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Volume Title: Shared Capitalism at Work: Employee Ownership, Profit and Gain Sharing, and Broad-based Stock Options

Volume Author/Editor: Douglas L. Kruse, Richard B. Freeman and Joseph R. Blasi, editors

Volume Publisher: University of Chicago Press

Volume ISBN: 0-226-05695-3

Volume URL: <http://www.nber.org/books/krus08-1>

Conference Dates: October 6-7, 2006

Publication Date: April 2010

Chapter Title: Who Has a Better Idea? Innovation, Shared Capitalism, and Human Resources Policies

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Chapter URL: <http://www.nber.org/chapters/c8092>

Chapter pages in book: (225 - 253)

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# Who Has a Better Idea?

## Innovation, Shared Capitalism, and Human Resources Policies

Erika E. Harden, Douglas L. Kruse, and Joseph R. Blasi

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### 7.1 Introduction

Even in today's challenging economic conditions, innovation as a means for organizations to create and maintain a competitive advantage remains a strategic imperative (Mahroum 2008). Organizations that are able to continually generate innovative products and services are better able to retain their current customer base and develop a new customer base.

Unlike the traditional view of innovation as the activity performed by the lone R&D scientist working in isolation, today's organizations embrace the ideas and insights of employees at all levels of the organization. For example, Whirlpool credits their recent successful product innovations not to a couple of departments, such as engineering or marketing. Instead, they contribute their success to the 61,000 employees who have the ability to contribute and develop product, service, or processes innovations (*Business Week* 2006).

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Presented at the Russell Sage/NBER conference in New York City, October 2006. We thank Katherine Klein and other participants for valuable comments. This research is supported by a grant from the Russell Sage Foundation and the Rockefeller Foundation. The National Opinion Research Center at the University of Chicago provided valuable assistance with the General Social Survey segment that forms the basis for some of the analysis. Refen Koh, Rhokeun Park, Michelle Pinheiro, and Patricia Berhau provided excellent assistance in survey scanning, entry, and verification.

Given the new organizational context for innovation, it is important to understand how employees at all levels of the organization can be managed to direct and align their behaviors to achieve innovative outcomes. For example, Annalee Saxenian, in her seminal work on organizational innovation, contrasts two traditional innovation hubs of America: Silicon Valley in California and Route 128 surrounding Boston. Her work indicates that two management practices, organizational structures and rewards, were critical to accounting for differences in innovation output. Silicon Valley spawned innovation through shared capitalism and the use of teams, while innovation in the Boston corridor was stymied by bureaucratic top-down approaches to organizational structure and rewards.

Likewise, in their book *In the Company of Owners*, Blasi, Kruse, and Bernstein (2003) examined in detail one innovation sector, the 100 largest corporations that built, run, and sell on the Internet. They highlight the major role that shared capitalism practices in combination with a participative culture can make in promoting organizational innovation.

Recognizing the importance of innovation for today's organizations, this study will examine the role shared capitalism and high performance work policies play as a means to achieve innovation outcomes. Additionally, we will examine a process mechanism, employee alignment, as one way in which shared capitalism and high performance work policies impact innovation outcomes.

## 7.2 Literature Review

### 7.2.1 Can Shared Capitalism Promote Innovation?

Despite the numerous studies on performance effects of shared capitalism, there are only a few studies that discuss or examine the importance of shared capitalism in achieving product, service, or process innovations.

Gamble (2000) finds reduced R&D expenditures in firms where Employee Share Ownership Plans (ESOPs) own larger blocks of stock and argues that this reflects management entrenchment and managerial risk aversion; in contrast, Kruse (1996) finds that R&D expenditures are a strong predictor of the use of a profit-sharing plan, and Sesil et al. (2002) find positive effects of broad-based stock options in high technology knowledge-based industries, noting that "for firms, in which new product development is crucial for success, such as in many knowledge-based industries, broad-based stock options can reduce the agency problem, resulting in greater output" (276). Most recently, and supporting Sesil et al.'s perspective, Lerner and Wulf (2006), using a sample of 300 publicly-traded R&D centralized firms, found that the compensation of corporate R&D heads had dramatically shifted in the 1990s, with a heavier reliance on long-term incentives such as stock options. They find long-term incentives are positively and significantly

associated with the number of patent filings, patents' perceived value (patent citations), and patent generality.

While research that examines the role of shared capitalism as a means to achieve innovation outcomes is in its infancy, social and behavior psychologists have actively examined the impact of individual rewards on creative behavior (Amabile 1988; Amabile and Gryskiewicz 1989; Deci and Ryan 1985; Eisenberger and Selbst 1994). Thus, we briefly present empirical evidence and theoretical perspectives from the social and behavioral schools of psychology.

Social-cognitive psychologists assert that creative behavior has defining characteristics that make it distinguishable from other human behavior; in particular, creative behavior is dependent on employees' intrinsic motivation (Amabile 1988; Deci and Ryan 1985). Thus, the aim for social-cognitive psychologists is to uncover the conditions that enhance employee's intrinsic motivation. According to this line of reasoning, extrinsic rewards, such as shared capitalism, will have a detrimental effect on employee's intrinsic motivation and ultimately their creative behavior by directing employee's attention toward the reward itself over the task at hand.

In contrast, behavioral psychologists argue that the effort needed to complete activities is an unpleasant sensation produced by repeated or intense performance of any behavior. Reinforcements, such as rewards, are a means by which organizations can reduce this unpleasant sensation. If an employee is rewarded for putting in a large amount of effort in an activity or behavior (for example, through shared capitalism) it reduces the adverse impact of such behaviors and increases this behavior in the future. In effect, reinforcements work to control employee's creative behavior by decreasing the unpleasant sensations associated with the cognitive effort needed to perform creativity.

Empirically, an abundance of studies in the past thirty years have been conducted to understand if and under what conditions rewards enhance or inhibit creative behavior, with contradictory results and conclusions. Recognizing the conflicting evidence, five meta-analyses aimed to bring cohesion to the divergent results (Rummel and Feinberg 1988; Wiersma 1992, Tang and Hall 1995; Cameron and Pierce 1994; Eisenberger and Cameron 1996; Deci, Koestner, and Ryan 1999). Of the five, the strongest support for the Cognitive Evolution Theory comes from Deci, Koestner, and Ryan (1999), who combined 128 studies to find that all tangible and intangible rewards undermined intrinsic motivation. However, conclusions from Eisenberger and Cameron's (1996) extensive review indicate that: (a) the detrimental effects of rewards tend to occur in highly restricted, easily avoidable conditions; (b) mechanisms of instrumental and classical conditions are basic for understanding the incremental and detrimental effects of rewards on task motivation; and (c) the positive effects of rewards on performance are easily attainable using procedures derived from behavioral theory.

Taken together, past theory and empirical work on creativity and rewards has failed to provide an understanding of how best, if at all, to reward employees to achieve creative behavior. Additionally, the application of this research to organizational setting is restricted. First, the majority of studies in this field have been conducted outside of organizations and relied heavily on schoolchildren, making the generalizability of these findings limited. Second, organizations are increasingly employing group/team or organizational incentives over individual incentives as a means to encourage cooperation and alignment (Blasi and Kruse 2006). Thus, studies examining individual incentives provide only a limited understanding of the full range of workplace incentives. Third, the sample sizes of the aforementioned studies are generally small. For example, of the 128 studies examined in Deci, Koestner, and Ryan's (1999) meta-analysis the largest sample was 249 employees, with the majority of sample sizes well under 100 employees. While significant effects can often be detected with these sample sizes (depending on the study design), a contribution of this study to the current literature is the large sample size obtained in an organizational setting (more than 25,000 employees in hundreds of work sites) with data on several types of workplace incentives.

### 7.2.2 Can Employment Practices Promote Innovation?

In contrast to the limited research on organizational incentives, innovation management scholars have actively researched individual human resource management policies that impact innovation outcomes, including job design (Hackman and Oldham 1980), selection (Woodman, Sawyer, and Griffin 1993; Iansiti 1995), training (Wheatley, Anthony, and Maddox 1991), and performance management (Mehr and Schaver 1996). Mumford (2000) reviews an extensive body of literature examining specific human resource management policies that support innovation and creativity. Building on this review, the following sections summarize the management policies that are supportive of innovation and creativity in organizations.

#### *Selection*

The consistent development of innovative products, services, and processes requires a workforce with the necessary breadth and depth of technical skills (Amabile and Gryskiewicz 1989; Iansiti 1995), in combination with a constant flow of new ideas and experience (Bontis, Crossan, and Hurland 2002; Jackson and Schuler 2002). Staffing practices work as a means to ensure a consistent flow of technical skills, by identifying and selecting applicants who will add new ideas and experience to the organization. Researchers have examined the employee characteristics supportive of innovation: divergent thinking (Guilford 1950), technical expertise (Amabile and Gryskiewicz 1989; Mumford 2000), and certain personality characteristics (Amabile 1988; King 1990).

### *Training and Job Rotation*

Maintaining employees' current knowledge and skills, while developing new knowledge and skills, is essential to innovative performance (Cohen and Leventhal 1990; Mumford 2000). Two HR policies vital to maintaining and developing employees to achieve innovative outcomes are training and development (Leonard-Barton 1992). A firm's potential to be innovative and creative is enhanced as the new knowledge and abilities are incorporated into the organization (Jackson and Schuler 2002; Cohen and Leventhal 1990). Thus, past research has noted the importance of sabbaticals, subtracting assignments, self-study programs, conferences, external courses, and job rotations as important mechanisms to enhance an organization's ability to innovate (Dougherty 1992; Mumford 2000; Christensen and Raynor 2003; Amabile 1983).

### *Performance Management*

Performance evaluations have been both negatively and positively associated with individual innovation and creativity (Amabile 1979; Shalley 1995). For instance, Amabile (1979) found that individuals who expected their artistic task to be externally evaluated had significantly lower levels of creativity on the task than individuals not being externally evaluated. In contrast, Shalley (1995) conducted two studies with samples of undergraduate students; the results of both studies indicate that expecting an evaluation is not necessarily harmful to people's creativity. The variance in empirical evidence may be explained by the type of performance evaluation. Performance appraisals should not have specific performance objectives or difficult production outcomes (Mumford 2000; Oldham 2003). Instead, appraisals are most conducive to creativity when they consist of broadly defined goals and objectives that allow employees flexibility as to what the final outcome will be (Mumford 2000).

### *Rewards (Recognition)*

As mentioned before, evidence for the impact of individual rewards on creative behavior is mixed. However, for those researchers who support the role of rewards or recognition (both intrinsic and extrinsic) for creativity, other questions remain, such as the skills, behaviors, or outcomes that should be rewarded. For instance, Henderson and Cockburn (1994) in their investigation of the pharmaceutical industry suggest firms that promote researchers according to their standing in the scientific community enjoyed higher productivity levels. Additionally, rewards should not be withheld from employees who step out of established roles or fail to achieve desired outcomes. Instead, a better approach is to reward employees for their effort or progress toward an innovation/creative goal or objective (Mumford 2000). Finally, Dougherty (1992), after extensive field research on product devel-

opment, suggests that rewards should be provided for the development of expertise, skills, and competencies. Thus, beyond compensation, other forms or rewards and recognition can be used to enhance creative behavior.

### *Employee Involvement*

Empowering employees and utilizing teams are two mechanisms through which employee participation can enhance organizational innovation (Mumford 2000). Christensen and Raynor (2003) in a recent book argue that successful product innovation requires big decisions to be driven down to the lowest level. They reason that decisions about products, services, and processes innovations should be made on the spot, instead of waiting for a response from further up in the organization. Additionally, Jelinek and Schoonhoven (1990) note that employee involvement helps employees to see their part in the innovation process while creating a shared responsibility in the outcome. Supporting this, Leonard-Barton (1992), in her study of innovative projects groups, found that empowerment is most important for innovative capabilities. Those project teams who were empowered felt “exhilarated by the challenges they had created” (117).

### *Teamwork*

The use of team-based work is a popular mechanism for enhancing innovation. Innovations involve different types of tasks and processes, and thus are rarely the creation of one individual or a single department. Team-based work has been argued to increase the speed of product innovation (Hayes, Wheelwright, and Clark 1988), the number of innovations (Dougherty 1992), and the value of the innovation (Ven de Ven 1986). For example, Clark and Fujimoto (1991) conducted a qualitative study where they found that the use of cross-functional teams is central to the product development process. Additionally, effective product development was not housed in solely specialized R&D activities; instead, the most effective product development came from creating linkages between various departments within the organization. Thus, the use of teams enhances product innovation through the diversity of knowledge (Cohen and Levinthal 1990).

### *Systems Perspective*

While the aforementioned policies appear to be valuable for innovation, recent work recognizes the importance of examining Human Resource Management (HRM) policies as a bundle or system of policies as opposed to individual policies in isolation (MacDuffie 1995; Huselid 1995; Ichniowski et al. 1996; Blasi and Kruse 2006). A central tenet of the systems approach is that organizations should create a high degree of internal consistency among their HRM policies (Baird and Meshoulam 1988). Systems of HRM policies that are designed to utilize the knowledge and skills of the workforce have been labeled as “high performance,” “high involvement,” “high commitment,” “HR sophistication,” and “HR investment.”

Interestingly, there is wide disagreement on what policies constitute “high performance.” A recent review by Lepak et al. (2006) highlights the disparate and at times conflicting policies making up high performance systems. While disagreement remains over the policies represented in a “high performance” work system, it is generally agreed that a high performance work system (HPWS) can impact various organizational outcomes. Collectively, twenty years of cumulative research has found HPWS are strongly associated with outcomes including HRM outcomes (i.e., turnover, absenteeism, job satisfaction); organizational outcomes (i.e., productivity, quality, service); financial accounting outcomes (i.e., ROA, profitability); and capital market outcomes (i.e., stock price, growth, returns) (Combs et al. 2006; Becker and Huselid 2006).<sup>1</sup>

As previously noted employee knowledge and skills are critical to achieving innovation outcomes. Thus, it is surprising that the systems approach has had limited application to innovation outcomes. Studies of high performance workplace bundles have so far tended to focus on operational or financial performance without measures of innovation. Given the limited empirical evidence, our study seeks to fill this gap by examining the impact of HPWS on innovation outcomes.

Taken together, the limited empirical work examining the effects of shared capitalism and HPWS on innovation outcomes represents a gap in the literature that needs to be addressed. Our interest is to examine the relationship between shared capitalism, HPWS, and innovative outcomes, in addition to the intervening mechanisms that uncover how these relationships occur. The following theory and hypotheses development provides the rationale for why we expect these relationships to occur.

### 7.3 Theory and Hypotheses

Laffont and Martimort (2002) describe the principal-agent problem as a fundamental one for the firm: “Indeed, for various reasons the owner of the firm must delegate several tasks to the members of the firm. This necessity raises the problem of managing information flows within the firm. . . . The starting point of incentive theory corresponds to the problem of delegating a task to an agent with private information” (2002, 2–3). For the purposes of this article, one can think of the problem of innovation as how to get the members of the firm interested in working alone or together to use their information to achieve innovation that will profit the owner of the firm. They cite the early work of both Chester Barnard and Charles Babbage in defining the relevance of shared capitalism for the agency problem. For example, Babbage wrote:

1. Despite these positive performance outcomes, bundles of high performance workplace policies appear to have very low incidence among firms (Blasi and Kruse 2006). See Ichniowski et al. (1996) regarding the barriers to adoption of high performance policies.



“The general principles on which the proposed system is founded, are: 1. That a considerable part of the wages received by each person should depend on the profits made by the establishment; and 2. That *every person* (our emphasis) connected with it should derive more advantage from applying any improvement he might discover than he could by any other course.” (Laffont and Martimort 2002, 11 [quoting Babbage 1989, vol 8, 177])

One can readily see that Babbage is specifically addressing both shared capitalism and innovation (“any improvement”). Barnard’s views were more explicit and more extreme when he wrote:

“An essential element of organizations is the willingness of persons to contribute their individual efforts to the cooperative system. . . . Inadequate incentives mean dissolution, or changes in organizational purpose, or failure to cooperate. Hence in all sorts of organizations the affording of adequate incentives becomes the most definitely emphasized task in their existence. It is probably in this aspect of executive work that failure is most pronounced.” (Laffont and Martimort 2002, 12 [quoting Barnard 1938, 139])

The research on the effect of individual incentives on innovation is mixed, as previously noted, while the research on teamwork generally shows it to be positively related to innovation efforts. One of the purposes of shared capitalism plans is to enhance teamwork by creating greater cooperation and information sharing among co-workers, and between workers and supervisors/managers. Based on this our first two hypotheses are:

*HYPOTHESIS ONE: Shared capitalism incentives are associated with a workplace culture that is supportive of innovation efforts.*

*HYPOTHESIS TWO: Shared capitalism incentives are associated with a greater willingness of employees to report innovative ideas.*

In line with our interest in exploring the impact of employment culture—specifically high performance work systems—on innovation, past theorists have given some thought to the role of organization design as a complement to incentives.

For example, Barnard virtually defined the high performance work system when he wrote about what Laffont and Mortimort call “nonmonetary incentives” as including: “personal nonmaterial opportunities; ideal benefactions; . . . associational attractiveness; adaptation of conditions to habitual methods and attitudes; opportunity of enlarged participation; [and] the condition of communion.” Barnard stressed that what we think of as financial incentives had to be “reinforced by other incentives,” specifically referring to these organizational components (Laffont and Martimort 2002, 12 [quoting Barnard 1938, 142]).

In a modern economy where workers are often not manipulating physical objects, much of work itself is inside the mind of the worker and is about

collecting, communicating, sharing, manipulating, and combining information in novel and innovative ways. Physical monitoring by supervisors as a solution to the agency problem is very hard in these environments. Many of the features of high performance work systems that theorists like Huselid have defined as essential to innovations are based on information. A number of these high performance policies can create conditions that favor innovation: good wages and benefits can produce high commitment and loyalty; selective recruitment can get the most informed and curious persons into an organization; training can upgrade their informational and cooperative skills; teamwork and job rotation can break down “rigid silos” between them; and employee involvement can bring them closer to the information that both customers and management possess. This is not dissimilar from the classic agency theory notion of the “revelation principle” in which societies have a problem in how to get “informed agents (to) reveal private information to a planner who recommends actions” (Laffont and Martimort 2002, 26–7). One can conceive of a high performance work system as a workplace mechanism to make the revelation principle work.

Based on the theory and research linking high performance work systems to organizational performance, we expect that an HPWS will also contribute to an innovative culture and activity, and will complement shared capitalism plans. Our next four hypotheses are:

*HYPOTHESIS THREE: High performance work systems are associated with a workplace culture that is supportive of innovation efforts.*

*HYPOTHESIS FOUR: High performance work systems are associated with a greater willingness of employees to report innovative ideas.*

*HYPOTHESIS FIVE: Shared capitalism plans have a positive interaction with high performance work systems in predicting a workplace culture that is supportive of innovation efforts.*

*HYPOTHESIS SIX: Shared capitalism plans have a positive interaction with high performance work systems in predicting willingness of employees to report innovative ideas.*

Finally, we expect that if the aforementioned effects exist, they operate in part through greater alignment of employees with the company’s strategy. Our final two hypotheses are:

*HYPOTHESIS SEVEN: Individual alignment with company strategy mediates the relationship of shared capitalism and high performance work systems to a workplace culture that is supportive of innovation efforts.*

*HYPOTHESIS EIGHT: Individual alignment with company strategy mediates the relationship of shared capitalism and high performance work systems to the willingness of employees to report innovative ideas.*

## 7.4 Data and Methods

### 7.4.1 Data Set

This chapter uses employee surveys from one large company in the NBER data set (described in “Studying Shared Capitalism” in the introduction to this volume). Unique to this company, the survey asked a series of questions about organizational innovation. The survey was administered in 2006 via paper and web-based administration in one firm. A total of 27,825 usable surveys were returned for a response rate of 67.3 percent. Missing data for one or more of the variables reduced the sample to 25,014 respondents who had complete data for all of the variables.

### 7.4.2 Measures

#### *Human Resource Management*

The 5-P model (Schuler 1992) identifies the various ways in which HRM activities can be examined: as philosophies, policies, programs, practices, or processes. This study will examine HRM policies and practices.

Policies, as defined here, are the broadly defined HRM activities. For example, performance-based pay is a broadly defined measure of an HRM activity, but it can be implemented through a number of different practices. By assessing HRM policies, a researcher is able to cast a wide net in understanding the HRM activities within the organization. However, HRM policies limit the detailed information on what specific practices make up a policy.

Alternatively, HRM practices are the specific HRM activities that are employed to implement an HRM policy. For example, under the policy of pay-for-performance there are different HRM practices that can be employed to achieve the pay-for-performance policy. Assessing specific HRM practices provides a level of detail missed by HRM policies. In this study, the primary interest is the impact of shared capitalism, and its various forms, as a means to achieve innovation outcomes. Thus, we examine the individual shared capitalism practices and a combined shared capitalism index that can be utilized to achieve innovation outcomes, discussed in more detail following.

We examine two systems of HRM policies. First, we analyze a *high performance work system* (HPWS), which includes employee participation, training, job rotation or cross-training, selection, job security, and information sharing. The majority of questions (listed in appendix A) ask the respondent to report if she or he is covered by this policy. Second, a high performance work system measure was included that asked employees their perceptions of the *effectiveness* of each high performance policy for their work area or team. This measure thus localizes and focuses the estimation

of the high performance practices within the group of workers immediately surrounding the respondent. This is notable, since most HRM scholars do not bring high performance work literature down to the lowest level of the organization (notable exceptions include Allen, Shore, and Griffith [2003] and Zacharatos, Barling, and Iverson [2005]). In particular, this index measures team effectiveness in the following areas: selection, performance goals, training, sharing information, meeting with customers, and rewards. This human resource policy index is referred to as *high performance work system-team* (HPWST).

### *Shared Capitalism*

As noted previously, shared capitalism appears in a variety of forms. This study examines *profit/gain sharing*, *employee ownership*, and *stock options*. Profit sharing and gain sharing are combined here because this firm has one program combining elements of each: bonus payments are based both on company-wide return on net assets, and on division performance. In addition, we examine the effects of individual incentives. For each incentive plan, the presence of the incentive (yes/no) and the extensiveness of the incentive (as a percent of total fixed annual pay) are examined. Additionally, a thermometer-style *index of shared capitalism* was constructed. The index, described in appendix B, reflects both whether workers have different shared capitalism programs and whether these programs represent a high percentage of the worker's fixed annual pay.

### *Workplace Outcomes*

After consulting with the research literature, two comprehensive measures of innovation were designed. The first is focused on measuring aspects of a firm's *culture for innovation*. According to organizational theory on creativity, employees' innovative behavior can be influenced by the environment or culture an employee encounters (Amabile 1988). Thus, an important outcome to understand is a culture that supports innovative behavior. An extensive review of the literature on cultures that support innovation revealed consistent characteristics across cultures that support innovation. For example, companies can promote innovation by fostering an environment that encourages employees to voice ideas or suggestions, provides the resources to further develop ideas, and recognizes the efforts of employees who do try to innovate (Scott and Bruce 1994). Given the past literature, our study examines the characteristics listed previously. The specific items for the culture of innovation scale are listed in appendix A.

The second measure focuses on individual employee's willingness to marshal their *innovative ideas* and do something about it. Innovative behavior is characterized by a multistage process, with different activities or behaviours necessary at each stage (Scott and Bruce 1994). In this study, we examine an employee's ability and willingness to generate ideas, as opposed to their

actual innovative behavior. Specific items developed to assess employee willingness to innovate are listed in appendix A.

Finally, we examine the extent to which employees are aligned with the goals and objectives of the organization (Huselid, Becker, and Beatty 2005). Aligning employees with organizational goals and objectives has become an increasingly important task; especially in organizations where employees' knowledge and skills play a critical role in achieving strategic objectives, such as innovation. It is through alignment that employees are aware of how they can contribute to achieving organizational objectives. Much of the work arguing for the importance of aligning employees behind shared goals and objectives has been at a conceptual level (Wright and McMahan 1992; Boswell and Wright 2002). Thus, this research contributes to the current literature by going beyond the importance of aligning HRM policies to organizational strategy (Huselid 1995). It looks deeper into the organization for how employees, the individuals who implement strategic objectives, recognize and agree with them. Our interest is to examine if and to what extent shared capitalism and high performance work policies are effective means to align a workforce behind organizational objectives. Our measure combines four items representing employee understanding and agreement with the company strategy, and employee views of whether the company provides the resources and culture necessary to implement that strategy.<sup>2</sup>

## 7.5 Empirical Results

### 7.5.1 Culture for Innovation

Table 7.1 summarizes the empirical results on the relationship between shared capitalism, high performance work policies, and employees' perception of a culture for innovation.

#### *Shared Capitalism*

In models (1), (3), and (5) we examine the impact of the shared capitalism index on employees' perception of a culture for innovation. The results reveal that the shared capitalism index is positively related to employees' perception of a culture for innovation (model [1]). The shared capitalism index remains positively related when HPWST is added to the equation (model [5]), but not when HPWS is added (model [3]), so there is only partial support for hypothesis one.

When the shared capitalism practices are broken out to examine their individual impact on employees' perceptions of a culture for innovation (models [2], [4], and [6]), two shared capitalism practices are consistently related to employees' perceptions of a culture for innovation: the percentage

2. We thank Mark Huselid for insightful comments and suggestions on developing the employee alignment scale.

**Table 7.1 Predicting a culture for innovation**

Independent variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Shared capitalism index	0.013 (0.003)***		0.000 (0.003)		0.011 (0.003)***	
Bonuses						
Profit/gain sharing		-0.008 (0.013)		-0.038 (0.012)***		0.009 (0.012)
Profit/gain sharing as % of base pay		0.291 (0.070)***		0.174 (0.067)***		0.176 (0.065)***
Individual bonus		0.071 (0.017)***		0.042 (0.017)**		0.037 (0.016)**
Individual bonus as % of base pay		0.007 (0.102)		0.064 (0.098)		0.043 (0.095)
Employee ownership						
Any employee ownership		0.039 (0.012)***		0.023 (0.011)**		0.027 (0.011)**
Employee-owned stock as % of pay		-0.005 (0.010)		-0.010 (0.010)		0.000 (0.010)
Stock options						
Stock option holding		0.031 (0.031)		0.039 (0.029)		0.015 (0.028)
Stock option value as % of base pay		0.045 (0.031)		0.055 (0.029)*		0.038 (0.029)
High performance work policies						
HPWS			0.806 (0.016)***	0.802 (0.016)***	0.180 (0.003)***	0.179 (0.003)***
HPWST						
<i>n</i>	26,364	25,832	26,361	25,830	25,977	25,458
Adjusted <i>R</i> <sup>2</sup>	0.054	0.058	0.134	0.137	0.184	0.186

*Notes:* All regressions include controls for country (twenty-two dummies), occupation (five dummies), mgmt. level (three dummies), hourly pay status, supervisory status, tenure in years, hours worked per week, union status, age, gender, marital status (two dummies), family size, college graduate, graduate degree, number of kids, race (four dummies), disability status, ln(fixed pay), and company fixed effects. Standard error in parentheses.

\*\*\*Significant at the 1 percent level.

\*\*Significant at the 5 percent level.

\*Significant at the 10 percent level.

of base pay going to profit/gain sharing, and owning company stock. These results stay strong when adding in either the HPWS or HPWST measure, supporting hypothesis one for these two pay practices.

### *High Performance Work Policies*

A very consistent result in models (3) through (6) is the strong positive association between human resource management policies and employees' perceptions of a culture for innovation. An examination of adjusted  $R^2$  with and without the human resource practices indicates that these practices greatly increase our ability to account for what might create a culture for innovation. These results support hypothesis three and underline the important role high performance policies have in creating and supporting a culture for innovation where employees are encouraged to innovate, are rewarded for this, and are provided the resources to do so.

#### 7.5.2 Innovative Ideas

Table 7.2 summarizes the empirical results on the relationship between shared capitalism, high performance work policies, and employees' willingness and ability to innovate.

### *Shared Capitalism*

In models (1), (3), and (5) we report the impact of the shared capitalism index on employees' willingness and ability to contribute innovative ideas to the organization. The results, consistent with those reported for a culture for innovation, find that those employees who reported higher levels of shared capitalism also reported higher willingness and ability to contribute innovative ideas to the organization. These results remained significant after including measures of high performance work policies, supporting hypothesis two.

When the shared capitalism policies are broken out in models (2), (4), and (6), employee ownership is again a significant positive predictor of employees' willingness and ability to contribute innovative ideas to the organization. Unlike the results for culture of innovation, however, profit/gain sharing as a percent of pay is not a significant predictor, and in fact profit/gain sharing eligibility is a negative predictor in two of the models. These latter results contrast strikingly with the positive results for employee ownership, suggesting that profit sharing may focus workers toward short-term outcomes and away from activities with a long-term payoff, while employee ownership helps promote behavior like innovative activity that will have a longer-term payoff.<sup>3</sup> This is because profit sharing in the organization under study

3. This interpretation was supported by several company representatives at the conference where this chapter was initially presented. One person noted that ROI, which stands for return on investment, was sometimes referred to by employees as "repression of innovation" because a focus on short-term profitability discourages investments in innovative activities that have a longer-term payoff.

**Table 7.2 Predicting innovative ideas**

Independent variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Shared capitalism index	0.012 (0.003)***		0.006 (0.003)**		0.012 (0.003)***	
Bonuses						
Profit/gain sharing		-0.027 (0.014)*		-0.039 (0.014)***		-0.020 (0.014)
Profit/gain sharing as % of base pay		-0.005 (0.078)		-0.057 (0.078)		-0.032 (0.078)
Individual bonus		0.040 (0.020)**		0.027 (0.019)		0.033 (0.019)*
Individual bonus as % of base pay		0.221 (0.114)*		0.248 (0.114)**		0.224 (0.114)**
Employee ownership						
Any employee ownership		0.072 (0.013)***		0.065 (0.013)***		0.070 (0.013)***
Employee-owned stock as % of pay		0.008 (0.011)		0.005 (0.011)		0.009 (0.011)
Stock options						
Stock option holding		-0.026 (0.034)		-0.022 (0.034)		-0.028 (0.034)
Stock option value as % of base pay		-0.012 (0.034)		-0.009 (0.034)		-0.018 (0.034)
High performance work policies						
HPWS			0.350 (0.019)***	0.347 (0.019)***	0.042 (0.003)***	0.041 (0.003)***
HPWST						
<i>n</i>	26,252	25,728	26,249	25,726	25,875	25,362
Adjusted <i>R</i> <sup>2</sup>	0.146	0.148	0.156	0.158	0.149	0.151

*Notes:* All regressions include controls for country (twenty-two dummies), occupation (five dummies), mgmt. level (three dummies), hourly pay status, supervisory status, tenure in years, hours worked per week, union status, age, gender, marital status (two dummies), family size, college graduate, graduate degree, number of kids, race (four dummies), disability status, ln(fixed pay), and company fixed effects. Standard error in parentheses.

\*\*\*Significant at the 1 percent level.

\*\*Significant at the 5 percent level.

\*Significant at the 10 percent level.



specifically rewards employees for productivity and operational achievements (such as on-time customer delivery) of delivering current goods and services, which the organization sees as part of its existing repertoire of offerings. Profit sharing is not, however, tied to ideas or prototypes for future goods and services.

### *High Performance Work Policies*

The impact of high performance work policies on employees' willingness and ability to contribute innovative ideas to the organization is reported in models (3) through (6). The results, across all models, reveal a consistent and significant positive relationship between both high performance work policy indexes and employees' willingness and ability to contribute innovative ideas to the organization. Given these results, support was provided for hypothesis four. Taken together, these results can be interpreted to signify that the use of high performance work policies is one way to increase employees' willingness and ability to contribute innovative ideas to an organization.

An interesting note is that in comparison to the HPWS impact on a culture for innovation, it appears that the HPWS impact is not as substantial for willingness and ability to contribute innovative ideas. We speculate that an employee's ability to contribute innovative ideas may be accounted for by individual differences not captured in this study. For example, divergent thinking (Guilford 1950), openness to new experience (Feist 1998), and internal locus of control (Woodman and Schoenfeldt 1989) have all been related to highly innovative or creative individuals.

### 7.5.3 Complementarities between Human Resource Policies and Shared Capitalism

An important proposition of the systems perspective is that organizational outcomes will be enhanced to the extent that a firm's human resource management activities fit with and complement one another (Baird and Meshoulam 1988). The underlying rationale is that the more strongly human resources fit together, the more consistent are the signals communicated to employees regarding the behaviors that are valued by the organization (Becker and Huselid 1998). While fit can be tested using various statistical techniques (Venkatraman 1989), we employ a fit-as-moderation hypothesis, testing whether the impacts of shared capitalism on innovation outcomes are dependent on the level of high performance work policies. Stated differently, we expect that the impact of shared capitalism on employees' perceptions of a culture for innovation vary across levels of high performance work policies. To examine this, an interaction term was included in table 7.3 (models [1] and [2]).

The results indicate that shared capitalism does interact positively and significantly with both HPWS and HPWST and provides support for hypothesis five. The fit between shared capitalism and HPWST was positively related to employees' perception of a culture for innovation. Likewise, the

**Table 7.3** Interactions between shared capitalism and high performance work policies in predicting innovation outcomes

Independent variable	Culture for innovation		Innovative ideas	
	Model 1	Model 2	Model 3	Model 4
Shared capitalism index	-0.007 (0.005)	-0.023 (0.007)***	0.028 (0.006)***	0.032 (0.009)***
HPWS	0.768 (0.027)***		0.463 (0.031)***	
HPWST		0.161 (0.005)***		0.053 (0.006)***
Shared capitalism index				
*HPWS	0.015 (0.009)*		-0.045 (0.010)***	
*HPWST		0.007 (0.002)***		-0.004 (0.002)**
<i>n</i>	26,361	25,977	26,250	25,875
Adjusted <i>R</i> <sup>2</sup>	0.134	0.185	0.157	0.149

*Notes:* All regressions include controls for country (twenty-two dummies), occupation (five dummies), mgt. level (three dummies), hourly pay status, supervisory status, tenure in years, hours worked per week, union status, age, gender, marital status (two dummies), family size, college graduate, graduate degree, number of kids, race (four dummies), disability status, ln(fixed pay), and company fixed effects. Standard error in parentheses.

\*\*\*Significant at the 1 percent level.

\*\*Significant at the 5 percent level.

\*Significant at the 10 percent level.

interaction between shared capitalism and HPWS was positive and marginally significant. To further help with interpretation, the interaction results are portrayed in figure 7.1 (using table 7.3, model [2]). As seen there, shared capitalism has the most positive relationship to innovation culture when HPWST is at high levels, with a mild positive relationship when HPWST is at average levels. The relationship is negative when HPWST are at low levels, indicating that employees may perceive the innovation culture poorly when they are given the incentives, but not the tools, to make a difference—in this case the shared capitalism may be perceived as primarily a shifting of financial risk to employees.

There are very different results, however, in predicting willingness or ability to innovate. As reported in table 7.3 (models [3] and [4]) we find that while the base effects are positive and significant, the interaction between the shared capitalism index and high performance work practices is negative and significant for both HPWS and HPWST. These results indicate that when employees are covered by high performance work practices, the impact of shared capitalism policies on their willingness and ability to innovate for the organization is reduced. Put another way, the positive base effects and negative interaction indicates that these two constructs may substitute for each other: the base effect shows that shared capitalism has a positive effect on innovative activity for those who are not covered by HPWS, but shared capitalism has a much smaller or neutral effect for those who are covered by HPWS. An HPWS appears to provide a strong effect on its own, perhaps making unnecessary the addition of shared capitalism incentives.

To further help with interpretation, the interaction results are portrayed in figure 7.2 (using table 7.3, model [4]). Shared capitalism has a strong positive association with innovative ideas for workers with low values on HPWST, and only a mild positive association when HPWST is at high levels. These illustrate the point made before: high performance work policies and shared capitalist incentives may act somewhat as substitutes here, with shared capitalism providing the strongest incentives for contributing ideas among those who have not been encouraged to contribute ideas through high performance work policies.

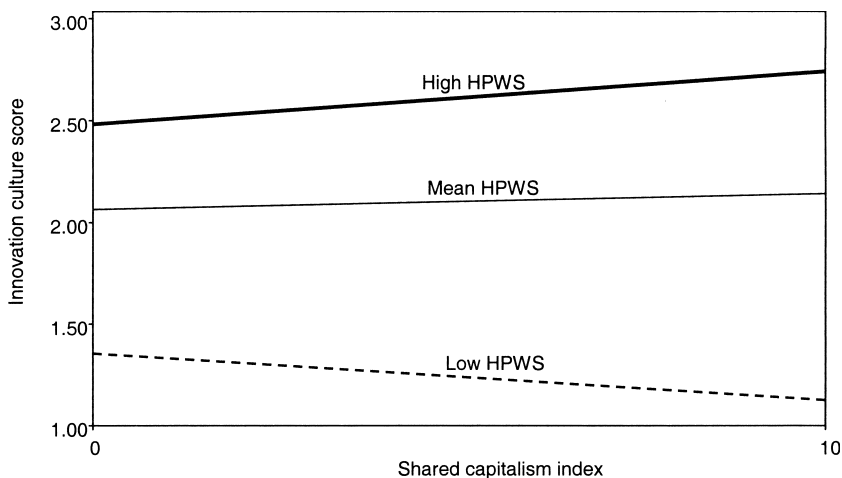


Fig. 7.1 Innovation culture, shared capitalism, and high performance work systems

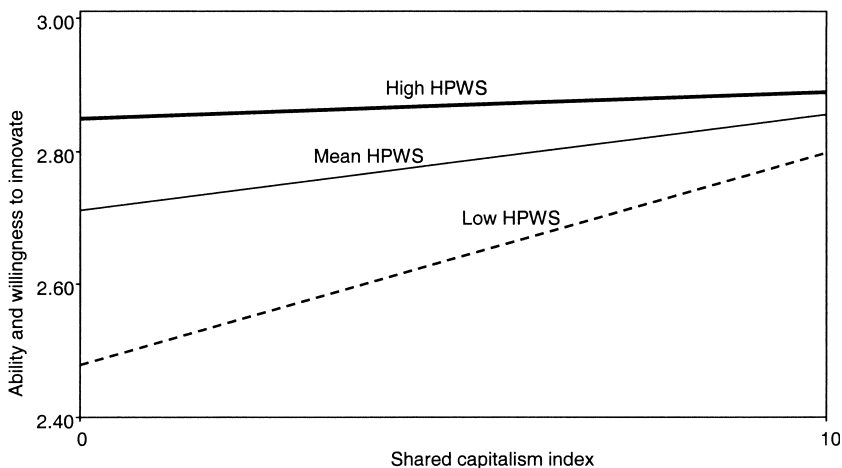


Fig. 7.2 Innovation ideas, shared capitalism, and high performance work systems

#### 7.5.4 Alignment

Table 7.4 summarizes the empirical results on the relationship between shared capitalism, high performance work policies, and organizational alignment.

##### *Shared Capitalism*

The results listed in models (1), (3), and (4) indicate that shared capitalism may play a significant and positive role in aligning employees behind the goals and objectives of the organization. Even in the presence of high performance work policies, shared capitalism continues to play a significant and positive role in employee alignment. There are different results when interacting shared capitalism with the two HPWS measures: the base effect of shared capitalism stays strong and the interaction is insignificant in model (3), while the opposite is true in model (6). It is therefore unclear whether shared capitalism operates on its own or only in combination with HPWS in affecting alignment. The results of specific shared capitalism practices on employee alignment are also not consistent between the models controlling for different measures of HPWS. Stock option holding and profit/gain sharing as a percent of pay are predictors when controlling for HPWS, while profit/gain sharing eligibility and employee ownership as a percent of pay are predictors when controlling for HPWST. It is noteworthy that individual bonus eligibility (but not the bonus size) is a strong predictor of alignment, possibly reflecting greater bonus eligibility among high-level managers (not fully captured in the management level controls).

##### *High Performance Work Policies*

Consistent with the results for a culture for innovation and innovative ideas, high performance work policies continue to have a strong impact in models (1) to (6) of table 7.4. An interesting finding is the relative impact of the HPWS versus the HPWST on alignment. The adjusted *R*-square for the models with HPWST accounts for a greater amount of variance in the alignment of employees. This result could indicate that the greater impact on employee alignment is not when employees experience high performance policies (HPWS), but when they perceive these practices as effective (HPWST) in the context of their immediate local work group or team. This finding suggests that the level of measurement of high performance work practices is important.

##### *Complementarities between Human Resource Policies and Shared Capitalism*

Once again, using interaction terms we examined the impact of the complementary relationship between human resource management policies and shared capitalism on employee alignment. The only significant result is

**Table 7.4** Predicting employee alignment with company strategy

Independent variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Shared capitalism index	0.010 (0.003)***		0.014 (0.005)***	0.024 (0.003)***		0.009 (0.007)
Bonuses						
Profit/gain sharing		0.016 (0.013)			0.075 (0.012)***	
Profit/gain sharing as % of base pay		0.118 (0.070)*			0.139 (0.068)	
Individual bonus		0.053 (0.017)***			0.050 (0.017)**	
Individual bonus as % of base pay		0.058 (0.101)			0.012 (0.097)	
Employee ownership						
Any employee ownership		0.009 (0.012)			0.017 (0.011)	
Employee-owned stock as % of pay		0.011 (0.010)			0.022 (0.010)**	
Stock options						
Stock option holding		0.070 (0.031)**			0.035 (0.030)	
Stock option value as % of base pay		0.021 (0.032)			0.008 (0.031)	
High performance work policies						
HPWS	1.085 (0.017)***	1.081 (0.017)***	1.106 (0.028)***	0.230 (0.003)***	0.230 (0.003)***	0.222 (0.005)***
HPWST						
Shared capitalism index						
× HPWS						
× HPWST			-0.008 (0.009)			
<i>n</i>	26,787	26,243	26,787	26,348	25,819	26,348
Adjusted <i>R</i> <sup>2</sup>	0.220	0.221	0.220	0.275	0.275	0.275

*Notes:* All regressions include controls for country (twenty-two dummies), occupation (five dummies), mgmt. level (three dummies), hourly pay status, supervisory status, tenure in years, hours worked per week, union status, age, gender, marital status (two dummies), family size, college graduate, graduate degree, number of kids, race (four dummies), disability status, ln(fixed pay), and company fixed effects. Standard error in parentheses.

\*\*\*Significant at the 1 percent level.

\*\*Significant at the 5 percent level.

\*Significant at the 10 percent level.

reported in model (6). Here shared capitalism interacts with HPWST and results in a positive effect on employee alignment. This result confirms the importance of ensuring that human resource policies and shared capitalism complement each other in order to achieve maximum benefits. Again, it is interesting to note that the interaction with shared capitalism was only significant with HPWST, which indicates the importance of perceived policy effectiveness in work groups over the mere presence of policies. It appears that such practices need not only to be bundled together but need to be bundled together in a way that is seen as effective within a local work group.

#### 7.5.5 Mediating Role of Alignment

Across the results, a consistent finding is that HRM policies and shared capitalism are related to employees' perception of a culture for innovation and employees' willingness and ability to contribute innovative ideas. However, it is not clear how HRM policies and shared capitalism impact these outcomes (Becker and Gerhart 1996; Ostroff and Bowen 2000). For instance, management scholars have argued that HRM policies impact organizational outcomes through organizational culture (Ostroff and Bowen 2000), organizational commitment (Allen, Shore, and Griffeth 2003), and employee skills, motivation, and opportunities (Lepak et al. 2006).

While the intervening mechanisms previously listed are plausible, our interest is the impact HRM policies have in creating employee alignment. To test for mediation, three models are run to test four conditions (Baron and Kenny 1986). First, the independent variable (HRM policies or shared capitalism index) must significantly impact innovation outcomes. Second, the independent variable must significantly impact the mediator (alignment). Third, with the independent variable in the equation, alignment must impact innovation outcomes. The fourth necessary condition is a decrease in the coefficient between the independent variable and innovation outcomes as alignment is added. Using this technique it is possible to assess if the coefficient between the independent variable and the outcomes decreased with alignment in the equation. The extent of reduction in the coefficient reveals how much of the relationship between the independent variable and dependent is indirectly working through the mediator (alignment). Finally, Sobel's test is employed to ensure that the drop in the coefficient is significantly different from zero (Sobel 1982). Tables 7.5 and 7.6 report the results of the test of mediation.

#### *Shared Capitalism*

The results in tables 7.5 and 7.6 reveal that alignment does partially mediate the relationship between shared capitalism and employee's perception of a culture for innovation. This is indicated by the reduction in the shared capitalism coefficient from model (4) to model (6), and a significant value for Sobel's test, in both tables. Combined, these results suggest that one

**Table 7.5** Mediating role of alignment in predicting a culture for innovation

Independent variable	Innovative environment	Alignment	Innovative environment	Innovative environment	Alignment	Innovative environment
Shared capitalism index	0.000 (0.003)	0.010 (0.003)***	-0.002 (0.002)	0.011 (0.003)***	0.024 (0.003)***	0.005 (0.002)*
High performance work policies						
HPWS	0.806 (0.016)***	1.085 (0.017)***	0.446 (0.017)***	0.180 (0.003)***	0.230 (0.003)***	0.117 (0.003)***
HPWST						0.271 (0.006)***
Alignment			0.313 (0.006)***			
<i>n</i>	26,361	26,787	26,145	25,976	26,347	
Adjusted <i>R</i> <sup>2</sup>	0.134	0.220	0.237	0.184	0.275	

*Notes:* All regressions include controls for country (twenty-two dummies), occupation (five dummies), mgmt. level (three dummies), hourly pay status, supervisory status, tenure in years, hours worked per week, union status, age, gender, marital status (two dummies), family size, college graduate, graduate degree, number of kids, race (four dummies), disability status, ln(fixed pay), and company fixed effects. Sobel Test HPWS: 40.39 ( $p = .000$ ); Sobel Test Shared Capitalism: 7.88 ( $p = .000$ ); Sobel Test HPWST: 38.92 ( $p = .000$ ). Standard error in parentheses.

\*\*\*Significant at the 1 percent level.

\*\*Significant at the 5 percent level.

\*Significant at the 10 percent level.

**Table 7.6** Mediating role of alignment in predicting innovative ideas

Independent variable	Innovative ideas Model 1	Alignment Model 2	Innovative ideas Model 3	Innovative ideas Model 4	Alignment Model 5	Innovative ideas Model 6
Shared capitalism index	0.006 (0.003)**	0.010 (0.003)***	0.006 (0.003)**	0.012 (0.003)***	0.024 (0.003)***	0.011 (0.003)***
High performance work policies						
HPWS	0.350 (0.019)***	1.085 (0.017)***	0.311 (0.020)***			
HPWST				0.042 (0.003)***	0.230 (0.003)***	0.031 (0.004)***
Alignment			0.036 (0.007)***			0.047 (0.007)***
<i>n</i>	26,250	26,786	26,039	25,875	26,347	25,703
Adjusted <i>R</i> <sup>2</sup>	0.156	0.220	0.157	0.149	0.275	0.151

*Notes:* All regressions include controls for country (twenty-two dummies), occupation (five dummies), mgmt. level (three dummies), hourly pay status, supervisory status, tenure in years, hours worked per week, union status, age, gender, marital status (two dummies), family size, college graduate, graduate degree, number of kids, race (four dummies), disability status, ln(fixed pay), and company fixed effects. Sobel Test HPWS: 5.13 ( $p = .000$ ); Sobel Test Shared Capitalism: 5.14 ( $p = .000$ ); Sobel Test HPWST: 6.69 ( $p = .000$ ). Standard error in parentheses.

\*\*\*Significant at the 1 percent level.

\*\*Significant at the 5 percent level.

\*Significant at the 10 percent level.



way in which shared capitalism impacts innovation outcomes is by aligning the workforce behind the goals and strategic objectives of the organization. However, the shared capitalism coefficient was not reduced to zero for either outcome, implying other mechanisms are working between shared capitalism and innovation outcomes. These findings indicate that the overall corporate culture that binds employees together (understanding and agreeing with common goals, having the tools and involvement to advance those goals, and believing the culture is right to achieve these goals) does play a key role in determining how shared capitalism incentives relate to innovation, but that there still exists an independent incentive effect from shared capitalism. This is very similar to Barnard's view concerning the need for a package of monetary and nonmonetary incentives. The sense of common enterprise that results from shared capitalism appears to impact the agency problem by reinforcing a common culture among the members of the firm, yet the pure incentive effect of shared rewards themselves also appears to focus the individual worker (similar to the findings in Freeman, Kruse, and Blasi in chapter 2).

#### *High Performance Work Policies*

Also reported in tables 7.5 and 7.6 is the mediating role of alignment with high performance work policies. Specifically, the analysis reveals that alignment partially mediates the relationship that HPWS (models [1] through [3]) and HPWST (Models [4] through [6]) have with employees' perception of a culture for innovation. A similar result is obtained in predicting and employees' willingness and ability to contribute innovative ideas (table 7.6). These results indicate that part of the effect of high performance work policies on innovation outcomes is through aligning the workforce behind shared goals and objectives. However, since the high performance work system coefficients are not reduced to zero, high performance work policies also impact the innovation outcomes through additional means.

### **7.6 Conclusion**

The principal findings of this chapter are that shared capitalism and high performance work policies affect innovation outcomes through direct effects, interactions, and indirect effects. The results of this study contribute to the current literature on shared capitalism and human resource management literature in a number of ways. First, empirical research on the importance of rewards and compensation practices as a means to achieve innovation outcomes is limited. This study adds to and extends the literature by examining multiple forms of shared capitalism and their impact on innovation outcomes. We demonstrate these effects in a population of adult workers in a large sample of respondents in hundreds of work sites, which provides several advantages in relation to past research. Additionally, we were able

to identify a possible mediating mechanism between shared capitalism and innovation outcomes. Second, taking a systems perspective, we investigate the impact of two systems of high performance work policies on innovation outcomes. While innovation management scholars have examined the impact of individual human resource management practices on creativity or innovation, a systems approach has, to our knowledge, never been published (Harden 2006).

Organizations seeking to develop a culture of innovation could look to this research as an answer for how this occurs. Specifically, our results reveal that a culture for innovation can be developed and supported through the use of shared capitalism and high performance work practices. We found moderate support for the importance of pairing shared capitalism and high performance work practices together to achieve the greatest impact on a culture for innovation. Additionally, shared capitalism and high performance work practices work in part by aligning employees around the goals and objectives of the organization.

As organizations increasingly depend on all employees to contribute innovative ideas to the organization, this research aims to address the role that shared capitalism and high performance work policies play to achieve these ends. The results of this study indicate that a means to promote employee willingness and ability to contribute innovation ideas is the use of high performance work policies and shared capitalism, both of which had a strong positive relationship with this outcome. However, an interesting finding of this study is that the impact of shared capitalism on innovative ideas varies by the level of high performance work policies the employee experiences in his or her work group. And finally, the indirect effect of high performance work practices and shared capitalism on innovative ideas indicates that an aligned employee is more willing and able to contribute innovative ideas to the organization. Shared capitalism and high performance work practices are one way to align an employee behind the goals and objectives of the organization.

To the extent that innovation can be conceived as a principal-agent problem, we have demonstrated that a system of shared incentives and a shared high performance employment culture at the lowest levels of organizations is important to create both an innovative environment that is fertile ground for innovative ideas, and the willingness to work on innovative ideas. Taken together, these findings indicate that the overall corporate culture that binds employees together does play a key role in determining how shared capitalism incentives relate to innovation, but there still exists an independent incentive effect from shared capitalism. The sense of common enterprise that results from shared capitalism appears to impact the agency problem by reinforcing a common culture among the members of the firm, yet the pure incentive effect of shared rewards themselves also appears to focus the individual worker.

In summary, these findings confirm several of the main themes of agency theory: that the principal-agent problem can be addressed by incentives, and that agency conflicts respond to a cooperative culture between workers that encourages mutual monitoring and opportunities to share information. The results of this study make two unique and nuanced contributions to this perspective: first, that it is the combination of shared incentives, cooperative culture, and mutual monitoring that works best, and second, that high performance workplace systems help resolve agency problems when employees work in teams at the lowest level of the organization that are rich with rigorous selection, training, information sharing, clear goals, and fair rewards.

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