from an extraneous one to that of a supporting role on the turnaround process stage.

V. STUDY 1: THE INOCULATING EFFECT

1. INTRODUCTION

As noted, there have been a number of studies in strategic human resource management literature that show the positive impact of HR on firm performance (Becker & Huselid, 1998; Huselid, 1995; Guthrie, 2001; Arthur, 1994; MacDuffie, 1995; Youndt et al., 1996). In addition, firms that explicitly show a strong commitment to employees are more likely to create trust within the firm and strong organizational commitment (Guest & Peccei, 2001). Moreover, strong commitment to employees enables firms to build strong networks within the firm that support collaboration, discretionary behaviors, and knowledge exchange (Wright et al., 2001).

Firms with more sophisticated HR systems would have a higher level of human capital and social capital (Youndt et al., 2004), which are dynamic capabilities that influence firm performance in dynamic markets (Adner & Helfat, 2003). Thus, by placing emphasis on human resource management, firms are likely to be more organic, have an adaptive culture and exhibit more flexibility and problem-solving abilities (Datta et al., 2005).

2. RESEARCH QUESTIONS

The main research focus of Study 1 is to explain the relationship between human resource management and subsequent firm performance by assessing whether human resource management is a critical factor a) in distinguishing declining firms from non-declining firms and b) in predicting subsequent firm performance measured by return on assets (ROA).

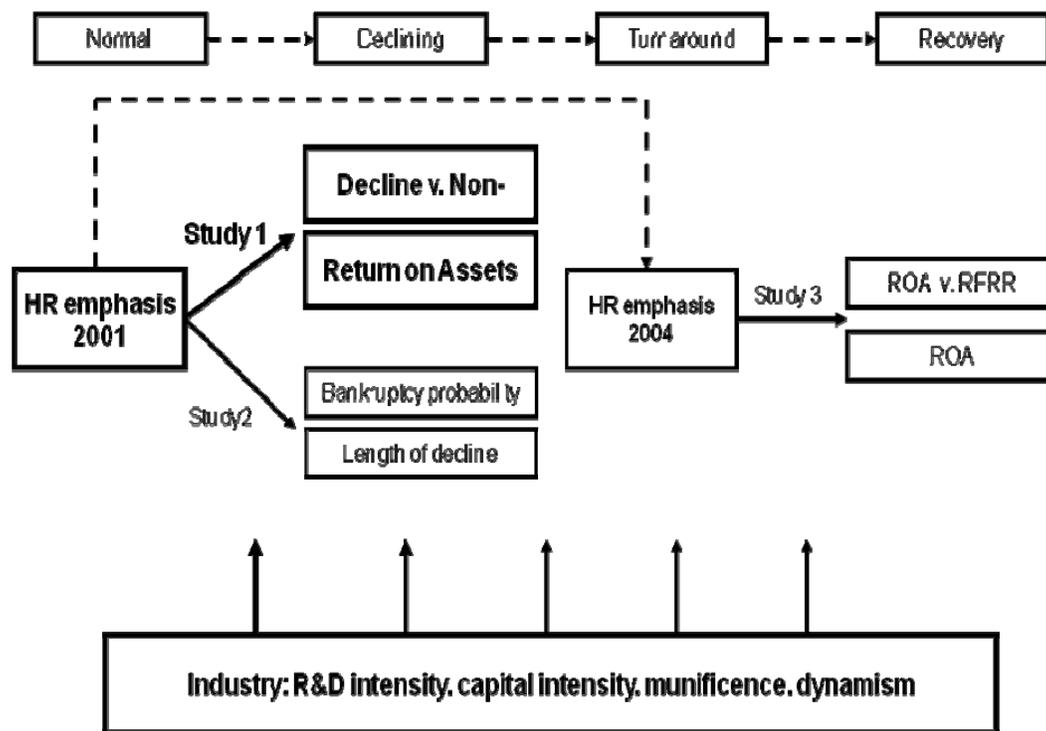


Figure 2: Study 1. Inoculating effect

2.1. Main effect of an HR index

Welbourne and Andrews (1996) examined the extent to which an HR orientation or emphasis affected the success of new ventures. They measured the degree to which firms viewed their employees as specialized assets by using the following clues:

1. A company's strategy and mission statements cited employees as a competitive advantage
2. A training program for employees was used, indicating allocation of resources that resulted in employees obtaining company-specific education
3. Full-time employees, rather than temporary or contract employees were regularly used
4. Employee relations climate

In addition, they also included organization-based rewards, such as stock options and profit sharing.

In this study, similar to Welbourne and Andrews' (1996) approach, I created an HR index to represent the extent to which firms place value on employees. This HR index is derived from organizational documents such as annual reports of the firm. Some of the items that constitute this HR index are

derived from a detailed content analysis of a 10-K report. The assumption is that firms with sound human resource management are more likely to explicitly address their human resources in documents like 10-K reports than firms with inferior human resource management. By analyzing 10-K reports from five randomly chosen companies across different industries, I was able to generate additional items that indicate whether firms place value on their human resources. In addition, I created more opportunities for coders to identify HR-related items that could be extracted from 10-K reports during the pilot study stage.

These items include: a) mentioning employees as a source of competitive advantage, b) mentioning training to enhance employee skills and competency, c) using full-time employees extensively, d) discussing the employee relations climate, e) setting organization-based pay, f) including an HR officer in the top management team, and g) communicating with employees during workforce reduction. Additional HR Index items that are derived from an archival database such as Compustat include a) the degree of employment instability, b) experiences of downsizing, and c) pay market position. I expect that firms that put more emphasis on human resources are more likely to be successful, which is measured by a) the extent to which

firms are classified as non-declining as opposed to declining and b) firm performance measures such as return on assets.

Hypothesis 1A: Firms with more of an HR Emphasis are expected to be more often identified as non-declining; firms that put less Emphasis on HR are expected to be more often identified as declining.

Hypothesis 1B: Firms with more of an HR Emphasis are more likely to have higher performance relative to firms placing less Emphasis on HR.

2.2. Moderation effect of industry characteristics

In addition to analyzing the main effect of Emphasis on HR on firm performance, it is important to take the specific industry into consideration. As discussed above, each firm faces its own unique external environment and the pattern of environmental changes differs across firm types. Consequently, each firm may experience a unique pattern of organizational downturn, which calls for different types of organizational responses. The importance of a moderating effect for industry characteristics has been ignored far too long within the field of strategic human resource management, although it has gained more popularity recently. Datta et al. (2005) found that the relative effectiveness of human resource policies will be influenced by a firm's

industry context. Similarly, I expect the impact of an HR Index on the pattern of decline to be influenced by industry characteristics such as industry R&D intensity, industry capital intensity, industry munificence, and industry dynamism, factors which are widely used in both the industrial organization and the strategic management literature (Haleblein & Finkelstein, 1993; Rajagopalan & Datta, 1996).

2.2.1. Industry R&D intensity

Industry R&D intensity has been widely used as an indicator of industry differentiation (e.g. Hambrick & Finkelstein, 1987). In highly differentiated industries, organizational success tends to depend on whether firms have products that stand out from competitors on the basis of product features, quality, and design; firms in undifferentiated industries are competing based on relatively similar commodity-like products. Thus, due to the high level of differentiation of products or services, firms in highly differentiated industries have more options for competition or a wider range of possible managerial actions to be successful, which means-end linkages are relatively ambiguous (Porter, 1980). In highly differentiated industries, firms must shift production and organizational processes more frequently in order

to adapt to a dynamic external environment. Consequently, it is imperative for firms to retain employees who have a deeper and broader set of knowledge, skills, and abilities because job descriptions and requirements are more complex.

Therefore, the value of HR is more important in differentiated industries because it is imperative for firms to retain deeper and broader reservoirs of KSAOs (knowledge, skills, abilities, and other characteristics) of employees in order to achieve a competitive advantage. Thus, the relationship between Emphasis on HR and the pattern of decline, severity of decline and length of decline will vary depending on the level of industry differentiation, represented by industry R&D intensity. Therefore, industry variables, R&D intensity in this case, will moderate the relationship between Emphasis on HR and firm performance.

Hypothesis 1C: Industry R&D intensity will moderate the relationship between an HR Emphasis and firm performance, with the relationship being stronger in more R&D intensive industries.

2.2.2. Industry capital intensity

Capital intensity is a firm's relative investment in fixed assets, or plant, property and equipment in relation to total sales. High capital intensity, where a firm's fixed costs are relatively high, creates strategic rigidity because they have relatively less room for flexibility to adapt to an external environment (Datta & Rajagopalan, 1998; Hambrick & Lei, 1985). Likewise, for the firms in a capital intensive industry, the value of human resources is restricted and more constraints are placed upon employee performance because factors other than HR, such as task structure or production systems, are more likely to influence organizational performance (Terpstra and Rozell, 1993). Therefore it is predicted that the relationship between the HR Index and the pattern of decline will vary depending on the level of a firm's industry capital intensity.

Hypothesis 1D: Industry capital intensity will moderate the relationship between an HR Emphasis and firm performance, with the relationship being stronger in less capital intensive industries.

2.2.3. Industry munificence

One of the factors that influences a firm's tendency to fall into a declining stage is how favorable the external environment is. When an industry is growing in general, firms are more likely to experience greater market opportunity and an expanded set of options for improvement, which leads to a decrease in organizational inertia (Hambrick & Finkelstein, 1987). In addition, demand growth is associated with greater market opportunity and competitive variation, where firms may take more discretionary opportunities. It was also found that high industry munificence helps firms achieve organizational turnaround (Arogyaswamy et al.,1995), while low industry munificence makes it more difficult to achieve organizational turnaround (Hannan & Freeman, 1977). Moreover, Datta et al. (2005) found that HR systems that promote a high level of employee skills and commitment are more likely to have greater impact on firm performance.

On the other hand, one can expect that the relationship between positive HR practices and firm performance may be weakened when the external environment is favorable. In a munificent industry, the whole economic pie in a given industry is greater, so firms that put little Emphasis on HR may experience an increase in financial performance due to their 'free-

riding' opportunity. Thus, the role of industry munificence in the relationship between HR practices and firm performance would be ambivalent: either positive or negative.

However, one of the ways to overcome this ambivalent situation is to use an industry-adjusted firm performance measure, which is a relevant performance measure of firms that belong to the same industry (Cascio et al., 1997; Eisenberg & Sundgren, 1998) because it is a relative measure of firms that are facing a similar external environment. In this study, using industry-adjusted performance measures enables us to evaluate whether the relationship between HR practices and relative firm performance is stronger for firms in a munificent industry.

Hypothesis 1E: Industry munificence will moderate the relationship between an HR Emphasis and firm performance, with the relationship being stronger in more munificent industries.

2.2.4. Industry dynamism

Industry dynamism represents the volatility of industry growth or decline or the extent to which a firm faces an environment that is predictable and stable or changing and uncertain. Industry dynamism is expected to have

an impact on the relationship between human resource management and firm performance because industry dynamism results in an expanded set of options for firms and reduces the tendency for organizational inertia (Hambrick & Finkelstein, 1987). The lack of predictability may require more frequent strategic and structural adaptations which results in a greater need for information processing. Therefore, like the case of a highly differentiated industry, jobs in a more dynamic industry are likely to be more complex and require an extensive set of broader KSAOs. As Datta et al. (2005) argue, the value of human resources would be greater for the firms in a more dynamic industry. Thus, it is expected that the relationship between the HR Index and the extent to which firms fall into a declining period would be greater for firms in more dynamic industry.

Hypothesis 1F: Industry dynamism will moderate the relationship between an HR Emphasis and firm performance, with the relationship being stronger in more dynamic industries.

3. METHOD

3.1. Sample

The main research question of Study 1 is whether an HR Index allows us to predict firm performance: a) firm classification of either declining or non-declining and b) return on assets. The initial sample will be derived from the Compustat database based on the following criteria; 1) firms with 100 or more employees and \$50 million in sales, 2) non-diversified firms with 60% of sales revenue generated from a single two-digit Standard Industry Classification (SIC) code in order to ensure the influence of industry characteristic. These criteria generated a sample size of 4405 firms representing 30 industries over the 11 year period between 1997 and 2007.

In order to enhance the accuracy of prediction, I eliminated cases with many missing values for a number of variables such as a) R&D expense and b) Selling, general, & administrative expense. For example, I removed a firm which has 3 or more missing values for a specific variable for the period between 1997 and 2007, which reduced the sample size to 1248. Then, I replaced the missing variables by using SPSS single imputation technique because the data had only 10% of missing rate. In addition, I reduced the influence of univariate outliers through windsorizing the data (Lynch & Perry,

2002). In windsorizing, extreme values are not eliminated from the data, but are instead replaced by the cut-off point of a z-score of 3.0. This preserves cases while eliminating the excessive influence of the outliers. Next, I eliminated the multivariate outliers based on the critical χ^2 value for Mahalanobis distance. Moreover, data transformation was performed based on the non-normality pattern of distribution of the variables and mean centering of variables was performed in order to reduce the problem of multicollinearity. This data cleaning process resulted in the sample size of 987, from which 278 firms were selected for content analysis on 10-K reports.

This study used a matched pair design (D'Aveni, 1988) where matching criteria determine which firms are classified as declining or non-declining. The matched pair design requires that a researcher identifies a complete set of potential matches (successful firms) for each declining firm based on the following criteria: 1) similar periods of decline and success, 2) similar firm size at the time when the HR Index is measured, and 3) a similar industry based on the two-digit SIC code. The first criterion of using a similar period of decline and success was fulfilled by measuring HR data and other financial data within the same period of time. For example, as shown in Figure 3, I used 2001 and 2004 for collecting HR Index items and used the

same period for extracting firm performance indices. More detailed information will be provided in Method section below.

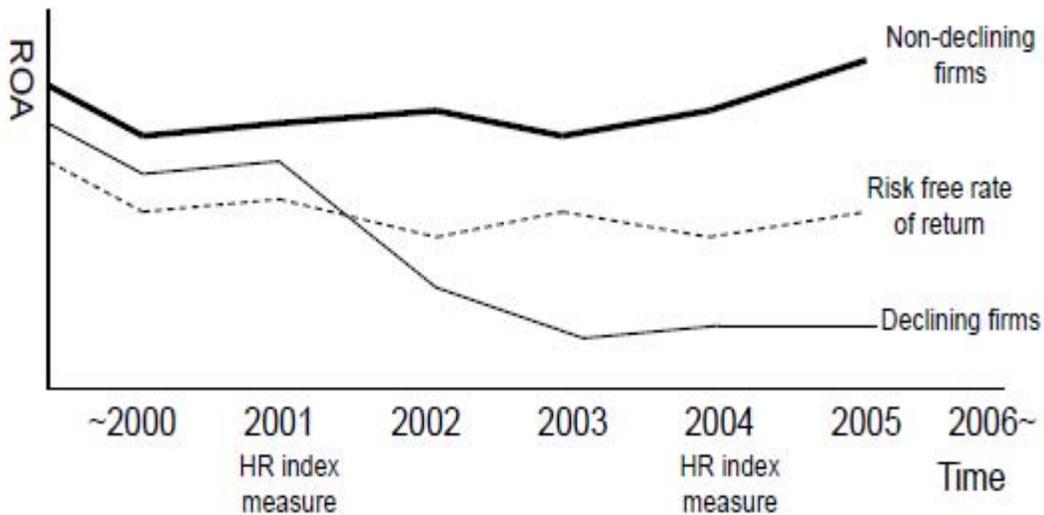


Figure 3: Timeline of HR index measure for the matching firms

3.2. Measure

3.2.1. Dependent variable

3.2.1.1. Firm classification: Non-declining firms vs. declining firms

This dependent variable is dichotomous or categorical; 1 is used to represent non-declining firms and 0 to represent declining firms. The criterion to classify firms, either non-declining or declining, is whether firm performance, namely, a return on assets (ROA), is above or below the risk-

free rate of return for a given year between 2002 and 2004. Per Barker and Duhaime (1997), firms that are in a declining situation were the ones with their ROA below a risk-free rate of return for at least 3 years, while firms are classified as successful when their ROA is above a risk-free rate of return for at least 3 years. Return on assets is the most widely used firm performance variable in management research and is measured as operating income (before depreciation, interests, and taxes) divided by total assets.

In this study, I used the period of 2002 through 2004 to measure the extent to which ROA is above or below the risk-free rate of return for a specific year. I used the average of the interest rate on a six-month U.S. Treasury Bill as a proxy of a risk-free rate of return (Barker & Duhaime, 1997). This is a conservative and rigorous way of assessing firm performance at various points in time (Hansen & Wernerfelt, 1989). This is based on the assumption that firms are considered to be failing if they cannot generate returns at least equal to what investors can get through the U.S. Treasury Bill without taking any risks (Porter, 1980). In this study, firms are classified as declining when they are performing below the risk-free rate of return for three years between 2002 and 2004, while the remainder was classified as non-declining.

3.2.1.2. Industry-adjusted Return on Assets (Ind-adjusted ROA)

In the second study, I used industry-adjusted ROA as a measure of subsequent firm performance. Although ROA is a widely accepted measure of firm performance, it is not a good measure when it is necessary to assess firm performance in the context of other firms' performance in a specific industry. In addition, the use of an absolute measure of ROA hinders the validity of comparing firm performance across different industries. The industry-adjusted ROA was calculated by subtracting industry ROA (aggregated measure of ROA for a specific industry) from firm ROA.

3.2.2. Independent variable: Emphasis on HR

The main independent variable is the extent to which firms place value on human resources as a source for gaining a competitive advantage and a successful performance. In order to measure the "Emphasis on HR", I chose to look into public documents and extracted HR-related information that was reflected in those documents, such as 10-K reports. In order to consistently capture Emphasis on HR, an HR index was created, which is the collection of HR-related information that was extracted from the 10-K reports and financial performance database. This is the measure of the extent to which

firms place value on human resource management. Although Emphasis on HR expressed by HR items collected through content analysis may reflect the reality of a firm's philosophy on human resources, it does not directly measure actual HR practices of the firms. Therefore, it is important to interpret carefully; it is not HR practice that we are measuring but overall HR philosophy. A More detailed explanation will be provided under the section discussing content analysis of 10-K reports.

3.2.3. Control variables

I controlled for a number of variables such as firm size, firm R&D intensity, firm capital intensity, profitability, leverage, liquidity, and CEO change. *Firm size* represents the average number of employees between 1997 and 2001. There is a mixed result regarding the role of firm size in organizational turnaround. Some research showed that large firms are more likely to be insulated from external environment (Hannan & Freeman, 1984) and they are more likely to recover from hostile economic situations (Haveman, 1993). On the other hand, Meyer & Zucker (1989) found that firm size is negatively associated with a firm's turnaround. However, firm size was been found to be associated with the use of more "sophisticated" human resource

practices as well as productivity (Guthrie, 2001; Jackson & Schuler, 1995). Moreover, this study controlled for *firm R&D intensity*, which represents the extent to which a firm spends its financial resources on research and development relative to its sales between 1997 and 2001. R&D intensity is measured by taking the ratio of R&D expenditure to total sales. *Firm Capital intensity* represents the average ratio of a firm's fixed assets, such as net property plant and equipment, compared to total sales and is measured by dividing fixed assets by total sales between 1997 and 2001.

In addition, common causes of bankruptcy introduced by Altman (1983) were considered, which include profitability, leverage and liquidity. *Profitability* represents prior firm performance and is measured by after-tax ROA between 1997 and 2001. This is the measure of prior firm performance (i.e. performance measure before 2001) and is highly correlated with dependent variable. Therefore, profitability was dropped as a control variable. *Leverage* represents the amount of debt used to finance a firm's assets and is measured by total debt divided by total equity between 1997 and 2001. Firms with high leverage are less likely to have financial strength, so this item needs to be inversely interpreted. Moreover, *liquidity* represents a firm's ability to

pay its short-term obligations and is measured by the current ratio, derived from dividing current assets by current liabilities between 1997 and 2001.

3.2.4. Moderating variables: industry characteristics

As discussed above, industry conditions are expected to influence the relationship between HR practices and subsequent firm performance. The moderating industry-level variables are measured based on the two-digit SIC code between 1997 and 2001. *Industry R&D intensity* is measured by total R&D expenditures divided by total sales in the industry. *Industry capital intensity* is measured by total fixed assets divided by total sales in the industry. *Industry munificence* represents industry growth measured by the antilog of the regression slope coefficient while using time as the independent variable and the natural log of net income as the dependent variable in the industry (Keats and Hitt, 1988). Finally, *industry dynamism* represents industry instability, measured by the antilog of the standard error of each regression slope coefficient from the industry munificence equations described above.

3.3. Content analysis

3.3.1 Survey method

In terms of data collection, a survey is one of the most popular methods in collecting human resource management data from CEOs, top management members, or employees. For example, Datta et al. (2005) developed the Cornell-KU survey of human resource practices and Guthrie (2001) developed human resource strategies and practices in New Zealand Organizations, both of which examine HR strategies and policies used by U.S. firms. These surveys are based on a number of criteria, such as performance management, compensation, staffing, training and development, communication, participation, and other HR issues including employees' perception of the company, turnover data, unionization, and so on.

The survey method has provided researchers with a number of advantages because it is relatively easy to collect a wide range of information from a large number of respondents and the collected data can easily be analyzed by statistical analysis. However, this researcher found the survey method is less useful for the current study for a number of reasons. First, the survey method would not be appropriate when respondents are required to recall the HR practices that they used at a particular time in the past. In

addition, this study is based on HR data of a particular firm for a number of years. Therefore, when respondents are asked to recall their HR data for a number of years back, the reliability of the data would be questionable. One of the alternative ways to overcome this disadvantage of the survey method is to conduct a content analysis.

3.3.2 Content analysis

3.3.2.1. Introduction

Content analysis is a research technique for objective, systematic and quantitative description of the manifest content of communications (Berelson, 1952). In this study, HR data related to the extent to which firms in turnaround situations emphasize values of human and social capital are extracted from 10-K reports based on the content analysis technique. The resulting HR Index is a measure of the extent to which firms emphasize human resource management as expressed in their 10-K report, in combination with measures found in financial performance database Compustat.

According to Kolbe and Burnett (1991) and Marino et al. (1989), it is imperative to ensure objectivity by setting up rules and procedures, training

coders, pre-testing through a pilot study, checking the reliability of the coding process, and ensuring coder independence of authors and of peers. In order to achieve these objectives, it was necessary to identify categories and definitions of the items to be assessed. These objectives were achieved following a series of meetings, training sessions, and analyses as described below.

3.3.2.2. Selection of coders and initial meeting

One of the key elements in content analysis is the selection and training of judges or coders who work independently from the researchers. To recruit coders, a job was posted at a student employment website at the University of Kansas and I selected two students from the applicants, based on the criteria: a) they were students of KU School of Business and b) they had familiarity with the human resource management area. Coders participated in an initial meeting where the purpose of dissertation was explained along with the role of coders, work expectations, and other terms and conditions of the employment. Coding techniques were explained so that coders could become familiar with coding schemes and the operational definitions needed to assess HR index measures.

3.3.2.3. Matched pair sample

As explained earlier, this study used a matched pair design (D'Aveni, 1988). This requires the classification of firms as either declining or non-declining. The criteria used for this classification are: a) a similar period of decline and success, b) similar firm size at the time when the HR Index is measured, and c) a similar industry based on the two-digit SIC code. To train the coders, I created a table that shows TIC (firm ticker symbol), two-digit SIC codes, and firm sizes. Coders were asked to pick a pair of companies who shared the same SIC code and whose firm size similar. The number of pairs to be picked up is based on the relative size of industry, measured by the number of the total firms in sample for a specific industry. The coders identified 139 pairs of matched firms in the end.

3.3.2.4. HR items derived by content analysis

Items derived from content analysis are similar to what Welbourne and Andrews (1996) used based on Compact Disclosure to access databases compiling SEC filings. The items were assessed using a three-point scale, 0, 1 or 2, based on how strongly and explicitly a firm's HR-related information is described. These items are measured in 2001, which is one year before the

<i>Variables</i>	<i>0</i>	<i>1</i>	<i>2</i>	<i>Description</i>
HRIMPO	no comment on the importance of human resources	implicit or weak statement	explicit and strong statement	The extent to which the firm's strategy and mission statement cites employees as a source of competitive advantage
EMPREL	hostile relations	no comment	good relations	The management's perception of the relationship with employees or with union
TMTHR	none	one	two or more	The extent to which the top management team has an officer with functional backgrounds in human resource management.
TRAIN	no comment on training	skill-based training program	Competency-based training and career development	The extent to which the firm explicitly mentions training programs for employees
FULLEE	heavy emphasis on the use of temporary or part-time workers	no comment	heavy use (higher percentage) of or emphasis on the use of full time employees	The extent to which the firm regularly uses full-time employees
ORGPAY	heavy use of individual-based pay such as merit pay system or no comment	moderate use of org-based pay	heavy use of org-based pay such as gain sharing, profit sharing, employee stock ownership plan, etc	The extent to which firms put emphasis on organization-based compensation Tip: do not take TMT compensation into consideration
SUPPO	no support for employees who are leaving	little support	good support with various plans	Extent of support for laid-off employees
CEOREP	CEO was not changed between 2002 and 2004	CEO was changed	-	The extent to which firms replace their CEOs between 2002 and 2004

Table 1: HR Index coding guideline

period 2002~2004, when firm performance was assessed to classify firms into either declining or non-declining. In addition, the HR index is measured in 2004, the third year since the start of the decline period. This study used the HR index measure collected in 2001 only, while the other was used for Study 3, which analyzed the relationship between HR emphasis and firm performance for declining firms only. (Refer to Figure 3.)

The items for the pilot study on five 10-K reports included the following: a) the extent to which firms mention employees as a source for gaining a competitive advantage, b) the extent to which firms positively mention about the employee relations climate, c) the extent to which managers with HR backgrounds placed in the top management team, d) the extent to which firms emphasize training for knowledge development and enhancement, e) the extent to which firms emphasize the use of full-time employees as their main workforce, f) the extent to which firms express their support for employees who are laid-off, and g) the extent to which firms replace their CEOs in the declining stage. More detailed information about coding scheme on the HR index can be found from Table 1.

HRIMPO - employee as a source of competitive advantage: This item measures the extent to which the firm's strategy and mission statement cite

Block	Variable & Definition	Score	Y2001 (Freq.)	Y2004 (Freq.)	Description
Attitude toward HR	HRIMPO: The extent to which the firm's strategy and mission statement cited employees as a source of competitive advantage	0	0.532	0.525	no comment on the importance of HR
		1	0.385	0.367	implicit statement
		2	0.083	0.108	explicit statement
	EMPREL: The extent to which management perceive the relationship with employees or with union as favorable	0	0.072	0.029	hostile relations
		1	0.396	0.475	no comment
		2	0.532	0.496	explicit statement on good relations
	TMTHR: The extent to which TMT has an officer with functional backgrounds in human resource management	0	0.669	0.309	no one with HR background in top management team
		1	0.313	0.468	one
		2	0.018	0.223	two or more
Training	TRAIN: The extent to which the firm explicitly mention training and development programs for employees	0	0.655	0.561	no comment on training and career development programs
		1	0.273	0.410	focus on skill-based training
		2	0.072	0.029	focus on broader competency-based training
Employment security	FULEE: The extent to which the firm regularly use full-time employees	0	0.025	0.072	little use of full-time employees
		1	0.719	0.669	moderate use
		2	0.255	0.259	heavy use
	EMPSTA: Coefficient of variation of employment level across years (reverse coded)	0	0.335	0.173	above +1 s.d. of ind-adjusted employment instability
		1	0.342	0.532	between minus and plus 1 s.d. of employment instability
		2	0.324	0.295	below -1 s.s. of employment instability
	WFRSUP: No downsizing or downsizing in combination with support for laid-off employees and survivors	0	0.201	0.180	downsizing without support for the laid-off's
		1	0.561	0.777	downsizing with supports
		2	0.237	0.043	no indication of downsizing
Compensation	ORGPAY: The extent to which firms put emphasis on organization-based compensation	0	0.230	0.122	no comment
		1	0.504	0.446	implicit statement about the use of organization-based pay
		2	0.266	0.432	extensive use of organization-based pay
	PAYPOS: The relative labor expense per employee, based on Huselid & Rau's (1995) approach, of a firm in a given industry	0	0.255	0.209	5% or below of pay level than industry average
		1	0.583	0.590	less than 5% difference
		2	0.162	0.201	5% or above industry average
CEO	CEOREP: CEO replacement between 2001 and 2004	0	-	0.496	No change of CEO between 2001 and 2004
		1	-	0.504	Change of CEO between 2001 and 2004

Table 2: HR index item blocks and frequency

employees as a source of competitive advantage or as a factor for success or failure. The item represents how much value firms place on human resources. Coders gave 0 points when they found no information about this item. They gave 1 point for implicit or weak statements about the value of human resources. For example, coder D gave 1 point to the firm who stated they focus on creating a culture that encouraged every employee to focus on exceptional customer services. Two points were given for strong and explicit statements about the importance of HR to gain a competitive advantage. For example, coder K gave 2 points to the firm who stated that its future success is highly dependent upon its continued ability to attract and retain qualified employees. Findings were that more than half of the sample (53%) did not mention the importance of human resources in their business at all. About 38% of the firms showed their implicit or at least weak commitment to the importance of human resources, while only 8% of the firms showed strong commitment to the value of human resources in their business. Thus, it was found that only a few, less than 10%, made it clear that they view human resources as a critical source for achieving positive firm performance, while more than half of the firms did not mention this at all.

EMPREL - employee relations climate: This item represents the extent to which management perceives the relationship with employees or with the union as favorable. Coders gave 0 points when they found the relationship hostile. For example, coder D found the employee relations as hostile or negative when he found a court case pending regarding the terms and conditions of employment and a report regarding physical injuries. Coders gave 1 point for firms that either did not make any comments about the employee relations climate or did not have any employment-related disputes pending. Coders gave 2 points for a good or positive relationship when a firm mentioned that its relationship with employees was good or satisfactory. It was found that almost half of the sample viewed their relations with employees positively. Meanwhile, only a few, less than 10% of the firms, were found to have hostile or negative relationships with employees.

TMTHR - managers with functional background of HR in TMT. This item measures whether there are top management team members who have functional backgrounds in human resource management. This is based on the assumption that firms are more likely to put more value on human resources when there is an officer with an HR background. Coders gave 0 points when there was no officer with an HR background, 1 point for one officer, and 2

points for two or more officers. It was found that almost two-thirds of the firms did not have TMT members with HR background, and less than 5% of the firms had two or more TMT members with HR background.

TRAIN - Training: This item represents the extent to which firms explicitly mention training programs for employees. Coders gave 0 points when they found no information about training, 1 point for training programs that focus on skills, and 2 points for training program for broader competencies. Almost two-thirds of the firms did not mention training for employees. In addition, less than 5% of the firms explicitly expressed their training and development program for their employees.

FULLEE - full-time employees: This item assessed the extent to which firms regularly use full-time employees. Coders gave 0 point when firms put heavy emphasis on the use of temporary workers and part-time workers, 1 point when no emphasis was placed on either temporary workers or full-time workers, and 2 points when there was an evidence of heavy use of full-time employees. Almost 25% of the firms showed their commitment to the use of full-time employees and the rest of them opened their door for more use of temporary workers and contingent workers.

SUPPO - *Support for employees who are laid off*: This measure relates to supports for employees who are being laid off. This is a partial measure of workforce retention and support (WFRSUP) because the support in the process of workforce reduction is combined with the existence of workforce reduction for this particular HR item. For example, in the HR index item score, firms get 2 points when they did not have workforce reduction where the average reduction of employment level across 2002 and 2004 is less than 5% (Cascio et al., 1997). One point is given for those who executed workforce reduction but provided supports for the laid-off and 0 points for those who executed workforce reduction without any supports. Coders focused on whether there is evidence of support for employees who are laid off, but did not pay attention to the existence of workforce reduction reflected on the annual reports because the existence of workforce reduction was assessed based on change of employment level data extracted from the Compustat. This showed that about 24% of the firms did not execute downsizing or workforce reduction. Among those who executed a workforce reduction, almost two-thirds of the firms provided supports for employees such as severance pay, extended healthcare coverage, and so on.

ORGPAY - organization-based pay: This item assesses the extent to which firms put an emphasis on organization-based compensation, such as profit sharing, gainsharing, or employee stock option plans. Coders gave 0 points when they found no information about the use of organization-based pay, such as corporate employee stock purchase plan, capital employee stock investment, and so on. One point was given for implicit comments about organization-based pay or moderate use of it, and 2 points for explicit statements or heavy use of organization-based pay.

CEOREP - CEO replacement between 2001 and 2004. CEO replacement indicates whether or not a firm's CEO is replaced between 2001 and 2004 based on CEO information contained in the 10-K report. Coders assigned 0 points when there was no evidence of CEO replacement and 1 otherwise. CEO replacement was not used for analysis in Study 1 but was included in Study 3 as one of the HR index measures.

3.3.2.5. Pilot study

Inter-coder reliability measures the extent to which independent coders evaluate the content of the material and reach the same conclusion. In order to complete a pilot study, it is recommended that a sample size include

at least 30 units or more (Lacy and Riffe, 1996). Therefore, coders were asked to analyze the 10-K reports of 10 more firms in a service industry -- five firms in a declining stage and another five in a non-declining stage -- in order to keep the sample size as 30 units. I conducted the pilot study by randomly choosing 10 firms (5 non-declining firms and 5 declining firms) in order to establish inter-coder reliability. As explained above, there are two measurement points of the HR index, 2001 and 2004. Non-declining firms are not used in Study 3. Therefore, coders analyzed two reports (the 2001 report and 2004 report) for declining firms, and one report (2004) for non-declining firms. Thus, each coder had to analyze 15 reports in total. Despite the orientation process during the initial meeting, the result of the pilot study was not satisfactory. One of the greatest concerns was the lack of inter-coder reliability as shown in Table 3.

3.3.2.6 Coder training

Before the training, the inter-coder reliability assessed by percent agreement was unacceptable. The initial coding result shows that there was low agreement on a number of items such as HRIMPO and SUPPO. In addition, there was no inter-coder agreement on overall measures of items. If

we consider the possibility of reaching agreement by error or by chance, this reliability measure was not acceptable; therefore, after the initial analysis, the coders and I had a meeting to discuss why disagreement took place and how we could correct the problem.

HR item / Pre- & Post-training	Percent agreement		Cohen's Kappa		Scott's Pi	
	Pre	Post	Pre	Post	Pre	Post
HRIMPO	14.30%	96.60%	-0.180	0.938	-0.310	0.938
EMPREL	64.30%	93.10%	0.255	0.866	0.251	0.866
TMTHR	64.30%	100%	0.412	1.000	0.409	1.000
TRAIN	71.40%	100%	-0.170	1.000	-0.170	1.000
FULLEE	57.10%	86.20%	-0.020	0.740	-0.050	0.739
WFRSUP	50%	89.70%	0.210	0.723	0.187	0.722
ORGPAY	64.30%	89.70%	0.381	0.791	0.378	0.789
CEOREP	100%	100%	1.000	1.000	1.000	1.000
All items	60.60%	93.60%	0.41	0.901	0.407	0.901

Table 3: Pre- & Post-training inter-coder reliability based on pilot study

For example, the coders had different opinions about post-retirement plans; one coder considered the post-retirement plan to be a supportive practice for those who are laid-off while the other considered it a program that is not applicable for those who are laid-off. Another example of disagreement was found in the item relating to perceptions of the employment relationship; one coder focused on written statements while the other relied on a general impression gleaned about the employment

relationship. The inter-coder reliability was its lowest at 14.3% in the case of HR importance, but was its highest, at 100%, in the case of CEO replacement. In conclusion, it became clear that inter-coder reliability suffers when the coding process requires subjective judgment about the strength or explicitness of the statements. Therefore, more focus was placed on standardizing the coding scheme, especially for the items that call for more subjective judgment because the main objective of the training session was to achieve consistency in interpretations and approaches.

After the training was over, the coders were asked to re-code the material that had been analyzed in the initial coding phase and to code additional 10-K reports. After the training, I communicated with each coder in order to answer their questions and concerns regarding the content analysis; however, the independence of coders was ensured because my role was limited to answering coders' questions and the coders were not supposed to communicate with each other. As shown in Table 3, there was a significant improvement in inter-coder reliability after the second pilot test. For example, the percentage agreement of HRIMPO item increased to 97% with an overall average of 94%. However, one of the limitations of using percent agreement, despite its popularity, was that it can be misleading as it

overestimates true inter-coder agreement (Hunt, 1986). Therefore, I used other reliability measures to ensure that post-training in the pilot study significantly increased the inter-coder reliability.

3.3.2.7. Inter-coder reliability

One of the challenges in assessing inter-coder reliability is that there is no universally accepted index, so it was impossible to identify “the best” index to measure inter-coder reliability. As mentioned above, percent agreement has been very popular and the most widely used; however, it is criticized because the percent agreement measure is misleading as it overestimates true inter-coder agreement (Hunt, 1986). The reliability assessed in content analysis is not based on correlational indices but based on “the extent to which the different coders tend to assign exactly the same rating to each object” (Tinsley and Weiss, 2000); thus, some reliability measures, such as Cronbach’s alpha, chi-square, or percent agreement, are not recommended to assess the inter-coder “agreement” because they tend to overestimate true agreement. In other words, those measures do not consider the possibility of agreement that could be reached by chance. Despite its

weakness, percent measurement still provides intuitive information about the agreement between two coders.

In addition, I used other reliability indices such as such as Scott's pi (π), and Cohen's kappa (κ), which are commonly used in research that deals with the coding of behavior, because it is imperative to achieve inter-coder reliability to make content analysis successful (Bakeman, 2000; Cohen, 1960; Dewey, 1983). Therefore, liberal measures such as percent agreement requires high standards, at least .80 or higher, to determine acceptable levels of reliability, while conservative measures, such as Scott's pi or Cohen's Kappa, require lower criteria, .70 or higher.

Following the training, there was great improvement in inter-coder reliability. Results show that percent agreement on HRIMPO item is acceptable (96.6%), and so are Cohen's Kappa (.938) and Scott's pi (.938). Although some argue that it is not recommended to assess the reliability measure by using all items, it is at least acceptable because it provides us with an overall reliability measure by taking every item into consideration. In addition, I found that the inter-coder reliability indices are acceptable for each item as well, which suggested that the pilot study could be successfully concluded due to improvements following the training session.

3.3.2.8. Main study of content analysis

The pilot study was quite successful due to an effective training session through which ambiguous meanings and interpretations were clarified. For the main study, the sample size is was 417, including 139 reports of declining firms in 2001, 139 reports of non-declining firms in 2001, and another 139 reports of declining firms in 2004. The firms that were analyzed in the pilot study were included in the main study; therefore coders had to analyze additional 387 reports in the main study. In the main study, the pile of 10-K reports was randomly split in half so that each coder could be in charge of analyzing about 193 reports until the content analysis was completed.

3.3.3. HR index measure

After the content analysis was completed, I created an HR index by using what was found from the content analysis and from a financial database, such as Compustat. Some of the variables coded in content analysis were directly reflected to the HR index measure and others were calculated based on financial data. HR index items that are directly transported from the content analysis are a) HRIMPO, b) EMPREL, c) TMTHR, d) TRAIN, e)

FULLEE, and f) ORGPAY. In addition, HR items that needed further attention beyond what was found in content analysis were employment stability (EMPSTA), workforce retention/support (WFRSUP), and market pay level (PAYLEV).

EMPSTA – employment stability. Employment stability is the reverse coded employment instability measured by the coefficient of variation of employment levels across 1997 through 2001. This item represents the fluctuation of employment levels measured by the coefficient of variation of employment levels, the number of employees, across five years before 2001. Employment instability is expected to have a negative impact on firm performance because the frequent changes in employment levels not only increases transaction costs involved with outplacement, hiring, training (Pfeffer, 199; Bolt, 1983; Ward, 1982; Greer & Stedham; Cascio, 1991), but generates greater challenges to the firm in attracting qualified workers (Gerhardt & Trevor, 1996; Kammeyer-Muller & Liao, 2006). Thus, 0 points were given to unstable firms whose employment instability is one standard deviation above the two-digit industry average. Two points were assigned to firms whose industry-adjusted employment instability was one standard deviation below the industry average.

WFRSUP – *workforce retention/support*. This item measures a) the existence of workforce reduction in a declining period and b) the extent to which firms have explicit practices for employees who are leaving due to workforce reduction. The existence of workforce reduction was identified by simply comparing employment levels between 2001 and 2004. Extensive downsizing or workforce reduction is expected to have a negative impact on firm performance. Chadwick (2004) found that organizational performance is more likely to suffer than it is to improve as a result of downsizing. He found that proactive management practices for downsized employees can mitigate the negative impact of downsizing. In this study I used workforce reduction that is greater than 5% between 2001 and 2004 as a demarcation point (Cascio et al., 1997). This level of employment change represents a significant event and likely indicates a conscious downsizing decision.

In addition, Applebaum, Simpson, and Shapiro (1987) found that it is important for downsizing firms to set up a communication plan for stakeholders regarding downsizing activities. This communication process is necessary to retain high performers who are also likely to be negatively influenced by downsizing. Appelbaum, Delage, Labib, and Gault (1997) mentioned that it is important to pay attention to victims as well as to

survivors of downsizing. Consistent with Chadwick (2004), de Meuse, Vanderheiden, and Bergmann (1994) found that, in order to make downsizing successful, it is important for downsizing firms to help laid-off employees by providing outplacement services, redeployment training, early retirement planning, severance pay, and so on. No points were assigned if downsizing occurred (5% or more workforce reduction) with no accompanying support to employees, 1 point for downsizing with supportive practices, and 2 points for no downsizing.

PAYPOS: Pay market position. This item representing relative pay level position in the industry was measured comparing the firm-level labor cost per employee, the ratio of firm-level labor expense to the number of employees, with the industry-level labor cost per employee, the ratio of industry-level labor expense to the total number of employees in a two-digit SIC industry. Efficiency wage theory (Akerlof & Yellen, 1986) suggests that paying above market rates helps organizations realize increased effectiveness through either an incentive effect or sorting effect (Rynes, 1987). Cappelli and Chauvin (1991) also found a positive relationship between efficiency wages and employee performance, such as increased effort and decreased shirking. Thus, paying above market level is expected to lead to better firm

performance. Despite its importance, measuring labor expenses has not been an easy task because there is no a direct measure of labor costs due to significant numbers of missing data in labor cost expense. This may occur because firms are unwilling to reveal their labor costs.

However, Huselid and Rau (1995) found that labor costs could be calculated based on two income statement items; a) cost of goods sold, which includes production labor cost, and b) selling, general, and administrative expenses, which include administrative labor. According to them, total labor costs can be calculated by a regressing log of each of these variables on the log of total employment and control variables, such as R&D expenditure, advertising cost, capital investment, and so on. Thus, labor cost was calculated by summing all the values. Then, labor cost per employee was calculated by dividing the labor cost by the number of employees. The comparison of labor cost per employee of the firm, in relation to labor cost of the industry, yields the firm's pay market position. In this study, 0 points were given to firms whose pay level is 5% or more below industry average, 1 point for less than 5% below or above industry average, and 2 points for 5% or more above industry average.

4. ANALYSIS

4.1. Issues in HR index measure

In this study, I planned to conduct factor analysis, both exploratory factor analysis and confirmatory factor analysis, in order to identify the factor structure that is created based on the interaction and relationship among HR items included in HR index. However, despite my expectation, a series of factor analyses showed that using HR items to create a construct may not be reliable. For example, I found from factor analysis that the factor structure was not invariant between two subgroups (i.e. declining firms and non-declining firms). In addition, Cronbach's alpha for each HR items, a measure of internal consistency reliability, was consistently not acceptable ($\alpha < .30$); therefore, one cannot expect that SEM factor analysis would produce a reliable measure of HR-related constructs. This is related to the discussion about making distinction between scales and indexes.

According to Delery (1998), an index is made up of items that *determine* the level of the construct and are to be combined in a linear fashion because they are not highly correlated and are not *caused* by an underlying construct. On the other hand, items in scales are expected to be highly correlated because they relate to or are determined by an underlying construct. As such,

the use of Cronbach's alpha is a good way of assessing internal consistency reliability for scales. Per Delery, the HR items in this study do not reflect or are derived from a single underlying construct. They were created based on an exploratory review of public documents that contain HR-related information. Each HR item represents a piece of HR-related information and a broader multi-dimensional set of constructs. In sum, it is apparent that the HR items obtained through the content analysis do not comprise a single HR scale.

In order to overcome this fundamental limitation for using SEM analysis due to the fact that HR items are index rather than scale, I created a number of "blocks" which contain HR items that are believed to be similar enough and to be highly interrelated according to management literature. As shown in Table 2, I created five blocks of HR indices: a) 'attitude toward HR' (HRATTI) includes HRIMPO, EMPREL, and TMTHR; b) 'training' (TRAIN) includes TRAIN only; c) 'employment security' (EMPSEC) includes FULLEE, EMPSTA, and WFRSUP; d) 'compensation' (COMP) includes ORGPAY and

PAYPOS; and finally e) 'CEO replacement' (CEOREP) including CEOREP only¹.

Blocks were used in a series of multiple regression models in order to identify the most significant item(s) within each block. Then the significant item(s) were retained to create a construct for SEM analysis. In other words, not every HR item was used for the analyses. This process is justified due to the weak covariance among the HR items, indicating that they may represent separate 'constructs.'

4.2. Analytic methods

I tested the research questions of interest using a number of statistical approaches, including hierarchical OLS/logistic regression, quantile regression, and SEM analysis.

4.2.1. OLS Regression

I started the analysis based on hierarchical OLS/logistic regression by using SPSS 16.0 software. OLS regression measures the mean level effect of a particular explanatory continuous variable on a dependent variable while

¹ I used the abbreviations for each block: a) HRATTI for attitude toward HR; b) EMPSEC for employment security, and COMP for compensation.

controlling for the influence of other variables. OLS models are utilized in this study to assess the main effect of Emphasis of HR on firm performance.

4.2.2. Logistic regression

In addition, logistic regression was performed when a dependent variable was a dichotomous variable, such as declining or non-declining. Thus, in logistic regression, the relationship between an independent variable and dependent variable is explained as a function of the probability that a subject is classified as either one of the categories. One of the benefits of logistic regression over OLS regression is that it is a more flexible approach because it is not limited to normality assumption, linear relationship assumption, and homogeneity assumption. In addition, OLS regression analysis cannot be free from the important assumption that model estimates are homogenous across the dependent variable's distribution. In other words, OLS regression assumes that the marginal effects of a particular explanatory variable are similar or the same over the entire range of the dependent variable's conditional distribution. Therefore, OLS regression does not provide a solution to the issue of whether or not the main effect varies across

firms depending on their position on the conditional distribution of the dependent variable. Quantile regression provides a solution for this problem.

4.2.3. Quantile regression

I also used Stata SE 8 software to conduct quantile regression which estimates the effect of explanatory variables on the dependent variable at different points of the dependent variable's conditional distribution. Koenker and Bassett (1978) introduced quantile regression where the conditional quantiles are expressed as a function of explanatory variables. In addition, quantile regression is beneficial when the data are heteroskedastic, or where the conditional variance of a dependent variable's distribution varies across different levels of the dependent variable (Deaton, 1997). In addition, quantile regression is described as a robust regression technique that allows for estimation where the typical assumption of error term normality may not be strictly satisfied (Koenker and Bassett, 1978). Quantile regression is also useful when the distribution is not normal because quantile estimators are robust to outliers (Barro and Sala-i-Martin, 1995). Thus, quantile regression offers a unique and robust approach to analyzing our research questions.

An illustration of the advantage of quantile regression is found in research conducted by Mello and Perrelli (2003), in their study of the impact of management strategies. They note that OLS regression would not adequately identify whether the effects of management strategies differ at various points of the equity growth distribution; instead, a quantile regression approach would identify different effects of management strategies at different points of the equity growth distribution and test the statistical significance of these effects. Other examples include Mata and Machado (1993) and Görg, Strobl, and Ruane (2000), who both illustrated the benefits of quantile regression in estimating the determinants of start-up size.

4.2.4. SEM analysis

This research uses a structural equation modeling (SEM) technique, which tests a proposed model of the relationships between HR indices and subsequent firm performance. SEM is an analytic framework that allows for both path analysis and confirmatory factor analysis. SEM offers unique capabilities and a great deal of flexibility to researchers. For example, the use of SEM will enable the present study to group items to latent construct(s) (Tomarken & Waller, 2005), account for unreliability among the measured

Study 1&2 (n=278)	mean	s.d.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1 Declining v. Non- ¹	.500	.501																	
2 Ind-adj ROA	-.043	12.55	.602**																
Bankruptcy probability	.450	.499	-.434**	-.350**															
4 Length of declining	1.630	1.851	-.711**	-.647**	.330**														
5 Firm size	17.30	39.36	0.07	0.11	.144*	-.011													
6 R&D intensity	18.16	44.43	-.029	-.011	-.134*	.172**	-.215**												
7 Capital intensity	60.77	96.90	-.093	-.008	.186**	0.09	0.05	0.06											
8 Liquidity	2.308	1.752	-.018	-.130*	-.298**	0.09	-.359**	.225**	-.046										
9 Leverage	.482	12.01	0.02	0.04	-0.06	0.01	-.140*	.004	-.075	0.08									
10 HRIMPO	.550	.644	.386**	.173**	-.311**	-.249**	-.011	0.04	-.072	.199**	0.09								
11 EMPREL	1.460	.627	.322**	.178**	-.184**	-.198**	-.271**	0.08	-.073	.138*	.118*	.345**							
12 TMTHR	.350	.514	0.05	.002	-.000	-.042	-0.06	-.028	-.004	0.06	-.047	-.015	-.018						
13 TRAIN	.420	.623	0.02	0.03	-0.05	-.013	-.152*	0.11	-.099	0.07	0.01	.145*	.162**	-.011					
14 FULLER	1.230	.478	-1.00	0.002	-0.015	0.06	-.224**	0.06	0.03	.161**	-.035	0.07	.102*	.142*	-.069				
15 EMPSTA	.990	.816	.102	.136*	-.038	-.082	0.05	-.124*	0.05	-.009	-.013	-.002	-.004	0.07	0.07	-.021			
16 WFRSUP	1.010	.663	.141*	.276**	-.136*	-.248*	0.11	-.210**	0.04	-.171**	0.09	-.004	-.023	-.101	0.09	-.083	.162**		
17 ORGPAY	1.040	.705	0.08	.176**	-.046	-.028	-.166**	.138*	.004	-.011	0.06	0.01	.142*	0.08	0.11	0.09	-.005	0.03	
18 PAYPOS	.910	.640	0.07	0.07	-0.11	-.035	-.511**	0.12	0.07	0.12	0.04	0.05	.126*	-.021	.098	0.06	.102	0.09	.079

Table 4: Study 1 & 2. Correlations and descriptive statistic

variables (Bollen, 1989), conduct more reliable interaction tests (Moosbrugger, Schermelleh-Engle, & Klein, 1997) and perform direct tests for mediation (Bollen, 1989). In this study, I used Mplus (version 5.0) software (Muthén & Muthén, 2007) because it provides more reliable estimates for the cases of dichotomous dependent variables such as declining vs. non-declining firms (e.g., Jöreskog & Sörbom, 1996; Bentler, 1989).

Declining vs. Non.	Total	Declining firms	Non-declining	Sig.
Ind-adjusted ROA *	-.430	-7.972	7.113	.000
Productivity	231.911	229.706	234.115	.820
Bankruptcy probability *	.550	.760	.330	.000
Length of decline *	1.630	2.94	.32	.000
HR importance *	.550	.300	.800	.000
Employment relations *	1.460	1.260	1.660	.000
TMT HR background	.350	.320	.370	.415
Training	.400	.430	.420	.701
Fulltime employees	1.230	1.230	1.230	1.000
Employment stability	.990	.910	1.070	.090
WF retention/support *	1.04	.940	1.130	0.018
Org-based pay	1.040	.980	1.090	.174
Market pay level	.910	.860	.950	.262

* denotes variables with significant mean difference between declining firms and non-declining firms

Table 5: Study 1 & 2. ANOVA mean comparison

5. RESULTS

Table 4 presents descriptive statistics and correlations among variables.

The results showed that HRIMPO, EMPREL, and WFRSUP are positively

associated with firm classification of declining or non-declining firms and industry-adjusted ROA. ORGPAY is also found to be associated with industry-adjusted ROA as well. Thus, an initial expectation is that these variables may play a role in predicting subsequent firm performance.

First, I conducted an ANOVA in order to perform a mean comparison between the two groups of declining firms and non-declining firms. There is a significant difference between the two groups in dependent variable measures such as industry-adjusted ROA (mean: -7.972 for declining firms vs. 7.113 for non-declining firms), bankruptcy probability (mean: .760 vs. .330 respectively), and length of decline (mean: 2.94 vs. .32 respectively). In addition, a significant difference was found for a number of HR items, such as HRIMPO (mean: .300 vs. .800 respectively), EMPREL (mean: 1.260 vs. 1.660 respectively), and WFRSUP (mean: .940 vs. 1.130 respectively). As expected, HR item scores of non-declining firms are higher than those of declining firms.

In summary, these initial results show that there is a significant difference in firm performance between the two groups and there is also a significant difference in some of the HR items between the two groups. The next task was to perform analytic techniques in order to ascertain whether the

difference in dependent variables between the two groups could be explained by the difference in HR item measures.

DV11: Declining (0) v. Non- (1)	Model 1			Model 2		
	?	sig.	Exp(?)	?	sig.	Exp(?)
Control variable						
Firm size	.940	.020	2.560	1.715	.001	5.555
R&D intensity	-.002	.496	.998	.001	.830	1.001
Capital intensity	-.003	.061	.997	-.003	.097	.997
Liquidity	.025	.759	1.025	-.030	.737	.970
Leverage	.312	.337	1.336	-.022	.954	.978
HR items (reference group = 0)						
HRIMPO (1)				1.318	.000	3.735
HRIMPO (2)				2.248	.001	9.468
EMPREL (1)				2.035	.023	7.650
EMPREL (2)				3.148	.001	23.292
WFRSUP (1)				.924	.026	2.520
WFRSUP (2)				1.080	.032	2.944
Omnibus test of model coefficient	χ ² = 30.432, df=17, p = .023			χ ² = 70.409, df=6, p = .000		
-2 Log likelihood	354.958			284.549		
				χ ² = 70.409, df=3, p <.001		
Nagelkerke R	.138			.406		
Hosmer and Lemeshow test	χ ² = 7.430, df=8, p = .491			χ ² = 6.839, df=8, p = .554		

Note.

1. In model 2, other HR items were controlled, but not shown in the table.
2. Interaction effect was assessed, but no interaction variable was found to be significant.

Table 6: Study 1 DV11. Logistic regression on firm classification – declining (0) vs. non-declining (1)

5.1. DV11: Firm classification as declining vs. non-declining

The logistic regression shown in Table 6 indicates that HRIMPO, EMPREL, and WFRSUP were significant factors in classifying firms as

declining or non-declining. The reference group, items that were not dummy coded, is the firms with 0 scores on those HR items. In case of HRIMPO, it was found that firms that expressed implicit or weak statements about the value of HR were found to perform better. The odds ratio, $\text{Exp}(\beta)=3.735$, is the measure of effect size and it represents the factor by which the odds change for a one-unit change in the dependent variable.

More specifically, the odds of being classified as a non-declining firm are 3.735 times higher for firms that moderately emphasize the value of HR in comparison with the firms that do not. In addition, the odds of being classified as non-declining are 9.468 times higher for firms that explicitly or strongly emphasize the value of HR in comparison with the firms that do not ($\text{Exp}(\beta)=9.468$).

Moreover, it was also found that firms with a moderately positive employee relations climate are 7.65 times ($\text{Exp}(\beta)=7.650$) more likely to be classified as non-declining, while firms with a strong positive employee relations climate are 23 times more likely to be classified as non-declining ($\text{Exp}(\beta)=123.292$). In addition, firms that put effort into workforce retention and support laid-offs employees are more likely to perform better. The odds of being classified as a non-declining firm are 2.5 times higher for firms

without workforce reduction ($\text{Exp}(\beta)=2.520$) and 2.9 times for firms with workforce reduction that have supports for the laid off ($\text{Exp}(\beta)=2.944$).

Therefore, we can make an inference that maintaining or improving positive employee relations may lead to the greatest marginal improvement of firms being classified as non-declining. In addition, a positive attitude toward HR and workforce reduction efforts that include support for those laid off play a significant role as well.

The positive impact of those items is explained in Table 6. Model 2 shows that adding HR items in regression analysis yielded a better model fit. An omnibus test of model coefficient, which tests the null hypothesis that adding variables to the model does not significantly increase the ability to predict a dependent variable, showed that at least one of the predictors is significantly associated with dependent variable ($\chi^2 = 74.730$, $df=6$, $p = .000$). Moreover, the Hosmer and Lemeshow test (a.k.a. H-L goodness-of-fit test) statistic, the measure of overall model fit by testing the null hypothesis that there is a linear relationship between predictor and log odds of the dependent variable, showed that there is no difference between observed values and model-predicted values ($\chi^2 = 5.265$, $df=8$, $p = .729$) and the estimates of this model fit the data. Moreover, Nagelkerke R^2 , a pseudo R^2 , increased by .313 in

model 2. One of the problems of Nagelkerke R^2 is that, unlike OLS regression's R^2 , it does not represent the percent of variance explained by independent variables, but only assesses the strength of association between an independent variable and dependent variables.

In addition, model 2 was found to be significant based on -2 Log likelihood statistics, which measure how poorly the model predicts the dependent variable. The significance of difference of -2LL statistics between two models was assessed by conducting χ^2 difference test. The result showed that there was a significant model fit improvement in model 2 ($\chi^2 (3, N=278) = 74.73, p < .001$). In summary, the odds ratio for each variable showed that HR items were found to be significantly associated with firm classification and this significant result was supported by acceptable model fit as explained above.

In addition, I performed SEM analysis in order to assess the relationship between HR items and firm performance. Instead of performing factor analysis to identify constructs and relevant items, I used regression analyses with blocks as explained above. The regression analysis showed that two HR items, HRIMPO and EMPREL, were found to be significant in the

'Attitude toward HR' block and one item, WFRSUP, was found to be significant in the 'Employment security' block.

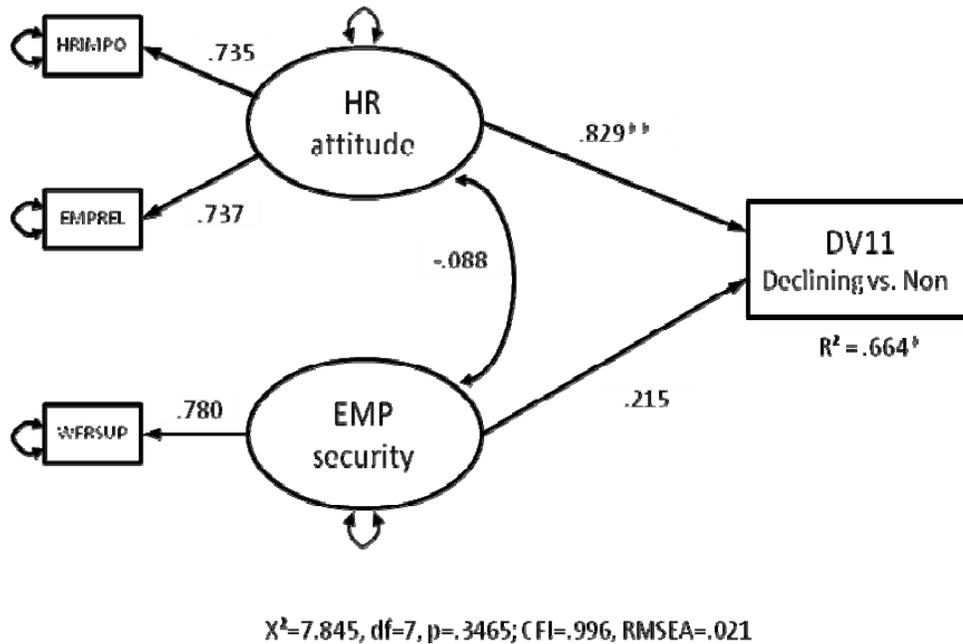


Figure 4: Study 1 DV11. SEM main effect on firm classification – declining vs. non-declining firms

I used WLS estimation, which is appropriate for analyzing research models including categorical variables. The model fit was found to be acceptable ($\chi^2 = 7.845, df=7, p=.347; CFI = .996; RMSEA=.021$). This model showed that there is a significant association between HR attitude (HRATTI), which includes HRIMPO and EMPREL, and firm classification ($\beta=.829,$

$p < .01$); while employment security (EMPSEC) was not found to be associated with firm classification ($\beta = .215$, $p > .10$). This result is moderately consistent with the regression analysis results where HRIMPO, EMPREL, and WFRSUP were found to be a strong predictor, although SEM showed that WFRSUP is not a significant predictor. In summary, SEM showed that an Emphasis on HR, including a) positive perspective on HR as a source for gaining a competitive advantage and b) positive employee relations climate, is a stronger predictor of the extent to which firms are classified as non-declining firms. However, SEM analysis showed that such a relationship was not found for employment security, such as workforce retention and support for those laid-off.

Overall, I found that some of HR items are significantly associated with firm classification through both logistic regression analysis and SEM analysis. The results imply that that firms that a) place value on human resources by addressing HR as important for firm success and b) build positive relationship with employees or with unions are more likely to be classified as non-declining firms. In other words, these firms are less likely to be classified as declining firms, which supports the notion of the inoculating effect of HR on firm performance. Therefore, hypothesis 1A, testing the

positive relationship between an Emphasis on HR and firm classification for non-declining firms is generally supported, with a positive attitude toward HR the most significant factor predicting the relationship. However, the logistic regression model with an interaction effect, assessing the moderating effect of industry characteristics, was not found to be significant; thus, hypotheses 1C through 1F were not supported².

5.2. DV12: industry-adjusted ROA

In addition to firm classification, I used industry-adjusted ROA, a widely accepted measure of firm performance (Cascio et al., 1997; Eisenberg & Sundgren, 1998). The use of industry-adjusted ROA allows us to compare the performance of firms that belong to different industries. Industry-adjusted ROA is the relative measure of firm performance in a given external environment and is desirable for research in which a sample consists of multiple industries. As mentioned earlier, industry-adjusted ROA is significantly correlated with HRIMPO, EMPREL, WFRSUP, ORGPAY, and PAYPOS.

² This was not described in Table 6 because the results do not show significant impact of industry variables in the relationship between Emphasis on HR and firm classification for non-declining firms.

DV12: Ind-adjusted ROA	Model1	Model2	Model3	Model4
Firm size	.082	.209**	.205*	.213**
R&D intensity	-.057	-.047	-.052	-.043
Capital intensity	-.012	-.021	-.016	-.025
Liquidity	-.104	-.060	-.052	-.052
Leverage	.064	.012	.013	-.003
HR importance		.146*	.147*	.134*
Employment relations		.161**	.158*	.163**
TMT HR background		.019	.016	.010
Training		-.032	-.030	-.043
Fulltime employees		.027	.030	.033
Employment stability		.073	.072	.078
WF retention/support		.213**	.226**	.236**
Org-based pay		.169**	.169**	.176**
Market pay level		.129*	.119	.124
Industry R&D intensity			.058	.352*
Industry capital intensity			-.044	-.020
Industry munificence			.031	.208
Industry dynamism			-.108	-.189
ORGPAY X R&D				-.323*
ORGPAY X CAP				-.008
ORGPAY X MUN				-.209
ORGPAY X DYN				.077
R ²	.223	.445**	.461	.481

Standardized coefficients are reported.

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

Table 7: Study 1 DV12. OLS regression on industry-adjusted ROA

Hierarchical OLS regression confirms, in Table 7, that HRIMPO, EMPREL, WFRSUP, ORGPAY, and PAYPOS are significant predictors ($\beta=.146$, $\beta=.161$, $\beta=.213$, $\beta=.169$, $\beta=.129$ respectively) of industry-adjusted ROA. It showed that firms that value the importance of HR, provide employment security, and make an effort to retain employees and support the laid off are

more likely to perform better. I used this finding to create three constructs; HRATTI, EMPSEC, and COMP (compensation practices including both organization-based pay and market pay position) for SEM analysis.

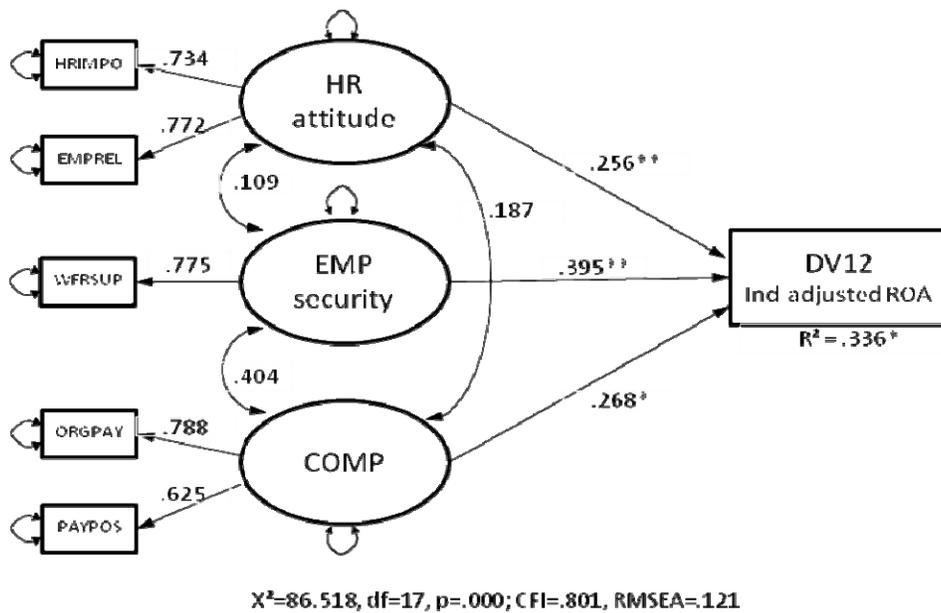


Figure 5: Study 1 DV12. SEM main effect on industry-adjusted ROA

Next, I performed an SEM analysis by using a WLS estimator. The results in Figure 5 show that all of the constructs, HRATTI, EMPSEC, and COMP, are significant predictors ($\beta=.227$, $\beta=.458$, and $\beta=.392$, respectively) of subsequent firm performance. However, one limitation of this model is that the model fit is poor ($\chi^2 = 86.518$, $df=17$, $p=.000$; $CFI = .801$; $RMSEA=.121$) and

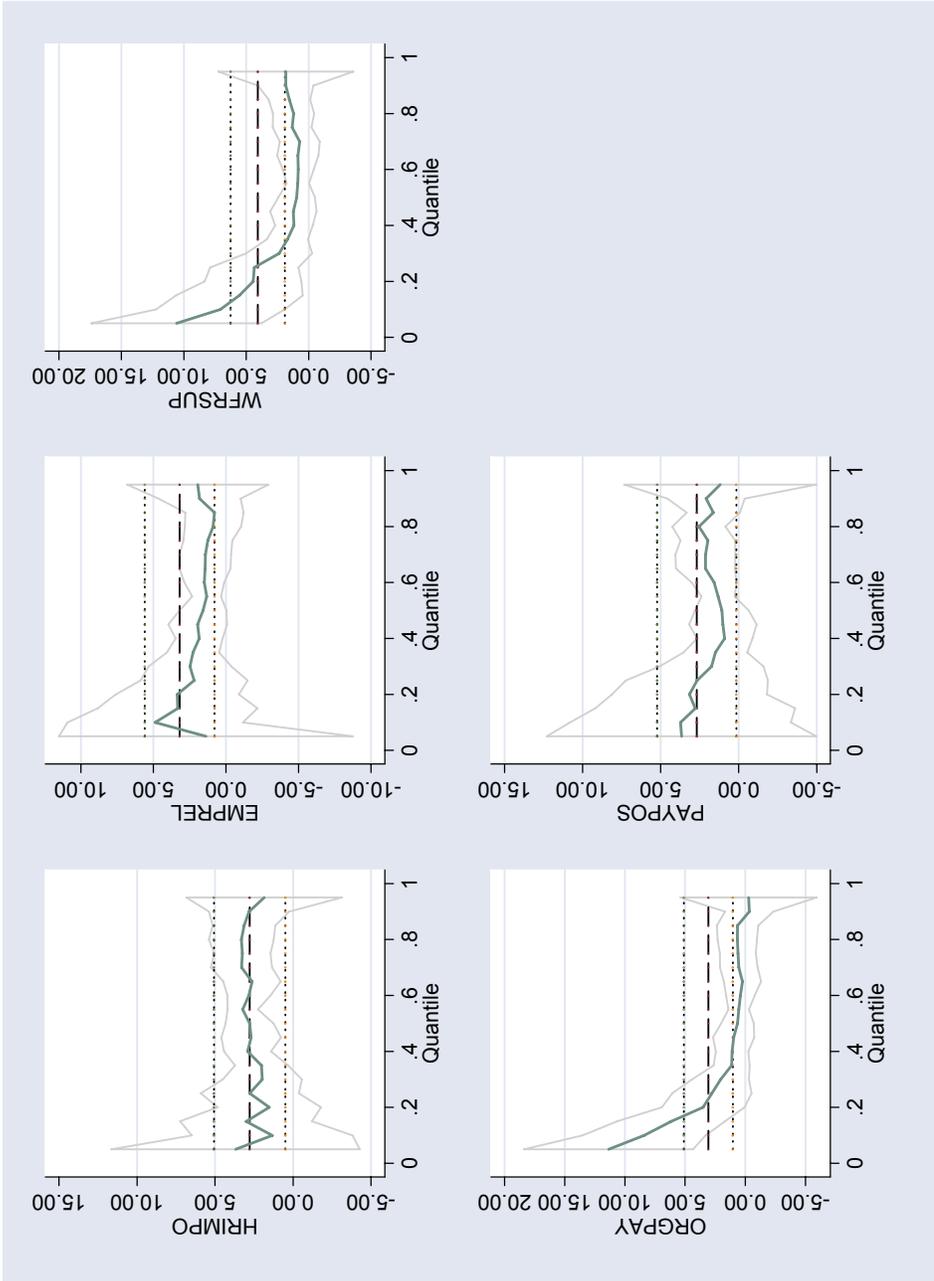


Figure 6: Study 1 DV12. Quantile regression graph on industry-adjusted ROA

the variance explained by this model is only 33.6%, limiting the ability to draw meaningful conclusions.

In addition, I performed quantile regression in order to identify whether variance explained by an Emphasis on HR differs across conditional distribution of industry-adjusted ROA. Figure 6 show that, unlike the OLS regression, the relationship between HR items and firm performance varies across different quantiles. Figure 6 shows that the positive relationship between these items and ROA for firms in lower quantiles is underestimated in an OLS regression.

The question is whether the effect is the same across different quantiles. In order to answer this question, I used a simultaneous quantile regression which estimates the effect of an Emphasis on HR simultaneously across different quantiles. In order to compare the similarity of the effect, I chose three points; .10 (low quantile), .50 (median), and .90 (high quantile).

The difference test showed that, for WFRSUP, the weight of the effect significantly differs between the .10 quantile and .50 quantile ($F(1,263) = 6.12$, $p = .014$), which implies that the extent to which the marginal increase in performance associated with WFRSUP is greater for firms in the lower quantile.

A similar result was found for ORGPAY. The difference test between .10 quantile and .50 quantile showed that the marginal increase in performance associated with ORGPAY is greater for firms in the lower quantile ($F(1,263)=13.25, p=.000$). However, I did not find a significant difference of relationship between firm performance and other HR items, such as HRIMPO, EMPREL, and PAYPOS.

This suggests that we may be able to predict that the marginal impact of WFRSUP and ORGPAY is greater for firms in the lower quantile compared with firms in a higher quantile. In other words, firms in the lower quantile may be able to experience a relatively greater return on investment on workforce retention and support as well as on organization-based pay relative to firms in a mid- to high quantile.

Thus, if HR information derived from content analysis is a good proxy for actual HR practices, firms in a lower quantile are more likely to experience a better return when they adopt these practices compared with firms in a higher quantile. This result supports hypothesis 1B testing the relationship between an Emphasis on HR and subsequent performance measured by return on assets.

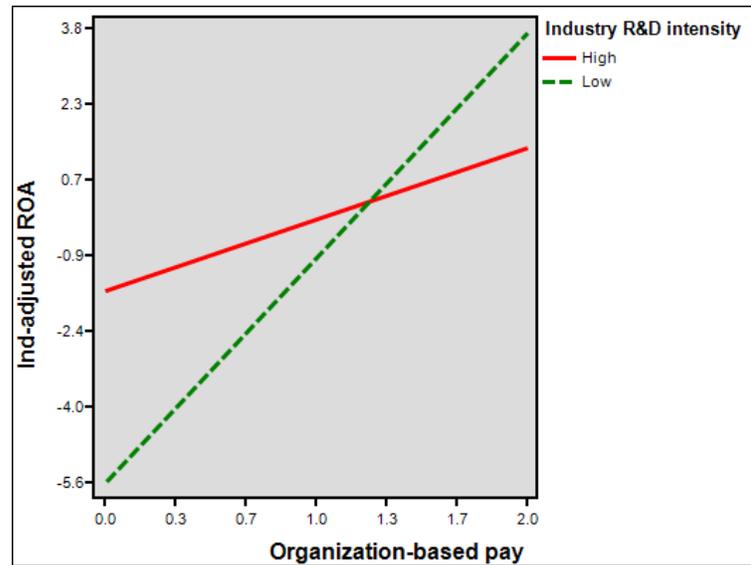


Figure 7: Study 1 DV12. Moderation graph – COMP X INDR&D

I also performed a hierarchical OLS regression in order to assess the role of industry characteristics as one of the factors influencing subsequent firm performance. Table 7 shows that industry characteristics moderate the relationship between ORGPAY and subsequent firm performance. In order to interpret this finding, I created a moderation graph, which shows (Figure 7) that the positive relationship between ORGPAY and industry-adjusted ROA is stronger for firms that belong to less R&D intensive industries.

This result is not consistent with what I expected because the marginal impact of HR on firm performance would be stronger for firms in R&D intensive industries where the industries are more differentiated and the

marginal impact of managerial flexibility is greater. This finding calls for additional future empirical examination.

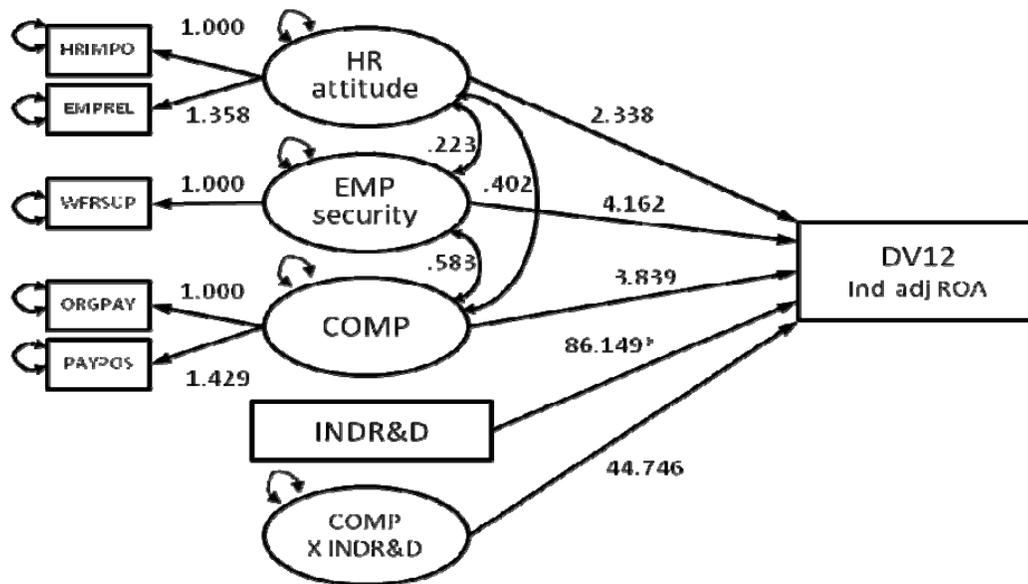


Figure 8: Study 1 DV12. SEM interaction effect – COMP X INDR&D³

In addition, I used an SEM analysis to assess the moderating effect of industry R&D intensity. The results shown in Figure 8 indicate that the interaction term of COMP and INDR&D is not significant.

Thus, the moderation effect of industry R&D intensity in the relationship between an emphasis on organization pay and subsequent firm

³ Model fit was not generated due to the use of TYPE=RANDOM which is required for conducting interaction model by using XWITH.

performance is not conclusive. Thus, hypothesis 1C was not supported in this research.

6. DISCUSSION

The objective of Study 1 was to assess the extent to which HR information that could be derived from public information and databases, such as 10-K reports and Compustat, allows us to predict subsequent firm performance: the extent to which firms are more likely to be classified as non-declining. The results showed that the Inoculating Effect was generally supported, where firms that tend to emphasize HR are less likely to be classified as declining firms and are more likely to perform better as measured by industry-adjusted ROA. In study 1, there are consistent findings about the importance of HRIMPO, EMPREL, and WFRSUP. Firms that show a more positive attitude toward HR, have good relationships with employees, and make an effort to retain employees are less likely to fall into a decline stage and more likely to perform better compared with their peers in the same industry. This is consistent with major research findings in strategic human resource management (Arthur, 1994; Huselid, 1995; Guthrie, 2001;

Bartel, 1984; Koch & McGrath, 1996; Carmeli & Tishler, 2004; Hitt et al., 2001; Youndt & Snell, 2004).

In addition, quantile regression results showed that a positive relationship between attitude toward HR and firm performance is more prevalent for firms that are performing relatively poorly, or in a lower quantile. This may imply that an Emphasis on HR through a positive attitude toward HR and employment security could be a factor that helps firms avoid a declining stage.

However, the SEM results did not indicate a strong fit to the data. The conclusion that I draw from this result is not decisive because either the model failed to capture the significant relationship between an Emphasis of HR or no such relationship exists. Despite this, it is worth looking into the significant results drawn from OLS regression and quantile regression. However, there is a room for more scrutiny regarding the relationship between an Emphasis on HR and subsequent firm performance.

In addition, industry characteristics do not appear to play a prominent role in moderating the relationship between an Emphasis and HR and firm performance. However, the most important finding in this study is that HR

information retrieved from a public database has potential to be a good source for predicting subsequent firm performance.

VI. STUDY 2: THE MITIGATING EFFECT

1. INTRODUCTION

The main research question of Study 2 is whether information about a firm's HR emphasis allows us to predict the extent to which a firm will fall precipitously into a severe declining situation or experience a longer length of decline. As discussed earlier, individuals who received timely, preventive and appropriate healthcare are less likely to experience severe or prolonged diseases compared to those without proper health care. Researchers can apply this metaphor to the business world; putting an emphasis on human capital may be associated with a firm's ability to avoid both severe and longer decline periods.

Firm performance may be influenced by a number of factors that are internal or external to the organization. Francis & Desai (2005) discussed three aspects of organizational decline: a) the magnitude or severity of decline, b) suddenness of decline, and c) the combination of the two. The pattern of decline differs across firms, so is a firm's reaction to the decline. As long as organizations exist in a relationship with their external environment, firms are destined to experience some period of organizational decline. The

problem occurs when organizational decline is too severe or too rapid to overcome.

Consistent with the RBV and dynamic capabilities literatures, firms with a strong emphasis on human resources are more likely to create an adaptive culture that enables firms to adapt to changing environments. Firms with resources that are unique, valuable, rare, imperfectly imitable, and non-substitutable are more likely to achieve a sustained competitive advantage (Barney, 1991; Wernerfelt, 1984), which implies that those firms are likely to experience relatively less harsh organizational decline in comparison with other firms within the same industry. In addition, firms that put emphasis on the value of human capital are more likely to build the dynamic capabilities that would prevent them from experiencing organizational decline. Thus, it is expected that firms with a higher HR Index are less likely to experience severe declines and more likely to shorten any declining periods.

2. RESEARCH QUESTIONS

The main idea of the mitigating effect is that firms that put more emphasis on HR would be more likely to experience less severe performance declines in comparison with other firms within the same industry. The

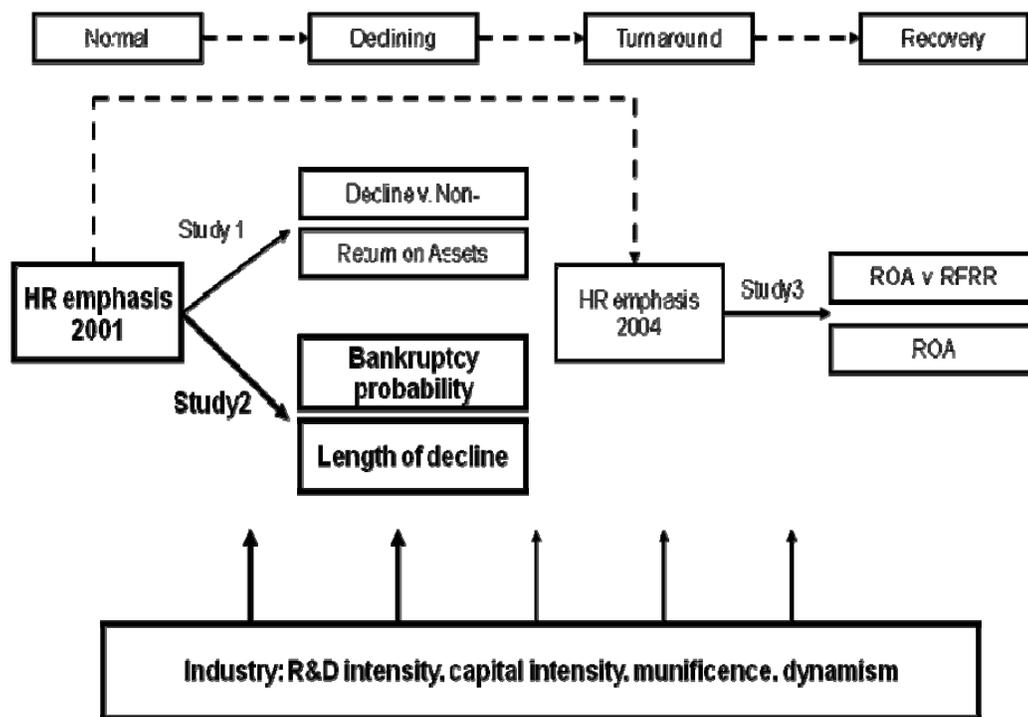


Figure 9: Study 2. Mitigating effect

traditional performance indices, such as productivity, return on assets, and return on investment, are the indicators of positive outcomes and these measures have been widely used by researchers in strategic human resource management in order to assess the positive impact of HR practices on positive performance indices. However, taking contemporary economic volatility into consideration, it is also meaningful to address the influence of HR practices on negative indices, such as bankruptcy probability or the length of decline. This allow us to a predict firm’s survival, which is of utmost

important not only to investors but also to a great number of stakeholders in general.

2.1. Main effect

The purpose of this study is to examine whether firms can minimize the damage of decline through effective managerial practices, assuming that their HR practices are reflected through information found in a public database. Thus, the main focus in Study 2 is to analyze the role of HR, measured by the extent to which firms place an Emphasis on HR, on the pattern (severity and length) of organizational decline in the turnaround process as illustrated in Figure 9. As briefly explained above, the negative indices may include a) bankruptcy probability measured by Altman Z score and b) the length of decline. I expect that there would be a negative relationship between an Emphasis on HR and negative performance indices such as bankruptcy probability and the length of decline.

Hypothesis 2A: Firms with more of an HR Emphasis are expected to have less severe declines compared to those with less of an HR Emphasis. That is, firms with more of an HR Emphasis will experience a lower probability of bankruptcy relative to firms with less of an HR Emphasis.

Hypothesis 2B: Firms with more of an HR Emphasis are more likely to have a shorter declining period relative to those with less of an HR Emphasis.

2.2. Moderation effect

In addition, as explained in Study 1, I expect that the negative relationship between an Emphasis on HR and a) bankruptcy probability and b) length of decline will be moderated by industry characteristics such as industry R&D intensity, industry capital intensity, industry munificence, and industry dynamism.

Industry R&D intensity is the measure of industry differentiation (e.g. Hambrick & Finkelstein, 1987). As explained earlier, in highly differentiated industries, firm performance is expected to be positively related to the extent to which firms have unique products in terms of their product features, quality, and design. In addition, a firm's ability to adapt to its external environment is more likely to be influenced by the quality of knowledge, skills, and ability of the workforce. Thus, as the value of human resources is greater in a more differentiated industry, I expect that the relationship between the Emphasis on HR and the severity of decline -- bankruptcy

probability and length of decline -- would vary depending on the level of industry differentiation.

Hypothesis 2C: Industry R&D intensity will moderate the relationship between an HR Emphasis and bankruptcy probability, with the relationship being stronger in more R&D intensive industries.

Capital intensity is a firm's relative investment in fixed assets, or plant, property, and equipment in relation with total sales. High capital intensity cause higher strategic rigidity, which leads to a restricted marginal contribution of human resources on firm performance. Therefore it is predicted that the relationship between an Emphasis on HR and the severity of decline, either bankruptcy probability or the length of decline, will vary depending on the level of a firm's industry capital intensity.

Hypothesis 2D: Industry capital intensity will moderate the relationship between an HR Emphasis and firm performance, with the relationship being stronger in less capital intensive industries.

In addition, the growth/shrinkage of an industry is one of the factors influencing the relationship between Emphasis on HR and severity of decline. The growth of an industry leads to more market opportunity for success; thus, firms with greater Emphasis on HR will be more likely to a avoid severe

decline, when compared with the performance of other firms in the same industry.

Hypothesis 2E: Industry munificence will moderate the relationship between an HR Emphasis and firm performance, with the relationship being stronger in more munificent industries.

Finally, industry dynamism represents the volatility, instability, and unpredictability of industry conditions. In a dynamic industry, the role of human capital is greater because an Emphasis on HR is more likely to help firms improve their flexibility and adaptability. Thus, it is expected that the relationship between an Emphasis on HR and the severity of decline would be moderated by the volatility of industry.

Hypothesis 2F: Industry dynamism will moderate the relationship between an HR Emphasis and firm performance, with the relationship being stronger in more dynamic industry.

3. METHOD

3.1. Sample

This study uses the same sample generated through the methods described in Study 1. While the sample for Study 2 is the same as that of

Study 1, I used different performance measures: a) bankruptcy probability and b) length of decline.

3.2. Measure

3.2.1. Dependent variables

3.2.1.1. Bankruptcy probability

The dependent variables used for this study to represent the severity of decline are bankruptcy probability and the length of decline. Bankruptcy probability was measured by the average of Altman Z score (Altman, 1968) during a declining period of 2002-2004. Studies in strategic management have used Altman's Z score to identify whether firms are in higher probability of bankruptcy (Beaver, 1966; Hofer, 1981; Hambrick & Schecter, 1983).

The Altman Z score is derived from a multivariate formula for a measurement of the financial health or financial insolvency of a firm and is a powerful diagnostic tool to predict the probability of the bankruptcy of a firm within a two-year period. The variables used for calculating an Altman Z score are extracted from the financial database, Compustat. The variables include earnings before interest and taxes (EBIT), total assets, net sales, market value of equity, total liabilities, current assets, current liabilities, and

retained earnings. According to Altman (1968), if the score is 3.0 or above, there is no significant probability of bankruptcy; when the score is 1.8 or below, there is a significant probability of bankruptcy. In this study, I used an Altman Z score of 3.0 as a demarcation point to classify firms into two categories: a) firms with no significant probability of bankruptcy due to sound financial health (DV21=0) and b) firms with moderate or significant probability of bankruptcy (DV21=1).

3.2.1.2. Length of decline

Another dependent variable that I used to explain the severity of decline is the length of decline, which is measured by the number of years when a firm's return on assets is below the risk-free rate of return during the period of 2002 through 2007.

3.2.2. Independent variables, control variables, and moderating variables

I used the same set of independent variables, control variables, and independent variables that I used in Study 1.

Study 1&2 (n=278)	mean	s.d.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1 Declining v. Non-	.500	.501																	
2 Ind-adj ROA	-.043	12.55	.602**																
Bankruptcy probability	.450	.499	-.434**	-.350**															
4 Length of declining	1.630	1.851	-.711**	-.647**	.330**														
5 Firm size	17.30	39.36	0.07	0.11	.144*	-0.11													
6 R&D intensity	18.16	44.43	-.029	-0.11	-.134*	.172**	-.215**												
7 Capital intensity	60.77	96.90	-.093	-.008	.186**	0.09	0.05	0.06											
8 Liquidity	2.308	1.752	-.018	-.130*	-.298**	0.09	-.359**	.225**	-.046										
9 Leverage	.482	12.01	0.02	0.04	-0.06	0.01	-.140*	.004	-.075	0.08									
10 HRIMPO	.550	.644	.386**	.173**	-.311**	-.249**	-0.11	0.04	-.072	.199**	0.09								
11 EMPREL	1.460	.627	.322**	.178**	-.184**	-.198**	-.271**	0.08	-.073	.138*	.118*	.345**							
12 TMTHR	.350	.514	0.05	.002	-.000	-.042	-0.06	-.028	-.004	0.06	-0.047	-.015	-.018						
13 TRAIN	.420	.623	0.02	0.03	-0.05	-.013	-.152*	0.11	-.099	0.07	0.01	.145*	.162**	-0.11					
14 FULLLEE	1.230	.478	-1.00	0.002	-0.015	0.06	-.224**	0.06	0.03	.161**	-.035	0.07	.102	.142*	-.069				
15 EMPSTA	.990	.816	.102	.136*	-.038	-.082	0.05	-.124*	0.05	-.009	-.013	-.002	-.004	0.07	0.07	-.021			
16 WFRSUP	1.010	.663	.141*	.276**	-.136*	-.248**	0.11	-.210**	0.04	-.171**	0.09	-.004	-.023	-.101	0.09	-.083	.162**		
17 ORGPAY	1.040	.705	0.08	.176**	-.046	-.028	-.166**	.138*	.004	-0.11	0.06	0.01	.142*	0.08	0.11	0.09	-.005	0.03	
18 PAYPOS	.910	.640	0.07	0.07	-0.11	-.035	-.511**	0.12	0.07	0.12	0.04	0.05	.126*	-.021	.098	0.06	.102	0.09	.079

Table 4: Study 1 & 2. Correlations and descriptive statistic

4. ANALYSIS & RESULTS

As I explained in Study 1, this study also used a) hierarchical OLS/logistic regression in order to identify significant HR items that predict subsequent firm performances, b) quantile regression to assess the difference of variance in firm performance explained by an Emphasis on HR across different quantile positions, and c) SEM analysis to confirm and support the findings.

Table 4 provides descriptive statistics and correlations among variables. Firm size and firm R&D intensity are negatively correlated with bankruptcy probability, which may indicate that bigger firms are less likely to go bankrupt. In addition, R&D intensity is also found to be negatively correlated with the length of decline. In addition, the result shows that there is a negative correlation between capital intensity and firm performance.

The correlation matrix also showed that HRIMPO, EMPREL, and WFRSUP are negatively correlated with severity of decline, which may indicate that these variables could be predictors of severity of decline. The main effect, the relationship between an Emphasis on HR and the severity of decline is explained below in detail.

DV21: Bankruptcy probability	Model 1			Model 2			Model 3			Model 4		
	β	sig.	Exp(β)	β	sig.	Exp(β)	β	sig.	Exp(β)	β	sig.	Exp(β)
Control variable												
Firm size	-.723	.103	.485	-.499	.287	.607	-.775	.118	.461	-.899	.074	.407
R&D intensity	-.005	.338	.995	-.009	.136	.99	-.013	.099	.987	-.011	.128	.989
Capital intensity	.008	.010	1.008	.009	.007	1.009	.008	.014	1.008	.008	.015	1.008
Liquidity	-.653	.000	.521	-.622	.000	.537	-.651	.000	.521	-.668	.000	.513
Leverage	-.237	.540	.789	-.105	.808	.900	.085	.860	1.089	.071	.883	1.074
HR items (reference group = 2)												
HIRIPO (0)				2.527	.002	12.521						
HIRIPO (1)				1.982	.012	7.259						
WFRSUP (0)				1.708	.001	5.518	2.842	.001	17.156	2.307	.000	10.041
WFRSUP (1)				.665	.073	1.945	.659	.080	1.933	.677	.074	1.968
Interaction												
WFRSUP (0) X INDMUN							12.597	.013	29.5E+4			
WFRSUP (1) X INDMUN							.621	.774	1.861			
WFRSUP (0) X INDDYN												
WFRSUP (1) X INDDYN												
Omnibus test of model coef.	$\chi^2 = 75.694$, df=19, p = .000			$\chi^2 = 24.507$, df=4, p = .000			$\chi^2 = 8.765$, df=4, p = .012			$\chi^2 = 7.820$, df=2, p = .020		
-2 Log likelihood	307.260			282.754**			273.410**			269.799**		
Nagelkerke R ²	.319			.405			.436			.447		
Hosmer and Lemeshow test	$\chi^2 = 10.647$, df=8, p = .223			$\chi^2 = 8.333$, df=8, p = .402			$\chi^2 = 6.691$, df=8, p = .570			$\chi^2 = 8.530$, df=8, p = .384		

Note: 1. In Model 2 and Model 3, other HR items and industry variables that are not significant were not shown on the table.

Table 8: Study 2 DV21. Logistic regression on bankruptcy probability

4.1. DV21: Bankruptcy probability

The objective of this study is to analyze the extent to which information about an Emphasis on HR found from public databases such as 10-K reports and Compustat allow us to predict the severity of a firm's performance decline. The dependent variable in this study is dichotomous: a) firms that are safe from the probability of bankruptcy and b) those that are in a grey zone or below in bankruptcy probability. As explained earlier, the demarcation point to classify firms into these two groups is an Altman Z score of 3.0.

4.1.1. Main effect

The logistic regression in Table 8 shows that HRIMPO and WFRSUP were significant factors in predicting a firm's probability of bankruptcy. The reference group, items that were not dummy coded, is firms with "two" scores on the HR items. I found a good model fit in Model 2 of this logistic regression. The omnibus test of model coefficient was found to be significant ($\chi^2 = 24.507$, $df=4$, $p = .000$) and Hosmer and Lemeshow tests showed a linear relationship between HR items and bankruptcy probability ($\chi^2 = 8.333$, $df=8$, p

= .402). Moreover, the -2LL test showed that the model fit significantly increased by adding the HR items ($\chi^2 = 24.507$, $df=2$, $p = .000$).

For HRIMPO, model 2 showed that the odds ratio of being classified as a riskier firm, measured by bankruptcy probability, is 12.521 times higher for firms without a positive attitude toward HR as opposed to firms with strong positive attitude toward HR ($\text{Exp}(\beta)=12.521$). Firms with a moderate level of attitude toward HR are 7.259 times more likely to go bankrupt compared with firms that have a strong positive attitude toward HR ($\text{Exp}(\beta)=7.259$).

Moreover, it was also found that firms without workforce retention/support, WFRSUP, are 5.518 times ($\text{Exp}(\beta)=5.518$) more likely to go bankrupt than firms with strong workforce retention/support. However, no significant difference was observed between firms with a moderate level of workforce retention/support and those with strong workforce retention/support. Therefore, we can infer that a positive attitude toward HR and a workforce retention/support are meaningful predictors for a firm's probability of avoiding bankruptcy.

In addition, I performed an SEM analysis with WLS estimation in order to assess the relationship between HR items and bankruptcy

probability as explained in Study 1. The preliminary regression analysis showed that two HR items, HRIMPO and WFRSUP, were found to be significant as shown in Figure 10, which led to the use of two single-indicator factors to predict bankruptcy probability.

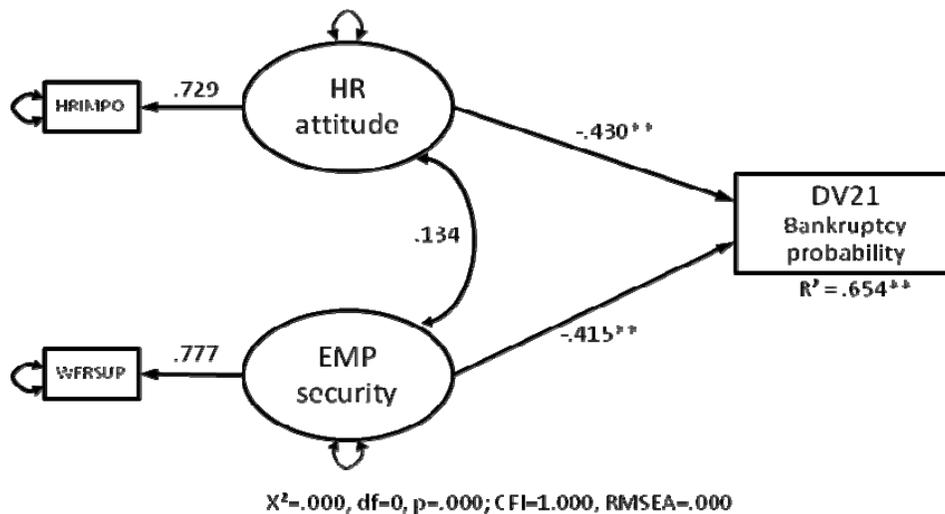


Figure 10: Study 2 DV21. SEM main effect on bankruptcy probability

The model fit was found to be close to an exact fit ($\chi^2 = .000, df=0, p=.000; CFI = 1.000; RMSEA=.000$). This model showed that there is a significant negative association between HR attitude (HRATTI) and firm classification ($\beta=-.430, p<.01$). In addition, employment security (EMPSEC) was also found to be negatively associated with bankruptcy probability ($\beta=$

-.415, $p < .01$). This finding is consistent with regression analysis results where both HRIMPO and WFRSUP were found to be strong predictors.

In summary, both the SEM analysis and regression analysis showed that an Emphasis on HR, including a positive perspective on HR as a source for gaining a competitive advantage, is a strong factor in predicting bankruptcy probability. In addition, employment security, such as workforce retention and support, was also found to be a significant predictor for bankruptcy probability. Therefore, hypothesis 2A, testing the negative relationship between an Emphasis on HR and bankruptcy probability is generally⁴ supported, while a positive attitude toward HR is the most significant factor in the models.

4.1.2. Interaction effect

Logistic regression results showed that there is an interaction effect of a) industry munificence and b) industry dynamism on the relationship between WFRSUP and bankruptcy probability. Model 3 and model 4 showed

⁴ I used the term 'generally' because WFRSUP was not found to be significant predictor when comparing firms with moderate WFRSUP and strong WFRSUP ($\beta = .665$, $p = .073$). This non-significant result was also found in interaction effect as shown in model 3 and model 4.

that there is a significant interaction effect of industry munificence and industry dynamism while comparing firms with strong workforce retention/support and firms with weak workforce retention/support.

I used a moderation graph to illustrate the relationship. Figure 11 shows the interaction effect of industry munificence; the negative relationship between WFRSUP and bankruptcy probability is greater for a firm in more munificent industries. In other words, firms in a more munificent industry, where more room for improvement is available, are more likely to reduce their bankruptcy probability by focusing on workforce retention/support than firms in a less munificent industry. However, as shown in Figure 11, the interaction does not look significantly different upon visual inspection. This is possibly because of a non-significant interaction effect ($\beta=.621$, $p=.774$) when comparing firms with moderate levels of WFRSUP and those with high levels of WFRSUP.

In addition, Figure 12 shows that the negative relationship between WFRSUP and bankruptcy probability is greater for firms in less dynamic industries. The result shows that paying more attention to workforce retention/support allows firms to reduce their bankruptcy probability and

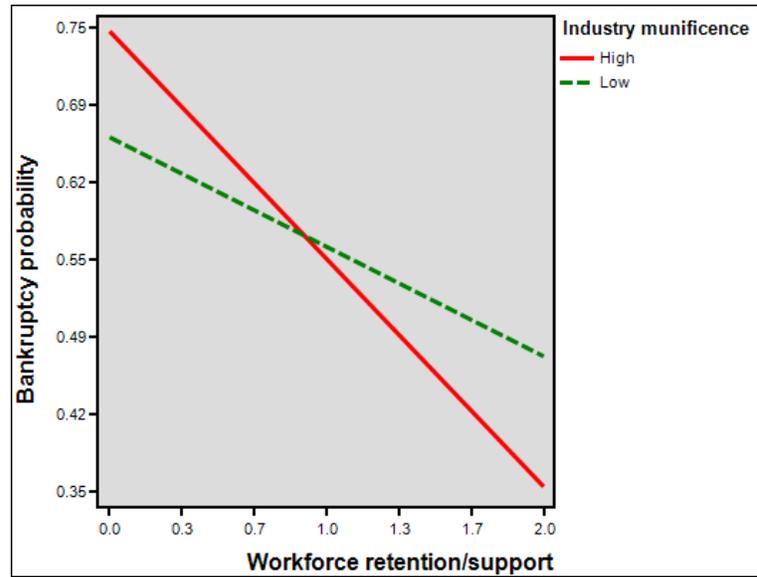


Figure 11: Study 2 DV21. Moderation graph – WFRSUP X INDMUN

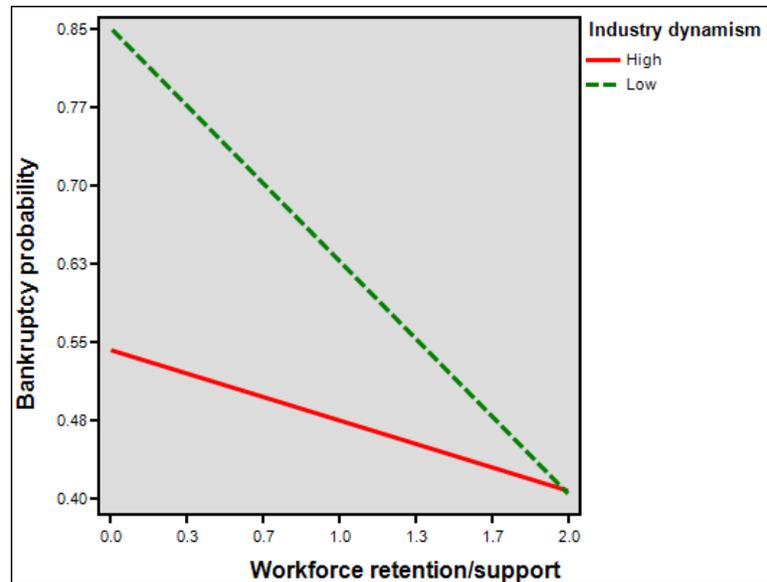


Figure 12: Study 2 DV21. Moderation graph – WFRSUP X INDDYN

that this impact is greater for firms in less dynamic industries, which is not congruent with my expectation. It may be possible that when firms are in a volatile and unstable industry, workforce retention/support increases their strategic flexibility to manage through the harsh environment. This finding calls for more attention in the future.

In addition, I also performed SEM analysis with interaction terms as shown in Figure13. The model showed that neither industry munificence nor industry dynamism moderate the relationship between WFRSUP and bankruptcy probability, which is not consistent with the logistic regression result.

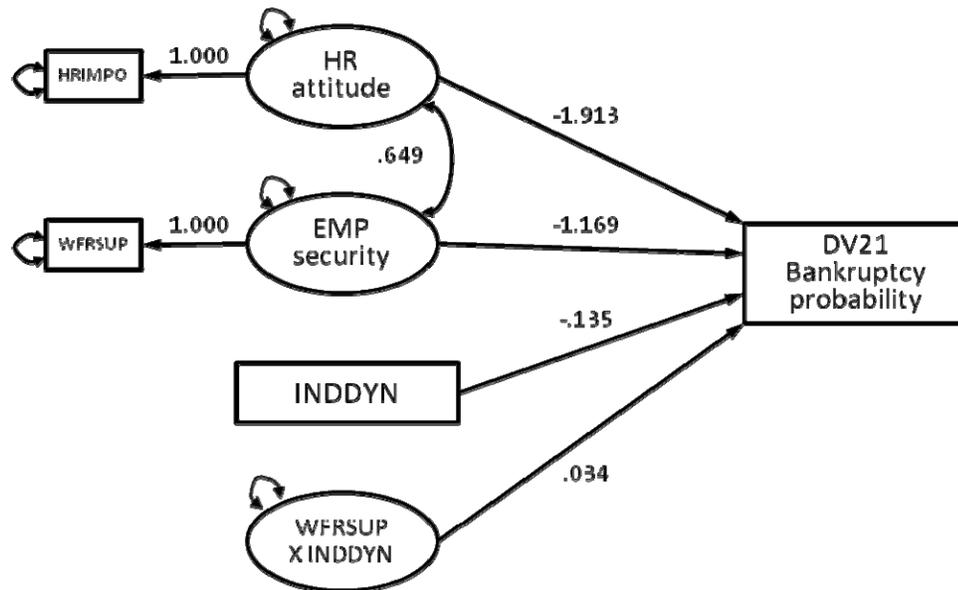


Figure 13: Study 2 DV21. Moderation effect – WFRSUP X INDDYN

In summary, there is no consistent finding about the interaction effect of industry characteristics on the relationship between bankruptcy probability. Logistic regression showed that there is an interaction effect of industry munificence and industry dynamism in the relationship between WFRSUP and bankruptcy probability, with the interaction effect only significant when comparing firms with the highest WFRSUP scores and those with lowest. In addition, the moderation effect of industry dynamism was found but the interpretation was contrary to what I expected.

Moreover, the SEM analysis with an interaction model did not support the moderation effect of industry characteristics. Thus, the results do not support hypotheses 2C through 2F, although logistic regression supports hypothesis 2D, which predicted the moderation effect of industry munificence where the negative relationship is greater for firms in more munificent industries.

4.2. DV22: Length of decline

In addition to bankruptcy probability, I used the length of decline as one of the indicators for severity of decline. As mentioned earlier, industry-

adjusted ROA is significantly correlated with HRIMPO, EMPREL, and WFRSUP.

Hierarchical OLS regression confirms, as seen in Table 9, that HRIMPO, EMPREL, and WFRSUP are significant predictors ($\beta=-.221$, $\beta=-.181$, $\beta=-.207$ respectively) of the length of decline. It showed that firms that value the importance of HR, provide employment security, and make an effort to retain employees and support those who are laid-off are less likely to experience a long declining period.

DV22: Length of Decline	Model1	Model2
Firm size	-.155*	-.159*
R&D intensity	.147*	.104
Capital intensity	.102	.092
Liquidity	.018	.047
Leverage	.000	.050
HR importance		-.221**
Employment relations		-.181**
TMT HR background	-.048	-.075
Training	.024	.047
Fulltime employees	.023	.043
Employment stability	-.042	-.020
WF retention/support		-.207**
Org-based pay	-.058	-.028
Market pay level	-.132	-.095
R ²	.259	.449**

Standardized coefficients are reported.

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

Table 9: Study 2 DV22. OLS regression on the length of decline

Then, I used this finding to create two constructs for SEM analysis: HRATTI and EMPSEC. I performed an SEM analysis by using a WLS estimator and the model fit was found to be a close fit ($\chi^2 = 8.334$, $df=7$, $p=.304$; CFI = .990; RMSEA=.026). The results in Figure 14 showed that all of the constructs, such as HRATTI and EMPSEC, are significant predictors ($\beta=-.447$ and $\beta=-.361$, respectively) of the length of decline.

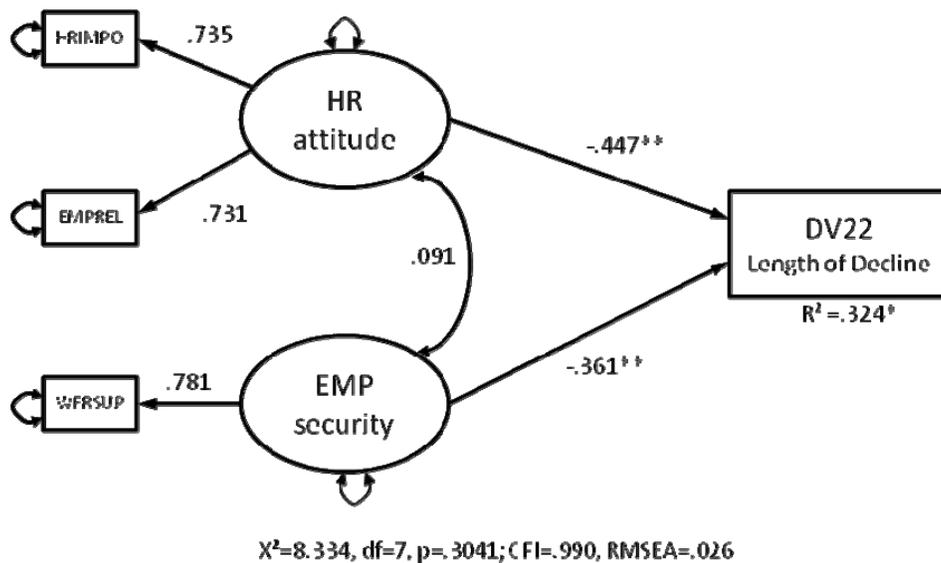


Figure 14: Study 2 DV22. SEM main effect on the length of decline

In addition, I performed quantile regression in order to identify the variability of variance explained by an Emphasis on HR across the conditional distribution of industry-adjusted ROA. Figure 15 showed that

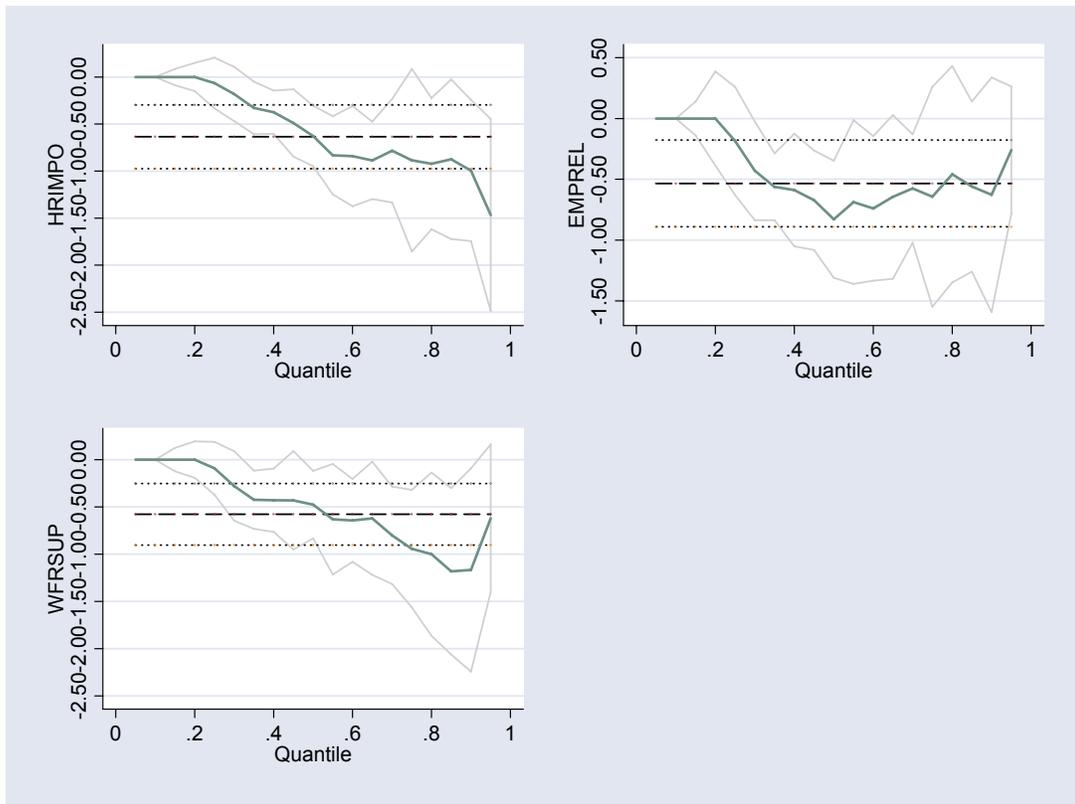


Figure 15: Study 2 DV22. Quantile regression graph on the length of decline

there is an indication that the relationship between HR items and the length of decline varies across different quantiles. In order to test the difference of the strength of relationship across quantiles, I used simultaneous quantile regression using three quantile points: .10, .50, and .90. The difference test showed that, for WFRSUP, the weight of the effect significantly differs a) between .10 quantile and .50 quantile ($F(1,263) = 9.82, p = .002$) and b)

between .10 quantile and .90 quantile ($F(1,263) = 7.32, p = .007$). However, I could not find a significant difference for other HR items.

Figure 15 shows that the negative relationship between WFRSUP on the length of decline is greater for firms in a higher quantile. In other words, one unit increase of WFRSUP has a more positive impact on decreasing the length of decline and its marginal impact is greater for firms that are experiencing a longer declining period. This implication is consistent with the quantile regression findings from Study 1, where the marginal positive impact of WFRSUP is greater for firms that are performing relatively poorly. This result supports hypothesis 2B testing the negative relationship between an Emphasis on HR and the length of decline. In addition, OLS regression did not show any significant interaction effect, so Study 2 supports only hypothesis 2B, and rejects hypotheses 2C through 2F.

5. DISCUSSION

The main research question of Study 2 is to assess the mitigating effect: whether firms that put more emphasis on human resources are less likely to experience severe and/or organizational decline, and whether industry characteristics moderate this relationship. The main research question is

whether we can predict that firms with stronger Emphasis on HR are more likely to reduce their bankruptcy probability and the length of a decline.

The results showed that the mitigating effect was generally supported, where firms with a more positive attitude toward HR are found to have less probability of bankruptcy and shorter declining periods. Both logistic regression and SEM analysis supported that HRIMPO, EMPREL, and WFRSUP are meaningful predictors of severity of decline. Thus, using “negative” performance measures, my finding is consistent with major research findings in strategic human resource management, as discussed in Study 1.

In addition, quantile regression showed that the negative relationship between WFRSUP and the length of decline prevails for firms that are experiencing longer declining periods. This may imply that a firm’s attempt to provide employment security through workforce retention efforts and support for the laid off could be a factor that helps firms experience less severe organizational decline as measured by bankruptcy probability and/or the length of decline.

A moderating effect for industry characteristics was not generally found. Logistic regression showed that industry munificence and dynamism

moderate the relationship between WFRSUP and bankruptcy probability, but their impact is significant only when comparing firms with the lowest and highest WFRSUP scores. However, this interaction effect was not supported in the SEM analysis. Therefore, the lack of consistency of the result does not allow me to say that industry characteristics moderate the relationship between WFRSUP and bankruptcy probability. However, despite the lack of consensus regarding the interaction effect of industry characteristics, the most important finding is that HR information retrieved from public databases, such as HRIMPO, EMPREL, and WFRSUP, may be good a source for predicting the severity of decline such as bankruptcy probability and the length of decline.

VII. STUDY 3: THE RESTORING EFFECT

1. INTRODUCTION

The main research question in this study is whether an Emphasis on HR is a predictor of recovery for the declining firms. When firms are facing an adverse environment and are experiencing decreases in financial performance, firms usually try to find a number of solutions to overcome such problems. According to Sudarsanam and Lai (2001), the success of managerial responses to performance declines is conditioned by a number of factors such as the timing of the downturn, the intensity of the downturn, and effective implementation of turnaround attempts. They proposed four types of restructuring as potential managerial responses: managerial restructuring, operational restructuring, asset restructuring, and financial restructuring. However, the most common restructuring response in turnaround attempts is operational restructuring which aims to reduce direct costs and expenses (Slatter, 1984). This approach is designed to generate cash flow and profit improvement in the short term and is also known as the fire-fighting strategy (Sudarsanam and Lai, 2001)

As discussed earlier, firms that make operational restructuring tend to engage in a retrenchment process in order to seek a short-term turnaround of firm performance. However, retrenchment may not always positively influence firm performance because decreasing internal resources during a declining period may generate a threat-rigidity response. This negative impact of retrenchment is prevalent when such an operational response puts more restrictions on information processing systems, and an over-emphasis on efficiency, as well as a centralization of the decision making process (Staw et al., 1981). Retrenchment is defined as a reduction in organizational scope or activity based on short-term operating plans. It is a common response to economic turmoil during turnarounds (Bibeault, 1982; Slatter, 1984; D'Aveni, 1989; Schendel et al., 1976; Schendel & Patton, 1976; Hofer, 1980).

In the retrenchment phase, firms aim to achieve positive cash flow, divestment, and operational responses by liquidating fixed assets, divesting subunits, implementing operational efficiencies, eliminating products, and downsizing or reducing workforce (Staw et al., 1981; Robbins & Pearce, 1992). One of the reasons that declining firms adopt such an approach is that top management teams, especially those with finance or accounting backgrounds, tend to focus on short-run goals, to the exclusion of long-term planning and

needed strategic changes (Hall & Mansfield, 1971; Smart & Vertinsky, 1977).

This leads to top managers ignoring the need for significant domain initiatives.

Downsizing activities are a common response by firms attempting to overcome financial distress. Downsizing is a quick solution to reduce direct labor costs as well as to increase cash flow at the same time, so it may have a positive impact on firm performance in the short-term; however the long-term positive effect of downsizing on firm performance is questionable (Guthrie & Datta, 2008).

Research shows that cost retrenchment alone is not sufficient to achieve turnaround (Robbins and Pearce, 1992) and does not solve firm's fundamental underlying problems that are more likely to be strategic-oriented (Hambrick & Schecter (1983). In addition, a successful turnaround involves significant domain and competitive policy changes and some level of strategic reorientation which is supported by the level and quality of a firm's human resources (Barker & Duhaime, 1997).

Therefore, downsizing and workforce reduction destroys firm resources and slack resources over time (Hedberg et al., 1976; Starbuck et al., 1978; Hambrick & D'Aveni, 1988, D'Aveni, 1989) and increases the turnover

of talented employees (Hirschman, 1970; Whetten, 1980). Thus, downsizing in the hope of overcoming a downturn is similar to the concept of 'swimming upstream' (Miller and Friesen, 1977), which illustrates self-delusion about one's progress; a swimmer may feel that he or she is moving forward, while, in fact, the swimmer is moving backward.

Despite many studies on the importance of firm resources as a source of turnaround in the strategic management literature, most of firms studied paid relatively little attention to the role of human resources (i.e. Hambrick & D'Aveni, 1988; Bourgeois, 1981; Cyert & March, 1963; Singh, 1986; Staw et al., 1981; Barker & Duhaime, 1997). However, studies in strategic human resource management have consistently shown that HR can influence firm performance (Becker & Huselid, 1998; Huselid, 1995; Guthrie, 2001; Arthur, 1994; MacDuffie, 1995; Youndt et al., 1996; Arthur, 1994).

Thus, it is logical to expect that the lack of emphasis on human resources while focusing on only operational and efficiency-oriented response will limit a firm's ability to achieve a successful recovery. Focusing on operational and efficiency-based approaches to overcome turnaround situations can be interpreted as a suitable solution only for the short-term as it ignores the critical importance of human resources in the firm's capacity to

change in the long-run. Harrigan (1980) argues that only adaptive, strategically well-positioned firms will survive a decline.

2. RESEARCH QUESTIONS

The purpose of Study 3 is to examine the restoring effect: the extent to which an Emphasis on HR help declining firms overcome a declining period through positive firm performance. While the strategic human resource management literature has shown that human resource management has a positive impact on firm performance, little attention has been paid to the impact of human resource management on the performance of firms in turnaround situations. In this research, I would like to propose that the positive impact of human resource management on firm performance can be generalized to declining firms. In other words, assuming that HR information extracted from public database reflects actual human resource management to some extent, an Emphasis on HR is expected to improve organizational health, enabling firms to overcome a downturn situation. Therefore, among declining firms, firms with greater Emphasis on HR are more likely to perform better, suggesting a restoring effect for HR.

In addition, I expect there is an indirect effect of an Emphasis on HR measured at 2001 (refer to Study 1) on firm performance between 2005 and 2007. In other words, it is expected that an Emphasis on HR in 2004 mediates the relationship between an Emphasis on HR in 2001 and subsequent firm performance. As illustrated in Figure 16, the research questions in Study 3 examine whether declining firms with a greater Emphasis on HR are more likely to perform better.

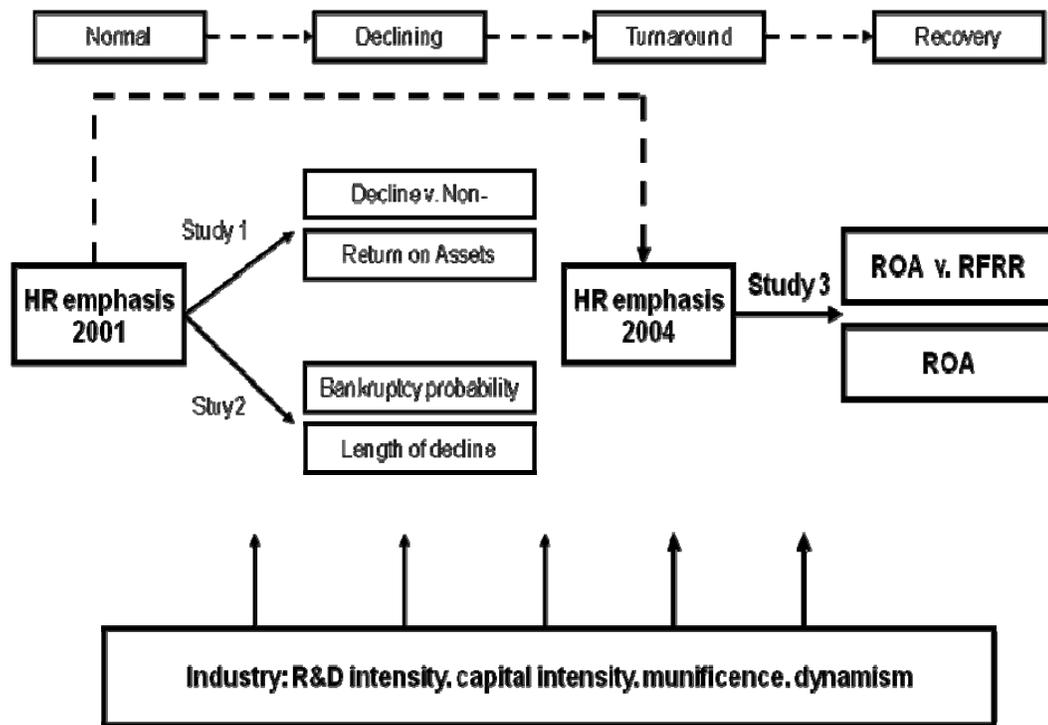


Figure 16: Study 3. Restoring effect

2.1. Main effect

As discussed earlier, firms with greater Emphasis on HR are more likely to build human capital and social capital, which are key sources for dynamic capabilities that enable firms to perform better. One of the ways to assess organizational recovery is to assess whether or not firm performance, measured by ROA, is above the risk-free rate of return. Firms performing above the risk-free rate of return are considered to be recovering (Barker & Duhaime, 1997). In addition, firms with strong human capital and social capital are more likely to exhibit a higher return on asset, which allows the firms to recover from a downturn stage. Thus, the relationship between an Emphasis on HR and subsequent firm performance is hypothesized as following:

Hypothesis 3A: Among declining firms, firms with more of an HR Emphasis are more likely to perform better, measured by the extent to which ROA is above the risk-free rate of return.

Hypothesis 3B: Among declining firms, firms with more of an HR Emphasis are more likely to perform better, measured by industry-adjusted ROA.

2.2. Moderation effect

In addition, as described earlier, industry characteristics are expected to moderate the relationship between an Emphasis on HR and subsequent firm performance. Thus, the moderation effect was hypothesized as follows:

Hypothesis 3C: Industry R&D intensity will moderate the relationship between an Emphasis on HR and subsequent firm performance, with the relationship being stronger in more R&D intensive industries.

Hypothesis 3D: Industry capital intensity will moderate the relationship between an Emphasis on HR and subsequent firm performance, with the relationship being stronger in less capital intensive industries.

Hypothesis 3E: Industry munificence will moderate the relationship between an Emphasis on HR and subsequent firm performance, with the relationship being stronger in more munificent industries.

Hypothesis 3F: Industry dynamism will moderate the relationship between an Emphasis on HR and subsequent firm performance, with the relationship being stronger in more dynamic industries.

2.3. Mediation effect

One of the research questions is to assess the mediation effect of an Emphasis on HR in 2004 in the relationship between an Emphasis on HR in 2001 and subsequent firm performance between 2005 and 2007, assuming that a) the variance of an Emphasis on HR in 2004 is expected to be explained by an Emphasis on HR in 2001 and b) an Emphasis on HR in 2001 is a significant predictor of subsequent firm performance. This mediation effect was illustrated by the dotted line in Figure 16.

Hypothesis 3G: An HR emphasis in 2004 is expected to mediate the relationship between an HR Emphasis in 2001 and subsequent firm performance measured by a) the extent to which ROA is above the risk-free rate of return and b) the industry-adjusted ROA during 2005-2007.

3. METHOD

3.1. Sample

The main research question of the restoring effect focuses on whether the extent to which declining firms place value on human resource, as represented by an Emphasis on HR, is associated with subsequent firm performance measured by a number of variables such as a) ROA above the

risk-free rate of return and b) the industry-adjusted ROA. The sample for Study 3 was directly derived from Study 1. From the sample used in Study 1, I selected only declining firms in order to assess the restoring effect.

3.2. Measure

3.2.1 Dependent variables

There are a number of variables that could represent subsequent firm performance, such as ROA, the growth rate of ROA, productivity, the extent to which firm performance is above a risk-free rate of return, and the probability of bankruptcy measured during the period of 2005-2007. I have performed analyses using all of the variables listed above. However, I was not able to find significant results from the analyses using dependent variables such as growth of ROA and bankruptcy probability. Thus, two dependent variables are reported in this research. The first dependent variable, ROA v. RFRR, is a dichotomous variable and represents the extent to which ROA is above the risk-free rate during the period of 2005-2007. This variable is calculated by subtracting the risk-free rate of return from ROA. If the average ROA is greater than the average risk-free rate, this firm is

classified as a successfully recovering firm, or vice versa. The second dependent variable is industry-adjusted ROA during the period of 2005-2007.

3.2.2. Independent, control, and moderating variables

The independent variable in this study is HR emphasis 2004, or the Emphasis on HR measured in 2004. For the mediation effect, HR emphasis 2001 is also used in order to assess the indirect effect of HR emphasis 2001 on firm performance during the period of 2005-2007. In addition, I used the same set of control variables, with the only difference from Study 1 the measurement point. The control variables in Study 1 were measured for the period of 2002~2004, which is the three-year declining period. The variables are firm size, R&D intensity, capital intensity, liquidity, and leverage. In addition, industry characteristics, such as industry R&D intensity, capital intensity, munificence, and dynamism, are expected to influence the relationship between an Emphasis on HR and subsequent firm performance. The moderating industry variables are measured based on the two-digit SIC code during the period of 2005-2007.

Study 3 (n=139)	mean	s.d.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1 ROA v. RFRR ¹	.260	.440	1.000																
2 Ind-adj ROA	.789	8.219	.702	1.000															
3 Firm size	17.14	37.83	.035	.031	1.000														
4 R&D intensity	16.51	29.01	-.017	-.121*	-.172*	1.000													
5 Capital intensity	65.05	83.95	-.053	.057	.060	.124*	1.000												
6 Liquidity	2.410	1.800	.051	.071	-.343*	.431**	-.038	1.000											
7 Leverage	4.451	54.47	-.018	-.040	.049	-.021	.039	-.032	1.000										
8 HRIMPO	.580	.680	.316	.283**	-.102	.156	.020	.105	.008	1.000									
9 EMPREL	1.470	.556	.124	.409**	-.140	-.014	.038	-.046	-.023	.213	1.000								
10 TMTHR	.910	.727	-.066	.163	.175*	-.169*	-.039	-.160	-.023	.117	.119	1.000							
11 TRAIN	.470	.556	-.025	-.029	.038	-.014	-.126	-.102	-.062	.002	.132	.190*	1.000						
12 FULLEE	1.190	.546	.038	-.015	-.178*	.161	.079	.245**	.235**	.036	.092	.059	.020	1.000					
13 EMPSTA	1.120	.675	.185*	.211*	.170*	-.076	-.020	-.149	.020	.017	.020	.273**	.098	.036	1.000				
14 WFRSUP	.860	.454	.033	.146	.140	-.071	-.071	.013	-.004	.143	.054	.096	-.061	-.072	.197*	1.000			
15 ORGPAY	1.310	.679	.166	.419**	-.068	-.043	.114	-.036	.125	.125	.247**	.113	-.002	.116	.217*	-.026	1.000		
16 PAYPOS	.990	.643	.032	-.041	-.511**	.120	.023	.069	.012	.010	.030	.014	-.051	.025	.035	-.003	.038	1.000	
17 CEOCH	.500	.502	-.004	.065	.020	-.039	-.005	-.028	-.028	.047	.085	.001	.137	-.002	.052	-.109	-.056	-.168*	1.000

Table 10: Study 3. Correlations and descriptive statistic

4. ANALYSIS & RESULTS

As explained earlier, hierarchical OLS regression and logistic regression were used in order to identify significant HR items within the block that predicts subsequent firm performance. Factors were created based on the HR items identified above, which is the basis for SEM analysis. In addition, I used quantile regression in order to assess the variability of variance of firm performance explained by an Emphasis on HR.

The correlation matrix shows, in Table10, that HRIMPO and EMPSAT are significantly correlated with ROA v. RFRR and industry-adjusted ROA. In addition, EMPREL and ORGAPY are significantly correlated with industry adjusted ROA. HRIMPO has been consistently shown to be positively correlated with firm performance.

In addition, one of the interesting questions to address is whether there is any difference in a firm's Emphasis on HR between 2001 and 2004. As explained earlier, 2001 is one year before the declining stage begins for the firms in the sample while 2004 is the third year after the declining stage began in 2002. Therefore, I expect that there will be a difference in Emphasis on HR between 2001 and 2004 as an attempt to initiate an organizational turnaround. However, I do not expect that firms will be responding in a similar fashion.

Some may focus on short-term turnaround through retrenchment or cost reduction, while others may take different approaches. In order to assess how the declining firms change their Emphasis on HR during the declining period, I conducted one-way ANOVA to compare the mean difference of the HR items between 2001 and 2004, which is shown in Table 11.

Dec 2001 v. 2004	Total	Declining firm in 2001	Declining firm in 2004	Sig.
HR importance *	.440	.300	.580	.000
Employment relations *	1.360	1.470	1.260	.005
TMT HR background *	.620	.320	.910	.000
Training	.440	.400	.470	.361
Fulltime employees	1.210	1.190	1.230	.493
Employment stability *	1.010	.910	1.120	.015
WF retention/support	.900	.940	.860	.259
Org-based pay *	1.140	.980	1.310	.000
Market pay level	.930	.860	.990	.093

* denotes variables with significant mean difference between declining firms in 2001 and those in 2004

Table 11: Study 3. One-way ANOVA comparing HR items between 2001 and 2004

The results show a significant difference of HR item scores across two years for a number of HR items such as HRIMPO (mean: .300 for 2001 vs. .580 for 2004), EMPREL (mean: 1.470 vs. 1.260 respectively), TMTHR (mean: .320 vs. .910), EMPSTA (mean: .910 vs. 1.120), and ORGPAY (mean: .980 vs. 1.310).

Declining firms were more likely to a) put more emphasis on the value of HR as a source for gaining a competitive advantage, b) have more TMT members with HR background, c) maintain a stable employment level, and d) adopt more of an organization-based pay. Meanwhile, the employment relations climate was found to worsen as the declining stage continued.

In summary, this result shows that some HR items were found to be significantly different between 2001 and 2004. The main task was to apply analytic techniques in order to clearly identify whether the difference in HR item scores between two time-point groups could play a role as a predictor of subsequent firm performance that would indicate a firm's recovery from a downturn stage.

4.1. DV31: ROA v. RFRR

As table 12 shows, hierarchical logistic regression demonstrated that HRIMPO and EMPSTA are significant predictors of firm performance above and beyond a risk-free rate of return. The reference group is the firms with 0 points on those HR items. In the case of HRIMPO, it was found that declining firms that expressed positive statements about the value of HR were more likely to perform better. Model 2 shows that the odds of firms performing

above the risk-free rate of return are almost 16 times higher for firms that explicitly or strongly emphasize the value of HR in comparison with the firms that do not ($\text{Exp}(\beta)=15.768$). Moreover, it was also found that firms with a high level of employment stability are almost 9 times more likely to perform above the risk-free rate of return than firms with instable employment level ($\text{Exp}(\beta)=8.898$).

DV31: ROA v. RFRR	Model 1			Model 2		
	β	sig.	$\text{Exp}(\beta)$	β	sig.	$\text{Exp}(\beta)$
Control variable						
Firm size	-.711	.142	.491	-.722	.178	.486
R&D intensity	-.015	.182	.182	-.023	.107	.977
Capital intensity	-.001	.541	.541	-.003	.293	.997
Liquidity	-.109	.493	.493	-.027	.886	.974
Leverage	.098	.745	.745	.126	.707	1.134
HR items (reference group = 0)						
HRIMPO (1)				.877	.068	2.405
HRIMPO (2)				2.758	.000	15.768
EMPSTA (1)				1.807	.054	6.094
EMPSTA (2)				2.186	.024	8.898
Omnibus test of model coef.	$X^2 = 6.090, df=5, p = .298$			$X^2 = 23.121, df=8, p = .000$		
-2 Log likelihood	152.926			129.805** $X^2(2, N=139) = 23.121, p < .001$		
Nagelkerke R ²	.063			.278		
Hosmer and Lemeshow test	$X^2 = 10.732, df=8, p = .217$			$X^2 = 10.720, df=8, p = .218$		

Note. HR items and industry variables that are not found to be significant are not shown on the table.

Table 12: Study 3 DV31. Logistic regression on ROA v. RFRR

This result is supported by acceptable model fit. Model 2 shows that adding HRIMPO and EMPSTA into the regression analysis yielded a better model fit. The omnibus test of model coefficient showed that at least one of the predictors is significantly associated with a dependent variable ($\chi^2 = 23.121$, $df=8$, $p = .000$). Hosmer and Lemeshow test showed that there is no difference between observed values and model-predicted values ($\chi^2 = 10.720$, $df=8$, $p = .218$) and the estimates of this model fit the data. In addition, model 2 shows that the -2LL difference test revealed a significant improvement in model fit ($\chi^2(2, N=139) = 23.121$, $p < .001$). Thus, the odds ratio for each variable showed that HRIMPO and EMPSTA are significantly associated with firm performance.

In addition, I performed an SEM analysis to assess the relationship between HR items and firm performance. Instead of performing a factor analysis to identify constructs and relevant items, I used regression analysis with blocks as explained above. The regression analysis showed that two HR items, HRIMPO and EMPREL, were found to be significant in the 'Attitude toward HR' block and one item, WFRSUP, was found to be significant in the 'Employment security' block.

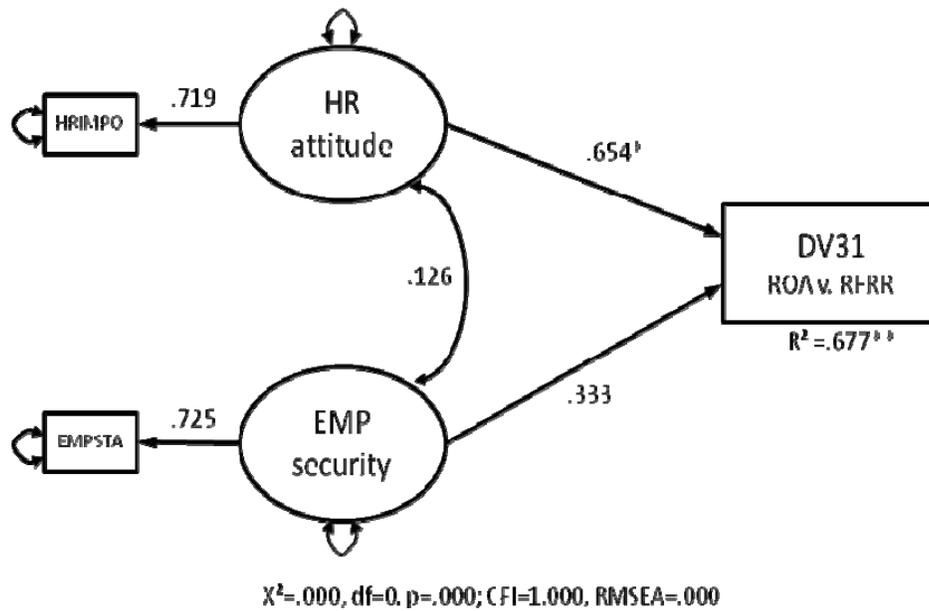


Figure 17: Study 3 DV31. SEM main effect on firm ROA v. RFRR

I used a WLS estimator, which is appropriate for analyzing research models including categorical variables. The model fit, as shown in Figure 17, was found to be close to an exact fit ($\chi^2 = .000, df=0, p=.000; CFI = 1.000; RMSEA=.000$). This model showed that there is a significant association between HR attitude (HRATTI) and firm classification ($\beta=.654, p<.05$), while employment security (EMPSEC) was not found to be associated with firm classification ($\beta=.333, p>.10$). This result is moderately consistent with the regression analysis results where HRIMPO and EMPSTA were found to be strong predictors.

In summary, both logistic regression and SEM analysis showed that HRIMPO is a significant predictor of the extent to which firms' ROA is above the risk-free rate of return. Therefore, hypothesis 3A, testing the positive relationship between an Emphasis on HR and firm performance, is generally supported, while the impact of employment stability is inconclusive. In addition, no interaction effect was observed from industry characteristics, which results in the rejection of hypotheses 3C thru 3F.

4.2. DV32: Industry-adjusted ROA

4.2.1. Main effect & Moderation effect

The second dependent variable is industry-adjusted ROA during the period of 2005-2007. As mentioned earlier, industry-adjusted ROA is significantly correlated with HRIMPO, EMPREL, EMPSTA, and ORGPAY. Hierarchical OLS regression confirms, as seen in Table 13, that HRIMPO, EMPREL, and ORGPAY are significant predictors ($\beta=.209$, $\beta=.289$, $\beta=.286$ respectively) of industry-adjusted ROA. It shows that firms that value the importance of HR, maintain a positive employee relations climate, and emphasize the use of organization-based pay are more likely to perform

better. This result was produced by creating two factors, HRATTI and COMP, for SEM analysis.

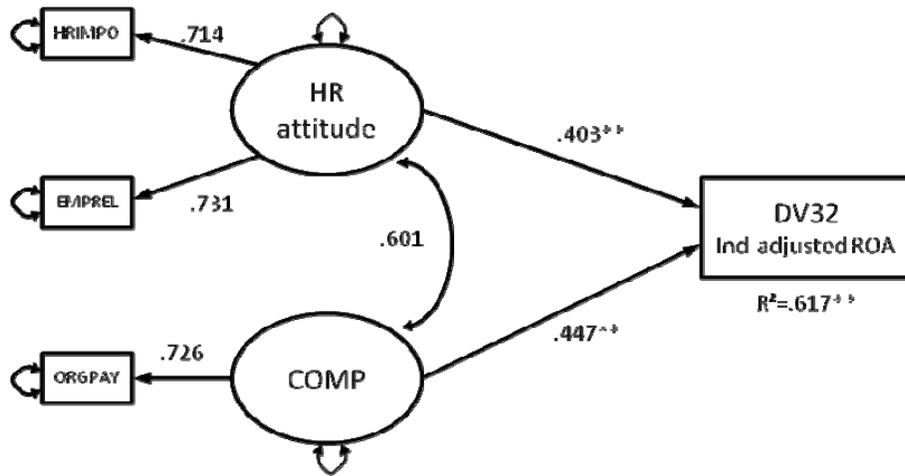
DV32: Ind-adjusted ROA	Model1	Model2
Firm size	-.199	-.045
R&D intensity	-.304**	-.333
Capital intensity	.129	.061
Liquidity	.067	.107
Leverage	.002	-.030
HR importance		.209**
Employment relations		.289**
TMT HR background	.113	.019
Training	-.048	-.073
Fulltime employees	-.030	-.059
Employment stability	.189*	.132
WF retention/support	.113	.061
Org-based pay		.286**
Market pay level	-.115	-.054
CEO change	.049	.037
R ²	.420	.658**

Standardized coefficients are reported.

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

Table 13: Study 3 DV32. OLS regression on industry-adjusted ROA

Then, I performed an SEM analysis by using a WLS estimator as shown in Figure 18. Model fit was found to be acceptable ($\chi^2 = 9.630$, $df=7$, $p=.211$; CFI = .984; RMSEA=.052). The results show that all of the constructs, HRATTI and COMP, are significant predictors ($\beta=.403$ and $\beta=.447$, respectively) of subsequent firm performance.



$\chi^2=9.630$, $df=7$, $p=.2105$; $CFI=.984$, $RMSEA=.052$

Figure 18: Study 3 DV32. SEM main effect on industry-adjusted ROA

In addition, I performed a quantile regression in order to identify whether variance explained by an Emphasis on HR differs across conditional distribution of industry-adjusted ROA. Figure 19, the quantile regression graph, illustrates the variation of the marginal impact on firm performance across different quantiles. However, an inter-quantile test using three quantile points (.10, .50, and .90) showed that there is no significant difference of marginal impact across these quantile points. Thus, the effect is not different across different points of quantiles. In addition, I performed a hierarchical OLS regression in order to detect the moderation effect of industry characteristics. However, none of the industry variables were found to have a moderation effect.

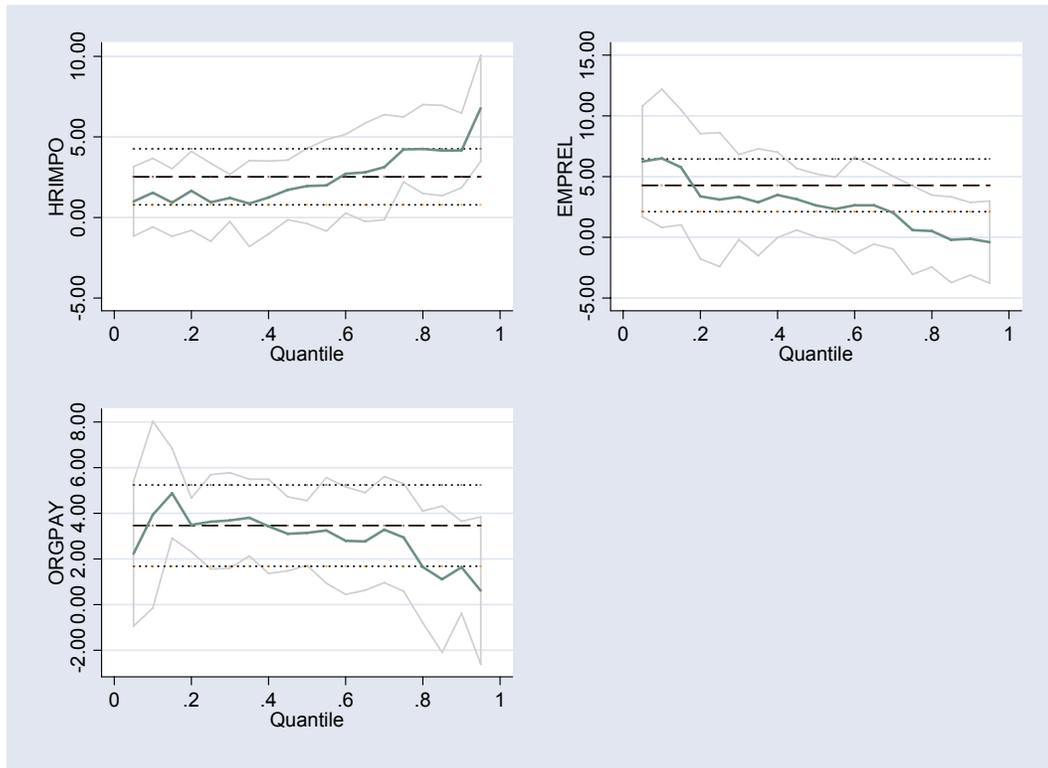


Figure 19: Study 3 DV32. Quantile regression graph on industry-adjusted ROA

In summary, hierarchical OLS regression and SEM analysis showed that there is a negative relationship between an Emphasis on HR and firm performance measured by industry-adjusted ROA, which supports hypothesis 3B. In addition, hypotheses 3C through 3F were not supported.

4.2.2. Mediation effect

In the previous analysis, OLS regression and SEM analysis showed that there is a negative relationship between an Emphasis on HR in 2004 and

firm performance. It is reasonable to expect that there would be a relationship between an Emphasis on HR in 2001 and Emphasis on HR in 2004. If there is evidence of a main effect of an Emphasis on HR in 2004, it is also reasonable to expect that there would be a relationship between an Emphasis on HR in 2001 and subsequent firm performance at 2005-2007. Thus, the next questions to answer are: a) whether there is a direct effect of an Emphasis on HR in 2001 on subsequent firm performance in the period of 2005-2007 and b) whether an Emphasis on HR in 2004 mediates the relationship between the Emphasis on HR in 2001 and subsequent firm performance.

First, I used industry-adjusted ROA as a dependent variable for this model, because a) industry-adjusted ROA is the dependent variable that is found commonly between Study 1 and Study 3 and b) they have similar factor structures with commonly appearing HR items. HRIMPO, EMPREL, and ORGPAY are HR items found in both studies. Therefore, I used two constructs, HRATTI and COMP, for an SEM analysis in order to assess the direct and indirect effect of an Emphasis on HR on subsequent firm performance, industry-adjusted ROA during 2005-2007, as illustrated in Figure 20.

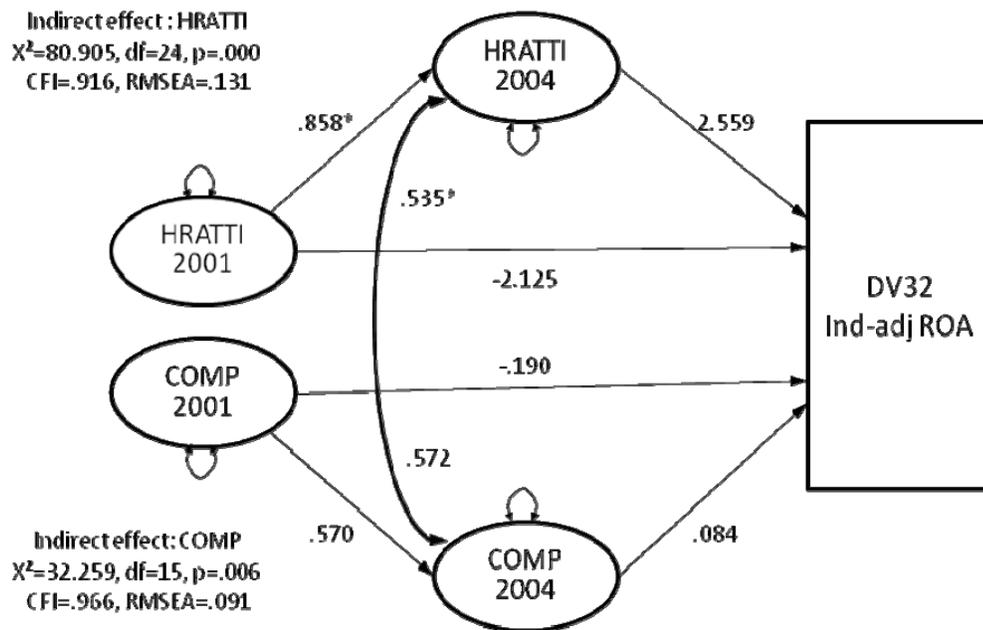


Figure 20: Study 3 DV32. SEM indirect effect of HR Emphasis in 2001

This design illustrates two models: a) indirect effect of HRATTI in 2001 and b) indirect effect of COMP in 2001. The first model, indirect effect of HRATTI, examines whether HRATTI in 2004 mediates the relationship between HRATTI in 2001 and industry-adjusted ROA. Likewise, the second model examines whether COMP in 2004 mediates the relationship between COMP in 2001 and industry-adjusted ROA.

The model fit of the first SEM model, the indirect effect model of HRATTI, is marginally acceptable ($\chi^2 = 80.905$, $df=24$, $p=.000$; $CFI = .916$; $RMSEA=.131$). Also, there is no evidence of a direct effect of HRATTI in 2001

on subsequent firm performance, industry-adjusted ROA ($\beta=2.195$, $p=.349$). In addition, a 95% confidence interval of the coefficient of the indirect model showed that there is no evidence of indirect effect ($CI_{.95} = -19.479, 55.172$). The second model, the indirect effect model of COMP, also showed a mediocre fit ($\chi^2 = 32.259$, $df=15$, $p=.006$; $CFI = .966$; $RMSEA=.091$). It showed that there is no direct effect of COMP in 2001 on subsequent firm performance ($\beta=.048$, $p=.950$). In addition, it was found that there is no indirect effect of COMP in 2001 on subsequent firm performance ($CI_{.95} = -12.238, 13.044$). Model indices indicate a mediocre or marginally poor model fit. Even if we ignore the issue of low model fit, the results still do not support the mediating effect of an Emphasis on HR in 2001 on subsequent firm performance, industry-adjusted ROA, in the period of 2005-2007.

5. DISCUSSION

The purpose of Study 3 is to examine the restoring effect: the extent to which an Emphasis on HR helps declining firms overcome their declining period through positive firm performance. This study identified publicly available HR- related information allowing us to predict subsequent firm performance of declining firms. I used two firm performance measures,

including: a) the extent to which firm ROA is above the risk-free rate of return and b) industry-adjusted ROA.

I found that there is general support for a main effect of an Emphasis on HR on subsequent firm performance. Hierarchical logistic regression showed that HRIMPO and EMPSTA are significant predictors of the extent to which firm ROA is above the risk-free rate of return. In addition, HRIMPO, EMPREL, and ORGPAY are significant predictors of industry-adjusted ROA. These findings are generally supported by SEM analysis. This may imply that firms that have a positive attitude toward HR and put more emphasis on workforce retention/support are more likely to recover from a performance decline. In addition, firms with strongly positive attitudes toward HR that maintain a positive employee relations climate and organization-based pay are more likely to perform better than their competitors within the same industry.

The magnitude of this relationship does not vary a) across different industries and b) across different quantiles on the conditional distribution of dependent variables. In addition, an Emphasis on HR in 2001 does not have direct nor indirect relationship with subsequent firm performance measured in 2005-2007.

In conclusion, one of the contributions of Study 3 is general support for a positive relationship between an Emphasis on HR and firm performance of firms that are in a declining stage. This opens the door for the possibility of finding a valuable role of HR during the turnaround stage. The results suggest that even declining firms that put more Emphasis on HR are more likely to recover from a declining stage and experience relatively higher firm performance. Although HR has been treated as a supernumerary in the turnaround process, the results of this research suggests that HR may play a more central, supporting actor role in effecting organizational turnarounds.

VIII: CONCLUSION

1. INTRODUCTION

The main research question of this dissertation was derived from a few common sense perceptions most people have about health. The issue that we address is how to define organizational health and how it is related to firm performance. From a financial perspective, organizational health is determined based on firm's financial structure, which is assessed by a number of measures such as return on assets, liquidity, leverage, insolvency, productivity and so on. On the other hand, from the perspective of human resource management, organizational health can be determined based on the firm's emphasis on human capital and social capital, which has been argued to be a source of long-term sustainability for the firm.

Although the source of organizational health is not uni-dimensional, the financial perspective has dominated alternative perspectives, including the role of human resource management. The recent economic crisis may illustrate the effects of an unhealthy over-emphasis on the financial perspective. This 'unhealthy' trend of de-emphasizing human resources has prevailed, especially when firms are experiencing organizational decline

either due to volatility of the external environment or due to internal organizational inertia. It is often the case that those who are in charge of rebuilding an organization focus on a short-term turnaround with an over-emphasis on short-term financial indices, while sacrificing longer-term health by eroding human and social capital. Downsizing is an illustration of this short-term focus.

Thus, I pose the question: Is it possible to achieve organizational health that fulfills the expectations of two competing positions? I believe the answer is yes. I propose that financial health and human/social health are not mutually exclusive, and acting on this view could lead to a synergistic effect through sophisticated strategic human resource management. In addition, I propose that this idea could be applied to firms even when they are facing a significant decline.

The importance of human/social capital cannot be emphasized enough in organizational success. As Pfeffer (1998) argues, long-term organizational health will be achieved by recognizing the important role played by employees and their firm-specific tacit knowledge. Therefore, financial success achieved through human/social health is the key for organizational sustainability.

One of the most important contributions this study can make is building a bridge between strategic human resource management and strategic management literature regarding the value of human resources in the context of an organizational turnaround; while the strategic human resource management literature has focused on the impact of human resources on firm performance without looking into turnaround issues, the strategic management literature has focused on turnaround process without looking into the role of human resources.

I have identified three positive effects of human resource management on firm performance in the context of an organizational turnaround. First, the inoculating effect addresses whether HR is a significant factor determining organizational survival or failure. Firms that focus on human/social health are more likely to be defined as non-declining firms and their performance is relatively better than their peers within the same industry. Second, the mitigating effect addresses the extent to which HR can help “soften” organizational decline. Firms with positive human/social capital will experience less severe declines as measured by bankruptcy probability and length of decline. Finally, the restoring effect addresses the extent to which HR plays a role in helping organizations recover from organizational decline.

Firms with positive human/capital health are more likely to recover from a declining stage, even when they are declining.

2. DISCUSSION

2.1. Research questions and design

There are a number of ways to measure firms' human resource management practices. I chose a content analysis technique which looks into publicly available databases in order to capture HR-related information as a proxy for actual HR practices. The HR-related information was mostly derived from 10-K annual reports and the Compustat database. Despite some limitations entailed in this approach, it is worthwhile because it enables us to make a prediction about subsequent firm performance by using publicly available information without securing primary data on the use of human resource management.

There are a number of steps to follow in order to make this type of content analysis successful. The coders need to be independent from each other and from the researcher. They must be trained in order to achieve acceptable inter-coder reliability. This can be done by familiarizing the coders with the objective assessment criteria of HR items that have been identified

through preliminary screening of 10-K reports before a pilot study. These items include: a) the extent to which firms put value on human resources as a source for gaining a competitive advantage (HRIMPO), b) the extent to which firms make an explicit statement regarding a positive employee relations climate (EMPREL), c) the extent to which there is one or more managers with an HR background in the firm's top management team (TMTHR), d) the extent to which firms make a statement about training programs (TRAIN), e) the extent to which firms utilize full-time employees (FULLEE), f) the extent to which firms keep a stable employment level (EMPSTA), g) the extent to which firms provide support for employees who are laid off, which is the foundation for calculating workforce retention/support (WFRSUP), and h) the extent to which a CEO is replaced between 2001 and 2004 (CEOREP). However, market pay position (PAYPOS) was not derived from 10-K reports but was directly calculated from the Compustat database.

The sample for this study was extracted from Compustat based on these criteria: a) 100 or more employees and b) \$50 million in sales as of 2007. The data cleaning process yielded a sample size of 987, from which 278 firms were selected for a matched pair design.

2.2. Study 1: The inoculating effect

The objective of Study 1 was to assess the extent to which an Emphasis on HR that is represented by HR index items enables the prediction of firms being classified as non-declining firms. I found general support for the inoculating effect through hierarchical logistic regression. The results showed that HR items such as HRIMPO, EMPREL, and WFRSUP consistently play a positive role in predicting a firm's classification as a non-declining firm. In addition, quantile regression showed that the main effect is more prevailing for firms that are performing relatively poorly in a lower quantile, which indicates that an Emphasis on HR could be a factor that helps firms avoid a declining stage. In addition, it was found that industry characteristics are not important factors influencing the strength of the main effect. Despite poor model fit of the SEM analysis, the significant results drawn from OLS/logistic regression and quantile regression are still meaningful, although more study is required for a better understanding of this phenomenon.

2.3. Study 2: The mitigating effect

The main research objective of Study 2 was to assess the mitigating effect: whether we can predict that firms with a stronger Emphasis on HR are

more likely to reduce their severity of decline as expressed by bankruptcy probability and length of decline. The results showed that the mitigating effect of HRIMPO, EMPREL, and WFRSUP was generally supported through both logistic regression and SEM analysis. In addition, quantile regression showed that the main effect of WFRSUP was greater for firms that are experiencing a more severe decline, which implies that WFRSUP helps firms experience less severe organizational declines. However, there is no consensus regarding the moderating effect of industry characteristics. In sum, the most important finding is that an Emphasis on HR could be a source for predicting the severity of a decline.

2.4. Study 3: The restoring effect

Finally, Study 3 examined the restoring effect: the extent to which an Emphasis on HR help declining firms overcome a decline. I found that there is general support for some main effects: HRIMPO and EMPSTA are significant predictors of the extent to which firm ROA is above the risk-free rate of return. In addition, HRIMPO, EMPREL, and ORGPAY are significant predictors of industry-adjusted ROA. In addition, there is no evidence of the moderation effect of industry characteristics. Finally, I found that there is no

mediation effect of an Emphasis on HR in 2004 in the relationship between an Emphasis on HR in 2001 and subsequent firm performance.

3. LIMITATIONS

Although this study provides interesting findings and helps to build a bridge between the strategic human resource management literature and strategic management literature, it is not free from a number of limitations. The limitations are listed below and also suggest ways in which future studies utilizing more sophisticated designs could provide additional insights into the relationship between HR and subsequent firm performance amongst firms in turnaround situations.

3.1. Cause of decline

One limitation to this study was the manner in which I selected the sample of declining firms based solely on declining financial performance without controlling for the cause of decline. Although it is important in the strategic management literature to identify the cause of decline in order to find effective ways to overcome a declining stage, I had to collect the sample without taking the cause of decline into consideration because I did not use a

survey method to collect information about how firms perceive their cause of decline. Examining the role of HR without taking the cause of decline into consideration may prevent us from fully understand the dynamic relationship between an Emphasis on HR and firm performance. However, to some extent, the exploration of industry munificence as a moderator and the use of industry-adjusted performance measure may help control for the cause of decline. It may be possible to assume that if relative firm performance (industry adjusted ROA) declines even if the firm belongs to a munificent industry, the decline could indicate that their poor performance is not derived from a hostile or poor external environment but is more likely to be associated with internal problems. Future research should continue to explore this issue.

3.2. Survival bias

The firms chosen for this study are ones that have been operational or surviving during the period of 1997 through 2007. Therefore, firms that went bankrupt before 2006 were excluded from the sample, which may indicate the problem of survival bias. For any future study, I would advocate including firms that have been dropped from the sample during the data collection time

frame in order to create a more dynamic sample. The use of censored regression may allow for answering additional interesting questions about the relationship between an Emphasis on HR and bankruptcy.

3.3. Cross-sectional time-series data

This study used data collection points that are common for every firm in the sample. For example, control variables for study 1 were created by calculating variables for the period of 1997 through 2001. HR items were measured at the same points, 2001 and 2004. Although the sample has a form of longitudinal data as we have different measuring points, it is still cross-sectional because firms appear in the sample only once. It is more desirable to create a panel data, or cross-sectional time-series data in order to enhance the generalizability of the research findings into different time frames. In addition, analyzing the relationship between an Emphasis on HR and firm performance in terms of long-term versus short-term may provide us with richer understanding of the phenomenon.

3.4. Internal consistency reliability

As mentioned earlier, reliability analysis showed a poor level of Cronbach's alpha, below .300 across all HR items, which indicated that an SEM analysis may not be a good analytic tool. In response, I created a number of blocks based on managerial concepts, without conducting an empirical approach such as an exploratory factor analysis or confirmatory factor analysis. Although I identified the most significant predictor of subsequent firm performance within each block through regression analysis, the classification criteria of the block were somewhat ambiguous because they depend on subjective judgment, which may hinder model fit of an SEM analysis. Future studies would contribute by considering more fully the psychometric and measurement issues associated with measuring HR policies and practices through content analysis such as employed here.

3.5. Inter-coder reliability

Inter-coder reliability was assessed only one time during the pilot study. Since the acceptable level of inter-coder reliability was achieved, the sample was randomly divided by two groups and each coder completed content analysis on each sample group. That means there were no multiple

assessments regarding inter-coder reliability during the main study. While coders achieved an acceptable level of inter-rater reliability and conducted the content analysis independent of each other and the researcher, there could be a potential problem of not having measured the inter-coder reliability multiple times.

3.6. Validity

The validity of HR information gathered through content analysis has not been proved. No attempt has been made to compare the result with a different measure of HR practices, which limits my interpretation to a certain extent. For example, I am not completely comfortable in arguing that the HR information I gleaned from my content analysis parallels surveys that obtain data describing actual HR practices. As discussed earlier, a 10-K may not accurately describe HR practices of the firm. Some information could have been exaggerated or omitted for a variety of reasons. Similar to Gerhart's (1999) discussion of the possibility of measurement error and bias in survey-based HR data, HR information collected through content analysis may also be less than factual and biased (Guthrie, 2001). Future studies will need to

provide additional evidence on the construct validity of measures of HR Emphasis obtained from content analyses.

3.7. HR item variation

HR information that can be extracted from the content analysis of a 10-K report is not rich enough to adequately describe a firm's entire system of HR policies and practices. In addition, most information in a 10-K report will be typically financially oriented; thus, HR-related information may display limited variance, constraining the richness of the data and resulting in the use of only three point rankings: 0, 1, or 2. The lack of HR information combined with this limited variance impedes the ability to detect significant relationships. For future research, it may be necessary to use more diverse sources to capture the extent to which firms place value on human resources.

3.8. Lack of mediation

Study models do not contain mediator variables that are argued to exist between HR information and subsequent firm performance. Therefore, the explanation for this study about the relationship is superficial and does not provide us with rich information such as why and how the relationship

exists. One of the critical tasks strategic human resource management has pursued is to understand the 'black box' standing between HR practices and firm performance. The discovery of mediating variables between an Emphasis on HR and firm performance would allow us to explain this relationship by making a stronger argument using the words 'impact' or 'causality.' The lack of mediators argues for constrained and conservative interpretation of study results.

3.9. Naïve assumption on linear relationship

One of the limitations on this study is the assumption of linear relationships. For example, this study assumed that firms with the lowest employment stability received the highest points by assuming that there is a positive (linear) relationship between employment stability and firm performance. However, it may be that either the highest level of employment instability or lowest level of employment is detrimental for managerial flexibility. For example, Brockner et al. have found an inverted-U shaped relationship between job insecurity and a survivor's work effort (1992). A similar result was found by Hitt et al., (2001) who analyzed the relationship between human capital and performance. Therefore, there could be an

optimum point of 'HR Emphasis' where firm performance is maximized.

Future work employing richer, more varied HR predictor variables may be able to test for curvilinear relationships.

4. CONCLUSION

In conclusion, despite these limitations, this research has the potential to make a contribution to both the SHRM and SM literatures because it delineates the role of HR in the turnaround process. In fact, the SHRM literature has not considered turnaround situations whereas the existing turnaround literature within strategic management has not fully considered HR as an organizational resource. In other words, HR has been treated as an extraneous or supernumerary player and not an important player in the story of organizational turnarounds. Thus, the question that I proposed was whether it is possible to achieve organizational health that fulfills the expectations of two competing positions: the financial and human resource management perspectives.

The results of my study generally support the inoculating, mitigating e, and restoring effects for HR. Findings imply a positive relationship between an Emphasis on HR and (1) the ability to avoid organizational decline, (2) a

“softer” decline and (3) an enhanced ability to exact and organizational turnaround. I believe this represents a meaningful step toward understanding the role of HR in the organizational turnaround process. Although extant studies have relegated HR to supernumerary status, the results of this dissertation suggest this treatment of HR is inappropriate. Instead, HR should assume the role of a supporting actor in research and practice focusing on organizational turnarounds.

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