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# TO SHARE OR NOT TO SHARE: HOW PROVIDING FINANCIAL INFORMATION TO EMPLOYEES AFFECTS THEIR BEHAVIORS AND PERCEPTIONS

A DISSERTATION
SUBMITTED TO THE
H. JOHN HEINZ III SCHOOL
OF PUBLIC POLICY AND MANAGEMENT

for the degree of

DOCTOR OF PHILOSOPHY
in
ORGANIZATIONAL BEHAVIOR

by

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H. JOHN HEINZ III SCHOOL
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DISSERTATION

Submitted in partial fulfillment of the requirements for the degree of

Doctor of Philosophy in Organizational Behavior

Title: TO SHARE OR NOT TO SHARE: HOW PROVIDING FINANCIAL INFORMATION TO EMPLOYEES AFFECTS THEIR BEHAVIORS AND PERCEPTIONS

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Date

To my two guardian angels, Mom and Grandma;
I know that you both would have been very proud.

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## ABSTRACT

One management practice that has evolved in organizations over the last 20 years is the dissemination of financial information to employees. The philosophy behind this practice encourages organizations to share information that was once available only to the firm's senior stakeholders (e.g., the senior management team, board of directors, shareholders, etc.) with a larger array of workers.

Despite the widespread presence of financial information sharing within organizations, no systematic attention has been given to how this information affects employees. This dissertation is a first step in examining the role played by the dissemination of financial information within organizations, and research contained herein will enhance understanding of this phenomenon in three ways.

First, it provides data on the type of financial information shared with employees. Second, it proposes a framework for examining how shared financial information affects employees' attitudes and on-the-job behaviors. There are at least three ways in which shared financial information can affect employees: 1) by encouraging them to become more engaged in the firm's goals and in turn direct their attention to tasks that will ultimately increase their effectiveness; 2) by impacting their level of effort expended on particular tasks as directed by financial information; and 3) by influencing their attitudes about their relationship with the employer (e.g., employees' perception of the company's transparency, psychological ownership in the firm, and their trust in management), all of which can impact their organizational commitment. Third, it outlines a set of organizational practices (e.g., human resource practices) that supports financial information sharing and its effects on employees' behaviors and perceptions. How these effects and support practices affect worker outcomes such as in-role and extra-role performance is also examined.

Data from 258 employees in a financial services firm suggest there are at least five types of financial information shared with employees. Results indicate that shared financial information has a positive impact on employees' direction of effort to job tasks, their perception that the firm is transparent, their psychological ownership of the firm, and their trust in management. In particular, employees' psychological ownership and trust in management enhance their organizational commitment.

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# Chapter 1: Problem Statement

## Section 1.1: Statement of Intent

Despite the widespread presence of financial information sharing within organizations, no systematic attention has been given to how this information affects employees. The purpose of this dissertation is to gain an understanding of how the dissemination of financial information within firms affects employees' attitudes and their on-the-job behaviors. Specifically, this dissertation will enhance researchers' understanding of the role played by a firm's financial information dissemination in three ways.

First, it will provide information on the *type* of financial information that is shared with employees. Second, it will examine how financial information *impacts* employees' in-role performance (e.g., direction of their attention and level of effort to job tasks), employees' attitudes about their relationship with the employer (e.g., transparency of the company, their psychological ownership in the firm, and their trust in management), and employees' extra-role performance (e.g., their organizational commitment and their performance of non-required tasks). Third, it outlines a set of organizational practices that *supports* financial information sharing and its effects on employees' behaviors and perceptions. The framework that I have developed for examining these issues is shown in Figure 1 (see Appendix A).

**Section 1.2: Background and The Effects of Shared Financial Information on Employees**

One management practice that has evolved in organizations over the last 20 years is the dissemination of financial information to employees. The philosophy behind this practice encourages organizations to share information that was once available only to senior stakeholders of the firm (e.g., the senior management team, board of directors, shareholders, etc.) with a larger array of workers. However, because little attention has been paid to financial information dissemination among workers by organizational researchers, it is unclear how the sharing of financial information affects employees (Ferrante & Rousseau, 2001). This dissertation is a first step in examining this phenomenon.

Firms have shared financial information with employees as a means of providing evidence of contract enforcement. For example, consider a firm that rewards employees as part of their formal job duties (i.e., 'in-role' behavior) for reaching pre-determined financial targets (e.g., 5% of a firm's profit will be shared equally among employees if profit exceeds $1,000,000). At year-end, the firm might report financial information to workers indicating that its goal has been met. Employees can use this information to calculate their share of the profit. When employees receive their incentive and it matches their expectations based on the firm's formal contract with them, they can conclude that the contract is upheld.

Employees have used shared financial information for more than confirming employers' contracts with them. There are at least three ways in which shared financial information can affect employees above and beyond the evaluation of contract

enforcement: 1) by encouraging employees to become more engaged in the firm's goals and in turn direct their attention to tasks that will ultimately increase worker effectiveness; 2) by impacting their level of effort expended on particular tasks as directed by financial information; and 3) by influencing their relationship with the employer through their perception of the firm's transparency, their psychological ownership of the firm, and their trust in management, all of which can promote extra-role performance.

Furthermore, certain management practices such as human resource practices support the financial information sharing process. These effects and support practices enhance worker outcomes in completion of required tasks (in-role performance) and non-required tasks (extra-role performance).

It is possible that one type of financial information will affect employees' completion of job tasks while another type will influence the quality of the relationship between workers and an employer. For example, productivity indicators (e.g., total revenue for the month and number of services provided) and quality indicators (e.g, error rates and spoilage expenses) signal overall firm effectiveness. Conversely, measures such as budgets and net income indicate a company's overall efficiency. As a result, workers may be more likely to consider effectiveness indicators when directing their attention to their job tasks, but may consider efficiency measures more meaningful as they build and evaluate their relationship with the employer.

It can be argued that workers' enhanced performance of both in-role and extra-role performance will ultimately enhance organizational performance. However, the examination of how financial information sharing ultimately leads to better firm

performance is outside the scope of this dissertation. (Note: This dissertation will focus on examining the relationships connected by solid, rather than dotted, lines in Figure 1.)

**Section 1.3: Organization of the Dissertation**

This dissertation will provide a review of the relevant literature in Chapter 2, a framework for testing hypotheses on financial information sharing in Chapter 3, a discussion of the methodology I used to examine these relationships in Chapter 4, the results of my analyses in Chapter 5, and a discussion of the findings, their implication for managers, and potential future research on financial information sharing in Chapter 6.

# Chapter 2: Review of Relevant Literature

## Section 2.1: Organization of Literature Review

There was little research in organizational behavior on sharing financial information with employees. Literature that addressed my research question includes participatory budgeting; use of financial information, which primarily addresses the content of reports that are shared with employees; financial and psychological ownership; goal setting; and human resource practices. This literature provided guidance in my examination of the effects of the financial information sharing process on employees.

## Section 2.2: Participatory Budgeting

Organizations use budgets to set goals (by planning and coordinating firm activities) and to serve as a standard for evaluating actual firm performance (Greenberg, Greenberg & Nouri, 1994). Participatory budgeting is the process in which employees who are responsible for meeting budgets have input, influence, and involvement in the creation of the budgets (Greenberg, et al., 1994; Shields & Shields, 1998; Poon, Pike & Tjosvold, 2001).

Shields and Shields (1998) conducted a comprehensive review of the participatory budgeting literature. They analyzed 47 studies published before 1996 and concluded that there were four types of empirical studies done on participatory budgeting, each focusing on a different effect.

The first type examined the direct effects of participatory budgeting on dependent variables such as performance, satisfaction, and motivation. The second looked at the effects of the interaction between participative budgeting and another variable (e.g.,

incentives or leadership style of managers). The third type examined how participatory budgeting moderated the relationship between two variables (e.g., task difficulty and performance, task uncertainty and performance, budget emphasis and performance, budget emphasis and satisfaction). The fourth and final type revealed how other variables such as locus of control, authoritarian dyad, and managerial level moderated the effect of participatory budgeting on satisfaction, motivation, and performance.

Results from the Shields and Shields (1998) review that are most pertinent to my research indicated positive association of participatory budgeting with performance, satisfaction, motivation, and job-related information. The same study also found that participatory budgeting improved performance when it interacted with budget-based incentives, budget emphasis, budget emphasis and task uncertainty, budget emphasis and task difficulty, incentives, information asymmetry, decentralization, motivation, and job difficulty. Finally, Shields and Shields (1998) found positive effects on satisfaction resulting from interactions of participatory budgeting with budget-based incentives, authoritarian dyads (i.e., the degree of agreement in the authoritarianism of managers and subordinates), incentives, and managerial level.

These results indicated that many variables interact with participatory budgeting to affect performance and satisfaction. However, since there was usually only one study demonstrating each of these interactive effects, it was difficult to make general statements about the results.

Additional studies provided evidence of the link between participatory budgeting and performance.

Through their meta-analysis of 40 participatory budgeting studies, Greenberg et al. (1994) concluded that participatory budgeting had a positive effect on performance.

Libby (1999) examined the effects of voice in the budget process and provided an explanation as to why employee input did not affect budgets on individual performance. She concluded that neither input nor explanation independently affected performance. However, the combination of input and explanation was significantly related to performance. Specifically, she noted that subjects who had input into the budget process and received an explanation as to why their input did not influence the budget had higher performance than subjects who did not receive an explanation.

Further research by Clinton and Hunton (2001) studied the relationship among employees' perceived need for participation, the degree of participation allowed in the organization, and performance. Results indicated that increases in the fit between the perceived need for participation and the amount of participation allowed were associated with increases in organizational performance.

Taken as a whole, these studies indicated that under proper conditions, participatory budgeting was positively associated with performance. This relationship was particularly enhanced when employees had input in the budgeting process.

**Section 2.3: The Use of Financial Information**

Three papers provided summaries on studies assessing the use of financial information by organizations: Parker (1988) reviewed the content of financial reports typically shared with employees; Richardson and Gibbins (1988) conducted a review of the literature on the production and use of financial information; and Kleiner and Han

(1997) discussed why employers shared information with employees and summarized their findings on the type of information supplied, the differences among countries on the type of information shared, and the recipients of this information. A summary of each paper follows.

*Parker (1988)*: The practice of distributing financial reports to employees had its origins in the U.S. during the early 1990s, becoming popular in the United Kingdom (U.K.) and Australia in the 1970s (Parker, 1988; Lewis, Parker and Sutcliffe; 1984). After that, the practice decreased in the U.S. while British and Australian accounting researchers essentially proceeded with their efforts (Parker, 1988).

Financial reports included information such as simplified financial statements (e.g., income statement, balance sheet, and cash flow statement); discussions of production/operations; future plans and forecasts; and information affecting workers' wages, benefits, safety, and training opportunities (Parker, 1988). Furthermore, research in the area of financial reporting to employees focused on the specific content of reports, timing of report distribution, and length of reports. For example, companies in the U.K. and Australia issued five- to eight-page annual reports containing financial highlights, income statements, and balance sheets. Companies assembled this information in charts, graphs, diagrams, narratives, and photographs (studies by March & Hussey and Craig & Hussey, as cited in Parker, 1988).

Researchers also examined whether management and employees had similar preferences for the content of financial reports. Findings indicated that managers provided information (in order of decreasing importance) on financial data, organizational marketing/future plans/benefit details, training, health and safety, wages

and salaries, and other personnel issues (study by Craig & Hussey, as cited in Parker, 1988). Employees' preferences for information (in order of decreasing importance) were future plans, training, benefit details, wages and salaries, marketing data, organizational/personnel data, health and safety, and financial data (study by Craig & Hussey, as cited in Parker, 1988). These results provided evidence of disparities between what management disseminated and what information employees preferred to receive.

Studies in the U.K. and Australia also examined readership and comprehension of disseminated financial reports among employees (Parker, 1988). Findings indicated that managers claimed the greatest level of readership and understanding, while clerical and unskilled manual workers reported the lowest level of readership and comprehension (studies by Hussey, and Craig & Hussey, as cited in Parker, 1988). In addition, the level of readership increased with the age of employees, possibly due to employees' greater familiarity and experience with using the reports (studies by Hussey, and Craig & Hussey, as cited in Parker, 1988).

*Richardson & Gibbins (1988)*: The research on the production and use of financial information concentrated on firms' disclosure of financial information to parties external to the organization.

Generally, senior managers were responsible for financial disclosure to external parties, and though regulatory agencies provided some guidelines for the content of reports, managers had significant leeway in deciding how to present information. Researchers suggested that organizations follow the practices of other firms within the same industry that share a similar culture and are governed by the same regulatory agencies (see Richardson & Gibbins for a more complete review). The authors also noted

that few if any studies had examined the procedures leading to information disclosure or their consequences.

Studies examining how external parties analyze financial information focused on whether individuals were satisfied with the information. Results indicated that analysts were satisfied with the amount of information released, but they disagreed on the type of additional information that would be useful (Richardson & Gibbins, 1988).

Additional studies considered the decision process that individuals used in analyzing financial information. Findings suggest that individuals were "better at processing information than they [were] at selecting which information to process" (study by Abdel-khalik & El-Sheshai, as cited in Richardson & Gibbins, 1988). That is, employees were good at interpreting the meaning of a financial indicator, but they were not as good at choosing the particular financial indicators to focus on when given several to consider[1].

These studies, however, only *inferred* individuals' use of financial information. In an experiment cited in Richardson and Gibbins (1988), Bowman concluded that while experts (e.g., CPAs or university faculty) attempted to get an overview of "what's going on" from financial information, novices such as MBA students focused on the selection of particular facts (Richardson & Gibbins, 1988). Clearly, further research on how individuals specifically use financial information was needed.

*Kleiner & Han (1997)*: Organizations should share information about the firm and its employees with employees because the information may encourage them to cooperate with firm efforts to improve productivity, provide incentives for them to work hard, and

[1] The study does not indicate whether this effect depends on employees' job-related duties and/or decisions.

decrease the risk of sabotage or unapproved activities (Kleiner & Han, 1997; study by Edwards, as cited in Kleiner & Han, 1997).

Through their review of work conducted by Lewin (1984), Kleiner and Han found that higher-level managers such as senior managers and top human resource managers had greater access to information than lower-level workers (e.g., production employees). Review of cross-cultural research on information sharing indicated that Japanese and South Korean companies were more likely to share information with employees than their American counterparts. For example, 48% of American companies (n = 106 firms) shared the income statement and balance sheet with employees, whereas 89% of Japanese companies (n = 97 firms) and 75% of South Korean companies (n = 226 firms) distributed this information (studies by Kleiner & Bouillon; Morishima; and Kleiner & Lee; as cited in Kleiner & Han, 1997). The authors attributed these differences to the employee-representation policies of Japan and South Korea (Kleiner & Han, 1997).

## Section 2.4: Employees' Relationship with the Firm

Shared financial information potentially impacts the quality of employees' relationship with their employer by affecting their psychological ownership of the firm, their trust in management, and their evaluation of the company's transparency.

### *Section 2.4a: Employee Ownership – Legal and Psychological*

#### *Legal Ownership*

Although the research on employee ownership addressed 'legal' rather than 'psychological' ownership, a review of this literature was helpful to understand how ownership impacts employees' behaviors and attitudes.

Research on the role of employee ownership in organizations addressed financial ownership. Companies increased their use of employee ownership mechanisms, with employee stock ownership plans (ESOPs) being the mechanism of choice. (Note: Other efforts include profit sharing, bonus, and gain-sharing plans.)

For example, the number of companies with ESOPs and the number of plan participants increased from 4,367 companies with 3.1 million participants in 1980 to 8,558 companies with 6.4 million participants in 1991 (studies by Conte & Lawrence; and the U.S. DOL; as cited in Kruse & Blasi, 1997). In a U.S. General Accounting Office survey, companies claimed to use ESOPs (in order of decreasing importance) to offer an employee benefit, enhance productivity, decrease turnover, transfer majority ownership to employees, and raise capital for investment (study by the U.S. GAO, as cited in Kruse & Blasi, 1997). Findings from a study examining the use of employee ownership by publicly traded companies concluded that these companies used employee ownership to increase employee interest in corporate financial transactions, to restructure wages and benefits, and to defend a takeover (Kruse & Blasi, 1997; study by Blasi & Kruse as cited in Kruse & Blasi, 1997).

Research found that positive associations existed between employee ownership and firm performance/productivity (Blasi, Conte & Kruse, 1996; Kruse & Blasi, 1997; Heller, Pusic, Strauss & Wilpert, 1998). Kruse and Blasi (1997) confirmed this in their review of 11 studies comparing ESOP and non-ESOP firms, even though only three of 11 studies found positive, significant effects.

In this study, Kruse and Blasi (1997) compared the use of employee ownership in 5,278 U.S. publicly traded companies to other public companies in the 1980s and found

that employee-owned firms (i.e., companies with greater than five percent employee ownership) had higher stock prices and higher increases in profitability (i.e., return on assets, return on equity, and profit margin; Blasi, et al., 1996). However, no significant differences in firm productivity were found, and the size of employees' ownership stake in the companies did not affect these results (Blasi, et al., 1996).

Kruse & Blasi (1997) reviewed several studies examining the relationships between employee ownership and employees' satisfaction, organizational commitment, motivation, and behavior. Their review indicated mixed results in using employee ownership to effectively enhance these relationships.

*Satisfaction*: Of the nine studies examining the relationship between employee ownership and satisfaction, four found a positive relationship, four found no relationship, and one study found a negative relationship (study by Kruse, as cited in Kruse & Blasi, 1997). In addition, none of the four studies exploring the connection between the size of an employee's ownership stake and satisfaction found significant results (Kruse & Blasi, 1997).

*Organizational commitment*: Six out of eight studies examining the link between employee ownership and organizational commitment illustrated that employee owners had higher commitment than non-owners (Kruse & Blasi, 1997). Of the four studies addressing the relationship between the size of an employee's ownership stake and organizational commitment, two found a positive effect and two did not (Kruse & Blasi, 1997).

*Motivation*: Only one of the six studies illustrated a positive association between employee ownership and motivation; however, this study also showed that motivation

was positively related to the size of an employee's ownership stake (Kruse & Blasi, 1997).

*Behavior*: Five studies examined the relationship between employee ownership and turnover or absenteeism. No effect was found for absenteeism, and only one study found lower turnover in employee-owned firms.

Although researchers had little information on how employee ownership affects firm outcomes, several studies suggested that the positive effects of employee ownership on firm performance/productivity, employee satisfaction, organizational commitment, and motivation might be enhanced by employee participation (Heller et al., 1998; Kruse & Blasi, 1997). For example, Heller et al.'s (1998) review of employee ownership studies found that employee stock ownership only enhanced firm productivity when combined with participation. Kruse & Blasi (1997) found several studies in which only employee-owners who perceived greater influence and/or participation in firm decisions had higher satisfaction compared to non-owners. Other studies found significant, positive associations between perceived participation in decisions and organizational commitment (Kruse & Blasi, 1997). Understanding exactly how employees' perception of their influence/participation in decisions affects their satisfaction, commitment, motivation, and productivity required additional research (Blasi, et al., 1996; Kruse & Blasi, 1997).

*Psychological Ownership*

Information sharing has been implicated as a means to increase employees' psychological ownership of the firm. Earlier research on psychological ownership suggested employees can develop feelings of ownership toward their employers and their

practices, and these feelings might affect individuals' emotions and behaviors in the workplace (Pierce, Kostova & Dirks, 2001).

The mechanisms by which employees develop psychological ownership may include having some control over the employer (e.g., through their tasks, work processes, etc.); obtaining information on and being associated with the firm over a period of time; and putting effort into the organization (Pierce, et al., 2001).

There is little empirical evidence that employees' psychological ownership affected their attitudes and on-the-job behaviors. However, researchers found that employees feel ownership of their jobs, employers, employers' practices, and other workplace issues (see Pierce, et al., 2001 for specific references of these studies).

One study found psychological ownership to be positively associated with employee satisfaction and organizational commitment (VandeWelle, van Dyne & Kostova, 1995). Pierce et al. (1987, as cited in Pierce, Rubenfeld & Morgan, 1991) reported that organizational commitment mediated the relationship between psychological ownership and job satisfaction, though it is unclear what factors gave rise to psychological ownership in the workplace and the consequences these feelings had on worker behavior and organizational outcomes.

*Section 2.4b: Trust in Management*

Sharing information with employees is one possible means of increasing employees' trust in management. Researchers proposed that employees would trust managers who illustrated ability and integrity and were benevolent toward their subordinates (Mayer, Davis & Schoorman, 1995; Mayer & Davis, 1999). Two studies found a positive association between employees' trust in their managers and their

perception that their managers possessed these qualities (Mayer & Davis, 1999; Davis, Schoorman, Mayer & Tan, 2000).

Employees' trust in management was thought to positively affect both individual and firm performance (Mayer, et al., 1995; Argyris, 1964). Davis et al. (2000) found that employees' trust in their managers was positively related to firm sales and net profit while being negatively related to employee turnover. Other studies have found positive associations between employees' trust in management and their organizational commitment (e.g., Folger & Konovsky, 1989; Whitener, 2001).

*Section 2.4c: Transparency of the Organization*

One way to potentially enhance a firm's transparency is for the firm to share its financial information with employees. Although scholars had not paid attention to the role of transparency in the workplace, the business press had discussed the importance of transparency, particularly with respect to the accuracy of firm financial reports (e.g., "How much transparency", 1999; Janson, 1999). In this article, Janson argued that one of the keys for organizational success was a transparent culture that shared relevant information with employees, customers, and shareholders to enable decision-making.

The accounting and finance industries are especially sensitive to the issue of company transparency in financial reporting processes, as investors rely on company disseminated information for their decision-making. Financial agencies such as the U.S. Department of the Treasury and the International Monetary Fund (IMF) responded to investor concerns about inaccurate financial information by issuing standards to be followed by individuals responsible for reporting financial results. For example, The IMF issued a "Code of Good Practices on Transparency in Monetary and Financial Policies"

(see the IMF's website at www.imf.org/external/np/mae/mft/index.htm). The IMF defined transparency as:

> "...an environment in which the objectives of policy, its legal, institutional, and economic framework, policy decisions and their rationale, data and information related to monetary and financial policies, and the terms of agencies' accountability, are provided to the public in a comprehensible, accessible, and timely manner" (Supporting Document, Appendix III, in International Monetary Fund, 2000).

IMF transparency practices include the clear statement of banks' roles, responsibilities and objectives, a clear process for decision-making and decision reporting, public availability of information on monetary policy, and accountability for decisions (International Monetary Fund, 2000).

**Section 2.5: Direction of Employee Effort**

Shared financial information is one possible factor accounting for workers' direction of effort to job tasks. The extensive literature on goal setting focused primarily on the level or intensity of effort individuals expended to meet goals. However, some studies provided evidence of factors that affected individuals' direction of effort (e.g., literature on goal choice, goal commitment, and the task strategies used to meet them).

Individuals' perception of what they can achieve (performance capability) and what they should achieve (performance desirability or appropriateness) appeared to affect goal choice (Locke & Latham, 1990). Factors affecting performance capability perception included past performance, personal beliefs about one's ability, and the likelihood of being able to successfully complete necessary tasks to meet the chosen goal (Locke & Latham, 1990). Group norms and goals, role modeling, encouragement, goal

assignment, feedback, and dissatisfaction with previous performance affected perceptions of performance appropriateness (Locke & Latham, 1990). How these factors affect actual employee performance of job tasks is unknown.

Once an individual had chosen or had been assigned a goal, his/her commitment to the goal could affect goal achievement. Wofford and Goodwin (1992) meta-analyzed 78 goal-setting studies to examine the antecedents and outcomes of goal commitment. They concluded that self-efficacy, expectancy of goal attainment, and task difficulty positively affected goal commitment. Other studies found that authority, peer group, the public nature of the goal, and incentives for goal attainment affected individuals' commitment to chosen or assigned goals (Locke & Latham, 1990).

Several studies found that goals encouraged individuals to search for and select appropriate task strategies (Locke & Latham, 1990). Locke and Latham (1990) proposed that task strategies mediated the effect of goals on performance. Specifically, they suggested a four-step process that individuals used to complete tasks for goal attainment:

Step 1: Individuals recalled plans and strategies that have worked in the past for the same or similar goals.

Step 2: Individuals assessed their appropriateness for the current goal.

Step 3: Individuals constructed new task strategies if previous strategies did not appear to be adequate.

Step 4: Individuals implemented new task strategies to attain the goal.

Individuals' self-efficacy, task complexity, and plan characteristics (e.g., the set of behaviors required, combination, and sequencing of behaviors) were factors that could

have affected this process (see Locke & Latham, 1990 for a discussion of their proposed task complexity taxonomy).

Researchers progressed in their understanding of how individuals chose goals, committed to them, and used task strategies to attain them. Although goals had been shown to direct individuals' attention to tasks and outcomes, the specific process that employees used to choose job tasks to reach organizational goals remained unclear (Locke & Latham, 1990).

**Section 2.6: Level of Employee Effort**

One possible factor influencing the level of effort (i.e., time, conscientiousness) that employees apply to their job duties is shared financial information. Goal setting was shown to positively affect the level of effort that individuals put into tasks (Locke & Latham, 1990), and research indicated that there was a positive relationship between goal level and performance (Locke & Latham, 1990).

Numerous studies provided evidence that specific goals which were also difficult encouraged individuals to reach higher levels of performance than specific goals which were vague or unassigned (Locke & Latham, 1990). By comparison, specific goals that were easy led to lower individual performance than did vague or difficult goals (Locke, Chah, Harrison & Lustgarten, 1989; Locke & Latham, 1990).

In their review of 78 goal-setting studies, Wofford and Goodwin (1992) concluded that past performance, perceived ability, and knowledge of results positively affected individuals' personal goal level. Higher goal levels were more likely to be set when individuals participated in determining them. In addition, evidence also showed

that goal level moderated the relationship between goal commitment and performance (Wofford & Goodwin, 1992).

**Section 2.7: Organizational Support Practices**

Few organizational practices operate in a vacuum. Understanding their impact on organizational outcomes often requires assessment of related human resource practices. Bundles of human resource practices (also called high commitment human resource practices and high performance work practices, or HPWPs) were found to affect organizational outcomes (Arthur, 1994; Huselid, 1995; MacDuffie, 1995; Youndt, Snell, Dean & Lepak, 1996; Ichniowski, Shaw & Prennushi, 1997). HPWPs include comprehensive employee recruitment, selection, performance appraisal, compensation, and training (Jones & Wright, 1992; Huselid, 1995). They were shown to increase employees' knowledge, skills, motivation (Jones & Wright, 1992), financial performance (e.g., return on capital and market-value; Huselid, 1995), and firm-level productivity (e.g., sales per employee—Huselid, 1995; and number of labor hours—Arthur, 1994; MacDuffie, 1995; Youndt et al., 1996; Ichniowski, et al., 1997).

Conversely, decreases in employee turnover were linked to HPWPs (Huselid, 1995; Arthur, 1994). Arthur (1994) found that high commitment work practices encouraged employee involvement in managerial decisions through formal participation processes and group problem-solving training.

**Section 2.8: Conclusion**

Although organizational researchers examined how participatory budgeting, the content of financial reports, and legal employee ownership affected employee performance and productivity, none of this work directly examined the link between sharing financial information with employees and worker attitudes and behaviors. Nonetheless, the literature reviewed in this dissertation provided a basis upon which to build a framework for examining financial information sharing processes.

# Chapter 3: Framework for Testing the Effects of Financial Information Sharing

> "The two most valuable resources any company has do not appear on its balance sheet. They are information and people."—Jac Fitz-enz (1997)

## Section 3.1: Financial Information Sharing Framework

Prior research on goal-setting, employees' perception of transparency and psychological ownership, their trust in management, organizational support practices (see Chapter 2), and the results from a high technology study examining financial information sharing practices in 85 high technology firms (Shperling, Ferrante & Rousseau, 2001; see Appendix B) cause me to propose several hypotheses about the effects of sharing financial information with employees. The framework I have developed for examining these issues is shown in Appendix A, Figure 1.

## Section 3.2: Employees' In-Role Performance

In-role behaviors are behaviors workers are required to perform (per their job duties and formal responsibilities, as outlined in job descriptions) and behaviors for which they are formally rewarded (Van Dyne, Cummings & McLean Parks, 1995; Williams & Anderson, 1991). Shared financial information can help workers perform in-role behaviors effectively by directing their attention and level of effort to job tasks.

### *Section 3.2a: Direction of Employee Effort*

Direction of employee effort is influenced by goals. Goals motivate individuals to persist in their activities over time (Locke & Latham, 1990); clear, specific goals guide individual's awareness of pertinent behaviors and outcomes (Locke & Latham, 1990).

Employees can use shared financial information to set clear, well-defined goals because financial indicators can provide concrete guidelines for goal setting.

Consider an employee who is responsible for making sure the organization receives payment for products purchased on account (i.e., accounts receivable). Using *days in receivables* (a financial indicator representing the number of days of sales (in dollars) that have yet to be collected from clients), the employee responsible for accounts receivable may set a goal that days in receivables will be less than 30 days. Each day that days in receivables remains below 30, the employee has met the goal.

Goal setting motivates workers to create task strategies to meet their goals (Locke & Latham, 1990). Employees can use shared financial information to construct task strategies by using this information to prioritize tasks, while feedback regarding financial indicators can aid the evaluation of the adequacy and appropriateness of past task strategies the worker has used.

For example, suppose the accounts receivable employee finds that days in receivables is 45 days, or 15 days above the goal. The employee could use this information to determine the tasks that are likely to reduce days in receivables and make them the priority for the day. The employee could telephone clients and encourage prompt payment of their accounts, and as days in receivables decreases, the employee could continue to encourage account payment but might be able to put other tasks ahead of this one in his/her daily routine. Thus, organizing and choosing appropriate tasks to meet goals should enhance worker in-role performance.

*Section 3.2b: Level of Employee Effort*

It is likely that the level of effort employees' expend on job tasks is tied to their goals. Employees' past performance and their perceived ability to meet goals positively affect individuals' goal level (Wofford & Goodwin, 1992). Offering feedback on goal attainment is one way to provide individuals with information on past performance and ability (Locke & Latham, 1990). I propose employees use shared financial information to determine if they have met goals and to assess the level of effort that they need to put into tasks for goal attainment.

Consider again the accounts receivable employee. When days in receivables is above the goal of 30 days, the employee can allocate time to tasks that are likely to reduce the indicator (e.g., telephoning clients). As days in receivables decreases, the employee can spend less time phoning clients and more time on other tasks. I assume that employees can accurately assess how their particular job tasks affect financial indicators pertinent to their jobs.

Most of the research on goal setting has looked at the relationship between goal level and performance (see Locke & Latham, 1990, for an extensive review of the literature). The level of effort that individuals expend to reach goals shows a positive association between task performance and individual performance (Hirst & Yetton, 1999; Lee, Locke & Phan, 1997; Locke & Latham, 1990). It is anticipated that this study will replicate these results by finding that employees' level of effort is positively related to employees' in-role performance.

H1: Financial information sharing is positively related to employees': a) direction of effort to particular tasks and b) level of effort expended on particular tasks.

H2: Employees': a) direction of effort to particular tasks and b) level of effort expended on particular tasks mediate the relationship of financial information sharing to employees' in-role performance.

**Section 3.3: Employees' Extra-Role Performance**

Extra-role behaviors are behaviors that are not required by an employee's job duties and responsibilities. Rather, these behaviors are "intended to benefit the organization" and are not explicitly rewarded by the firm's compensation system (Van Dyne, et al, 1995). Examples include helping coworkers with their tasks, volunteering for unpaid work, and defending the organization to outsiders (Staw & Boettger, 1990). Employees perform extra-role behaviors when they go above and beyond those tasks that are expected per their job descriptions. It is expected that shared financial information enhances employees' extra-role performance by positively affecting the quality of employees' relationship with their employers.

*Section 3.3a: Transparency of the Organization*

Transparency in organizational practices refers to the presentation of complete, accurate, and clear information. It is a concept that has been inherent in the accounting and finance industries for years. For example, in the notes accompanying financial statements, organizations are careful to outline the sources of data and methods used to value accounts. Transparent presentation of information signals the accuracy and legitimacy of the statements and encourages readers to trust the decisions made in their construction. Without this presentation, individuals cannot completely understand the

decision-making process used to construct the statements and may make erroneous assumptions about the financial condition of the organization.

There is some empirical evidence that workers' perception of a firm's transparency impacts their attitudes about their job and employer. In a study examining the role of transparency in expatriates' decisions and their perceptions of their compensation system, expatriates reported that the transparency and clarity of the compensation system impacted their intention to accept a future expatriate assignment (Ferrante, 2000).

Transparency in decision-making was also positively related to expatriates' perceptions of the procedural and distributive fairness of their compensation, their trust in the organization, their trust in their supervisor, and their organizational commitment (Ferrante & Rousseau, 2000; Ferrante, 2000). Furthermore, expatriates' perception of their employers' transparency was positively correlated with the compensation information they received from human resources and the consistency of information provided by human resources and their supervisor (Ferrante, 2000). The consistency of information provided by human resources and managers was positively associated with expatriates' trust in management, which in turn positively affected expatriates' organizational commitment (Ferrante, 2000). Thus, it behooves organizations to make transparent decisions whose bases are well understood by employees.

Sharing financial information with employees is one way for firms to be transparent. The information can help employees understand organizational decision-making, thus legitimizing it. For example, if employees regularly receive financial

indicators that assess the financial and operational performance of the organization, they are better able to interpret and even anticipate the actions the organization takes.

Financial information sharing can affect employees' organizational commitment. To illustrate, suppose employees receive financial information that indicates the organization is doing well. Employees might conclude that the firm is worthy of their continued commitment; however, employees might also conclude from shared financial information that the firm is doing poorly. Workers can then use the information in deciding to remain with or depart from the organization. Employees might remain with the firm in order to help turn things around, especially if employees want to help the firm and believe that their efforts will improve firm performance. On the other hand, employees might depart from the organization because they either feel the firm is no longer worth their commitment or fear the outcomes they desire may no longer be provided. In either case, the organization is seen as being transparent and open.

I propose that the dissemination of financial information to workers influences their perceptions of employers' transparency and consequently affects outcomes such as employees' organizational commitment.

*Section 3.3b: Development of Psychological Ownership*

Psychological ownership is a person's belief that something belongs to him or her (Pierce, et al., 1991). Central to this perception is the feeling that the individual owns the object even without legal ownership (Pierce, et al., 2001). Research indicates that employees feel ownership of their job, employer, employers' practices, and other workplace issues (see Pierce, et al., 2001 for specific references of these studies). That is, employees have an expanded sense of self wherein their jobs and employers seem to be a

part of them. Specific rights, such as the right to have input into decisions that affect the ownership object and the right to information about the object of ownership, accompany individuals' perception of ownership (Pierce et al., 1991; Pierce, et al., 2001).

There are three mechanisms whereby financial information sharing impacts employees' psychological ownership: information sharing, group membership, and participative decision-making.

*Information Sharing*: By its nature, financial information sharing fulfills employees' desire for information about the organization. Pierce et al. (2001) propose that one way employees develop psychological ownership is by becoming "intimately familiar" with the organization. When employees receive financial information from employers, they are able to get to know the employer. Financial indicators provide signs of organizational profitability (e.g., net income) and operational effectiveness (e.g., sales).

*Group Membership*: Most individuals have an inherent need to feel a group values them. Individuals value their group memberships because long-term relationships with them provide economic and social rewards, including salary increases, bonuses, self-esteem, social status, and self-identity (Lind & Tyler, 1988; Tyler, 1989). Group value theory assumes that individual identity derives from membership in valued groups (Lind & Tyler, 1988). That is, individuals define their identity according to the groups they belong to, and their self-esteem is generated by how they believe their groups appraise them. Furthermore, researchers suggest that employees use ownership to define their identity or sense of self worth (Pierce, et al., 2001).

When employees receive financial information from their organizations, they most likely perceive this sharing of information as a sign that they are valued by the organization. The sharing of proprietary financial information may signal that the firm trusts the employees and considers them to be special, as it is not yet common in all firms for financial information to be shared with employees.

*Participative Decision-making*: Pierce et al. (2001) propose that employees are motivated to develop psychological ownership by their desire to control and invest effort into their employer, possibly through active participation in organizational decision-making. Evidence from the high technology study supports this proposition, as 66% of participants believe that control and responsibility define firm ownership (Shperling, Ferrante & Rousseau, 2001; see Appendix B). Employees can access shared financial information and make effective decisions on the job, ultimately increasing their effectiveness in the company. Thus, accessing shared financial information will enhance employees' feelings of ownership toward the organization.

*Section 3.3c: Development of Trust in Management*

Trust is defined as the willingness of an individual to be vulnerable to the action(s) of another party (Mayer, et al., 1995). When individuals say they trust, they assume that the trustee will not intentionally undermine or work against their interests (Tomkins, 2001). Risk is inevitably inherent in trust, as individuals take risks when they decide to rely on others.

Tomkins (2001) suggests that individuals need information to develop and increase trust in their organizations because information reduces uncertainty and can convey positive signals regarding relationship quality. Furthermore, Davis et al. (2000)

propose that a manager can increase his/her perceived trustworthiness through actions that positively affect workers' perceptions of their trustworthiness. Employees can use shared financial information to meet their need for information and to adjust their perception of management's trustworthiness. In the process, information asymmetry is reduced because employees can use shared financial information to assess organizational outcomes such as profitability, effectiveness, and quality.

Management's trustworthiness is impacted because financial information is typically given only to a firm's owners and shareholders. When employees receive this proprietary information from management, they might perceive they are trusted by the organization because the organization has chosen to share private information with them (Pfeffer, 1998). Employees' trust in management is therefore affected not only by shared financial information, but also by their assumption that the organization trusts them.

*Section 3.3d: Consequences of Psychological Ownership and Trust*

Several researchers have examined the role of psychological ownership and employees' trust in management. Both psychological ownership (VandeWelle, et al., 1995) and employees' trust in management (Folger & Konovsky, 1989; Whitener, 2001; Ferrante, 2000) have been positively linked to organizational commitment. It is anticipated that this study will replicate these results.

H3: Financial information sharing is positively related to employees': a) perception that the firm is transparent in decision-making, b) perception of psychological ownership and c) trust in management.

H4: Employees': a) perception that the firm is transparent in decision-making, b) perception of psychological ownership and c) trust in management mediate the relationship of financial information sharing to organizational commitment.

*Section 3.3e: Organizational Commitment and Extra-role Behavior*

Several researchers have examined the relationship between employees' organizational commitment and extra-role behavior. Findings indicate that organizational commitment mediates the relationship between employees' psychological ownership and their extra-role behavior (VandeWelle, et al., 1995). Furthermore, organizational commitment is positively related to extra-role behavior (O'Reilly & Chatman, 1986; VandeWelle, et al., 1995). It is anticipated that this study will replicate this finding.

H5: Organizational commitment is positively related to employees' extra-role performance.

**Section 3.4: The Role of Organizational Support Practices**

Bundles of mutually supportive human resource practices affect organizational outcomes (Arthur, 1994; Huselid, 1995; MacDuffie, 1995; Youndt et al., 1996; Ichniowski, et al., 1997). In particular, high-involvement work practices encourage employees to become involved in their organizations and exert effort in line with organizational goals (Arthur, 1994; Wood & de Menezes, 1998). In addition, they have been shown to increase employees' knowledge, skills, and motivation (Jones & Wright, 1992).

High-involvement practices support financial information sharing. When these practices are present, the relationship of financial information sharing with employees' behaviors and beliefs is amplified. Examples of high-involvement practices include the provision of an educational system for employees, good information systems, participatory management systems, human resource practices (e.g., ESOPs, bonuses and

performance feedback systems), and performance improvement practices (e.g., total quality management(TQM), the balanced scorecard (BSC), just-in-time inventory systems (JIT), and activity-based costing (ABC)).

These practices support employees' efforts to use shared financial information in the following ways:

1. Educational programs can help employees to understand shared financial information. Financial information is not like other forms of information because financial results are often released in a language that can be foreign to many employees. Training enhances employees' ability to understand financial information and use it in their jobs.
2. Information systems that collect accurate and timely information increase the likelihood that workers also will receive accurate information in a timely manner.
3. Participatory cultures encourage worker involvement in firm decision-making. If employees have firm financial information, they should be able to make better decisions.
4. Performance improvement practices such as TQM and BSC use frequent monitoring of key operational indicators to assess progress in meeting organizational goals. JIT and ABC systems use detailed cost analysis to monitor inventory and product costs. The more employees are exposed to firm information, the more likely they are to incorporate it into their required tasks.
5. Human resource practices such as performance feedback systems might provide information that affects employees' perceptions of what they can and

should achieve. Incentives for goal attainment influence individuals' goal commitment (Locke & Latham, 1990) and encourage employees to expend the necessary level of effort to meet the goal.

It is anticipated that the presence and prevalence of high involvement support practices will moderate the effects of financial information sharing on employees' behaviors and attitudes.

H6: High involvement support practices moderate the relationship between financial information sharing and employees': a) allocation of effort to particular tasks, b) level of effort expended on particular tasks and c) relationship with the employer (i.e., perception of transparency, perception of psychological ownership, and trust in management).

# Chapter 4: Methodology

## Section 4.1: The Testing of Hypotheses for this Dissertation

The theory outlined in the previous chapter constitutes a program of research for examining the effects of sharing financial information with employees. I have chosen to begin the analysis of these concepts by testing hypotheses 1a, 2a, 3, 4, and 5 through the rest of this dissertation[2]. The results will provide a good foundation for understanding the construct of financial information sharing, as well as if employees use this information to guide their attention to tasks and/or to build their relationship with their employer. These results will also guide the development of an appropriate methodology for examining how financial information sharing affects employees' level of effort to particular job tasks and how firms' support practices moderate the effects of financial information sharing on employees' perceptions and behaviors.

## Section 4.2: The Sample Population and Participants

### *Section 4.2a: The Organization*

To test my hypotheses about the effects of sharing financial information with employees, I interviewed and surveyed employees and key informants such as senior and department managers in a financial services firm located on the east coast of the U.S.

Because I was looking at only one firm, I was concerned that there might not be enough variation in information-sharing practices to enable me to test my hypotheses. To ensure that there was enough variation in the type and number of recipients who shared financial information in the firm, I interviewed 20 employees across various levels and

[2] Hypothesis 6 cannot be tested, as data is from only one firm and the firm uses the same support practices throughout all of its departments and locations.

departments in the organization[3]. Interviewees disclosed the types of financial information they receive and whether they share this information with their employees (if a manager) or receive this information (if a subordinate).

The results indicated that there appeared to be adequate variation in financial information sharing within the firm, as managers in the same job varied in their responses on the type of information received and their dissemination of this information to their employees. There was also variation in the amount of financial information received by employees doing the same job[4].

Finally, information from these interviews was used to construct part of the employees' survey (i.e., a question on the receipt of the firm's financial information; see Appendix C – Associate Survey, question 39).

The survey organization's main service is the consolidation of student loans. Employees' progress on their clients' accounts are tracked throughout the consolidation process. The firm gathers and shares information on the number of applications that each employee and his or her team has initiated (i.e., gathered preliminary information from the client and sent the application out to the client for verification), the number received back from the client after verification, the number in-process (i.e., waiting for final arrangements to be made with the original lenders on the loans), and the number funded (i.e., completely consolidated loans).

The number of hours employees spend talking with prospective and current clients through this process is also quantified. Quality control indicators such as the

[3] See Appendix C – Financial Information Sharing Interviews for a summary of the interviews.

number of applications that have to be redone because of errors or missing information are regularly shared with managers and employees. All of this information is used by senior management to assess the productivity and effectiveness of employees.

*Section 4.2b: The Respondents*

Human resource representatives distributed survey packets to 852 employees at two sites[5]. The response rate for the study was 30%, as 258 employees responded. The average participant was 38 years old and worked for the organization for at least 10 months[6]. Sixty-three percent of the respondents were female and 91% of the respondents had graduated from high school and had some additional college or technical training. Fifty-eight percent of respondents indicated they had taken an accounting course at some point during their education.

**Section 4.3: The Procedure**

Each packet distributed by human resource representatives included a cover letter, a Consent Form with an addressed return envelope, an Associate Survey with an addressed return envelope, and if appropriate, a Manager's Survey with an addressed return envelope. All completed consent forms and surveys were returned directly to me.

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[4] The firm consists of 852 employees reporting to 93 managers. Managers have discretion on what financial information they share with their subordinates. Because of this discretion, the firm was a good site for the study, as managers varied on the type and amount of financial information they shared with employees.

[5] Results indicate that there are differences between the two employer sites. In general, employees at one site receive less financial information, have a higher desire to receive financial information, perceive that there is less discussion among coworkers about the financial health of the firm, receive less training on financial information, and perceive that the firm is less financially sound.

[6] Sixty percent of the respondents have been with the company for at least 1 year. In the sub-industry that the company operates in, turnover is typically high, and it is common for employees to depart from their employer in less than 12 months.

The cover letter explained that the purpose of the survey was to examine how financial information sharing affects employees' perceptions and behaviors. The cover letter also defined financial information as any information providing insight into the company's financial health (e.g., financial statements, budgets, profit and loss statements, expense reports, and single indicators such as number of applications initiated, number of applications received, number of applications funded, etc.).

*Section 4.3a: The Associate Survey*

The Associate Survey contained questions examining employees' receipt of financial information, direction of attention to job tasks, beliefs regarding transparency, psychological ownership, trust in management, perception of their in-role and extra-role performance, and organizational commitment. Employees were asked whether they had taken an accounting or finance course, the extent to which the employer trained them on how to understand/interpret financial information, and the extent to which the employee was confident in his/her ability to understand/interpret financial information. Finally, employees were asked to provide background information (e.g., age, education level, tenure with the organization). Employees were assured that their individual responses would be confidential and that only aggregated data would be reported to the organization.

Items for each variable were randomly ordered through the survey. Except where otherwise indicated, participants responded using a 5-point scale where 1 = Strongly disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly agree. Responses to each

variable's items were averaged into an index[7] and were coded so that a high score indicates a high value for each variable.

*Section 4.3b: The Manager's Survey*

Managers were asked to complete an additional *Financial Information Sharing Survey* (see Appendix C – Manager Survey). They were also asked to assess each of their subordinates' in-role and extra-role performance.

*Section 4.3c: The Scales for the Dependent, Mediating, Independent and Control Variables*

*Dependent Variables*

In-role Performance (evaluated by the manager). Using a 5-point scale where 1 = Never, 2 = Occasionally, 3 = Fairly many times, 4 = Very often, and 5 = Always, managers assessed their subordinates' in-role performance with three items adapted from Williams and Anderson's (1991) scale: "This employee adequately completes assigned duties," "This employee fulfills responsibilities specified in his/her job description," and "This employee performs tasks that are expected of him/her." The Cronbach alpha reliability for this scale was .94.

In-role Performance (evaluated by the employee). Using a 5-point scale where 1 = Never, 2 = Occasionally, 3 = Fairly many times, 4 = Very often, and 5 = Always, employees assessed their in-role performance with three items adapted from Williams and Anderson's (1991) scale: "I adequately complete assigned duties," "I fulfill responsibilities specified in my job description," and "I perform tasks that are expected of me." The Cronbach alpha reliability for this scale was .84.

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[7] For example, if a variable had 3 survey items, a respondent's variable score would equal the (response for

In-role Performance (evaluated by the firm). The firm provided an objective, single-score evaluation of employees' in-role performance. The employer uses this score to rank employees for monthly and year-end bonuses. This measure considered the number of applications initiated, the number of completed applications received by an employee, and the number of hours the employee spent on the telephone with potential and current clients.

Extra-role Performance (evaluated by the manager). Using a 5-point scale where 1 = Never, 2 = Occasionally, 3 = Fairly many times, 4 = Very often, and 5 = Always, managers assessed their subordinates' extra-role performance with three items adapted from Organ and Konovsky's (1989) and VandeWelle, et al.'s (1995) scales: "This employee volunteers for things that are not required," "This employee makes suggestions to improve the department or organization," and "This employee helps others with their responsibilities here at the organization." The Cronbach alpha reliability for this scale was .88.

Extra-role Performance (evaluated by the employee). Using a 5-point scale where 1 = Never, 2 = Occasionally, 3 = Fairly many times, 4 = Very often, and 5 = Always, employees assessed their extra-role performance with three items adapted from Organ and Konovsky's (1989) and VandeWelle, et al.'s (1995) scales: "I volunteer for things that are not required," "I make suggestions to improve the department or organization," and "I help others with their responsibilities here at the organization." The Cronbach alpha reliability for this scale was .66. The reliability analysis indicated that the measure would not be improved if any of the three items were eliminated from the analysis.

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item 1 + response for item 2 + response for item3) / 3.

Organizational commitment. Nine items from Mowday, Steers and Porter's (1979) instrument assessed employees' organizational commitment: "I am willing to put in a great deal of effort beyond that normally expected in order to help this organization be successful," "I talk up this organization to my friends as a great organization to work for," "I would accept almost any type of job assignment in order to keep working for this organization," "I find that my values and the organization's values are very similar," "I am proud to tell others that I am part of this organization," "This organization really inspires the very best in me in the way of job performance," "I am extremely glad that I chose this organization to work for over others I was considering at the time I joined," "I really care about the fate of this organization," and "For me this is the best of all possible organizations for which to work." The Cronbach alpha reliability for this scale was .91.

*Mediating Variables*

Direction of effort. Four items designed for this study assessed employees' use of financial information to direct their attention to job tasks: "I use the financial information shared with me to set goals for my job," "Financial information I receive influences the goals that I set for my job performance," "The firm's financial information affects how I prioritize my tasks," and "I use financial information to plan how much time I will spend on particular job tasks." The Cronback alpha reliability for this scale was .86.

Transparency of the firm. Six items adapted from Ferrante and Rousseau's (2000) transparency scale assessed employees' perception that their employer is transparent: "The company openly shares financial information with me," "The firm's financial reporting is clear and transparent," "Information about the financial status of the firm is actively shared and widely disseminated," "The financial information the firm shares

with me is clear," "The financial information the firm shares with me is credible," and "The financial information the firm shares with me is useful to me." The Cronbach alpha reliability for this scale was .90.

Psychological ownership. Five items from the Pierce, Van Dyne and Cummings' (1992) measurement instrument assessed employees' psychological ownership: "This is MY organization," "I sense that this organization is OUR company," "I feel a very high degree of personal ownership for this organization," "I sense that this is MY company," and "This is OUR company." The Cronbach alpha reliability for this scale was .79. The reliability analysis indicated that the measure would be substantially improved if the fifth item were eliminated from the analysis. The revised Cronbach alpha reliability was .91.

Trust in management. Six items from Robinson and Rousseau's (1994) scale (derived from Gabarro & Athos, as cited in Robinson & Rousseau, 1994) assessed employees' trust in management: "I am not sure I fully trust my employer (reverse score)," "My employer is open and upfront with me," "I believe my employer has high integrity," "In general, I believe my employer's motives and intentions are good," "My employer is not always honest and truthful (reverse score)," and "I don't think my employer treats me fairly (reverse score)." The Cronbach alpha reliability for this scale was .88.

*Independent Variable*

Financial information sharing. Data for this variable were obtained from employees and managers. Employees indicated whether they received each of the 30 pieces of financial information that was developed from the input provided by the interviewees (see Appendix C – Associate Survey, question 39). For each of the 30 pieces

of financial information, respondents received a '0' if they indicated they did not receive the information and a '1' if they indicated they did receive the information. Principal components analysis with varimax rotation yielded five financial information sharing factors (see Appendix D, Table 1)[8].

The first factor was called *employee financial information* because it indicated employees' personal and team productivity. The second factor was called *firm financial information* because it provided productivity information for the entire firm. The third factor was called *quality financial information* because it contained information indicative of the quality of the work completed by employees. For example, one piece of quality financial information is the number of applications that an employee completed and had to be redone because of some type of error. The fourth factor was called *managerial financial information* because managers used it primarily for decision-making. The fifth and final factor was called *profitability financial information* because it indicated the overall financial status of the firm. The factor scores from the analysis were used as values for each of the five financial information-sharing variables.

Managers indicated whether they received each of the pieces of financial information (see Appendix C – Manager Survey) and whether they shared this information with their subordinates. For each piece of financial information, respondents received a '0' if they indicated they did not receive the information and a '1' if they indicated they did receive the information and that they shared the information with their employees. With the exception of six items, principal components analysis with varimax

[8] Bartholomew (1987) discusses the suitability of running factor analysis on dichotomous data. Principal components analysis is a data reduction technique that helps the researcher examine underlying meaningful patterns in the data.

rotation yielded the same five financial information-sharing factors identified with the employee data.

One major difference was that employee productivity for federal loans and user call statistics were loaded onto shared employee financial information for employees and onto shared firm information for managers. Similarly, quality indicators such as the number of loan applications with errors were loaded onto quality information for employees and onto firm information for managers. One possible reason for these discrepancies is that employees perceive any information related to their personal productivity to be employee financial information, whereas managers perceive high visibility indicators such as the number of federal loans and errors to be more of an organizational (rather than an employee-specific) concern.

The amount of money made per loan and the money spent on marketing campaigns provided another difference between employee and manager responses: employees considered both indicators to be managerial information, whereas managers considered both indicators as profitability information. It is difficult to determine a reason for this discrepancy, as these indicators could logically fit into either type of financial information. Employees perceived the two items to be similar to items such as the budget, and both the profit per loan and the marketing expense could be line items on the budget. Managers, however, perceived the profit per loan and marketing expense to be similar to the profit/loss statement, and both of these items could arguably be found on such a statement. One potential explanation is that managers are concerned about the overall profitability of the company, while employees are more concerned about day-to-day operations.

The results of the analysis using managers' responses were unstable because the correlation matrix for the analysis is not positive definite[9]. In addition, principal components analysis of binary data requires a sample size larger than that available in this study when using only manager responses. Only 35 managers out of 100 completed the survey, so the sample size was reduced to 109 employees[10]. Thus, this variable has been coded using employees' responses rather than managers' responses. Also, I believe for the purposes of my study that it is better to rely on the employees' assessment of what financial information they receive rather than to assume that employees receive the information their managers say they share with them.

*Control Variables*

Control variables such as employees' age, education, tenure with the organization, and job level were included in the analysis because research has shown that these variables predict employees' organizational commitment (Mathieu & Zajac, 1990). Control variables for employees' location, perception of the financial health of the firm, and desire for financial information were also included[11].

Age. Employees indicated their current age.

Education. Using a 5-point scale where 1 = Graduated from high school or G.E.D., 2 = Some college or technical training beyond high school, 3 = Graduated from college, 4 = Some graduate school, and 5 = Graduate degree (Master's, Ph.D., M.D., J.D., etc.), employees indicated the highest level of education they had completed.

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[9] This also makes it difficult to use correlation measures to assess the degree of convergence between the two sets of data.

[10] I only have a corresponding manager's survey for 109 of my 258 respondents.

[11] Location is used as a control variable because there are potential differences between the two sites that I was unable to observe.

Tenure with the organization. Using a 5-point scale where 1 = 3 months or less, 2 = 4 to 6 months, 3 = 7 to 9 months, 4 = 10 months to 1 year, and 5 = More than 1 year, employees indicated how long they have been employed with the company.

Job level. Using information provided by the organization, I coded this variable so that 1 = Staff, 2 = Supervisor, 3 = Assistant Manager, and 4 = Vice President.

Employee's location. Using information provided by the organization, I coded this variable so that 0 = Site 1 and 1 = Site 2.

Financial health of the firm. Two items assessed employees' perception that the firm is successful: "This organization is financially sound," and "In general, this organization is financially successful." The Cronbach alpha reliability for this scale was .73.

Desire for financial information. Two items assessed employees' desire for financial information: "It does not matter to me whether the firm shares financial information with me (reverse score)," and "I am not particularly interested in my employer's sharing of financial information with me (reverse score)." The Cronbach alpha reliability for this scale was .74.

*Other Descriptive Variables*

Employees' perception that workers discuss the financial health of the company and the extent to which the employer trained them on how to understand/interpret financial information were used to further describe the organization[12].

Discussion of the financial health of the company. Two items assessed employees' perception that employees discuss the financial health of the company: "My coworkers and I discuss the firm's financial health," and "It is common to hear

employees discussing the firm's financial well-being." The Cronbach alpha reliability for this scale was .81.

Employer's provision of training on financial information. Using a 3-point scale where 1 = Not at all, 2 = To some extent, and 3 = To a great extent, employees indicated the extent to which their employer trained them on how to understand/interpret financial information. Approximately 50% of respondents indicated that they did not receive training on financial information. This variable was recoded so that 0 = Not at all, and 1 = To some/a great extent.

[12] These variables were not included as control variables in the analyses because they are most likely an inherent part of the information sharing process.

# Chapter 5: Data Analysis and The Results of Hypothesis Testing

## Section 5.1: Data Analysis

The results of data analysis to examine the psychometric properties of the data and to test the hypotheses are discussed in this chapter. I used OLS multiple regression analysis and structural equation modeling to test my hypotheses. Regression analysis is more straightforward for identifying relationships between variables; structural equation modeling is a more refined method for analyzing relationships between constructs using latent variables and for evaluating the overall fit of my proposed model.

*Section 5.1a: Principal and Confirmatory Factor Analyses*

Principal factor analysis with varimax rotation was performed on each scale to confirm independence of the underlying items (using eigenvalues greater than 1.0 and factor loadings greater than or equal to .4; results available upon request). In addition, confirmatory factor analysis using Amos 4.0 was performed to examine the distinctiveness of the variables.

I used maximum likelihood estimation to compare the fit of seven nested models ranging from a single-factor model to the assumed seven-factor model:

1. a one-factor model using all 7 constructs;
2. a two-factor model using direction of effort as one construct (Factor 1) and combining in-role performance, extra-role performance, organizational commitment, trust in management, transparency of the firm and psychological ownership into one construct (Factor 2);
3. a three-factor model using direction of effort (Factor 1) and in-role performance (Factor 2) as separate constructs and combining extra-role

performance, organizational commitment, trust in management, transparency of the firm, and psychological ownership into one construct (Factor 3);

4. a four-factor model using direction of effort (Factor 1), in-role performance (Factor 2), and extra-role performance (Factor 3) as separate constructs and combining organizational commitment, trust in management, transparency of the firm, and psychological ownership into one construct (Factor 4);
5. a five-factor model using direction of effort (Factor 1), in-role performance (Factor 2), extra-role performance (Factor 3), and organizational commitment (Factor 4) as separate constructs and combining trust in management, transparency of the firm, and psychological ownership into one construct (Factor 5);
6. a six-factor model using direction of effort (Factor 1), in-role performance (Factor 2), extra-role performance (Factor 3), organizational commitment (Factor 4), and trust in management (Factor 5) as separate constructs and combining transparency of the firm and psychological ownership into one construct (Factor 6); and
7. the assumed seven-factor model.

An eight-factor model (in which organizational commitment was broken into two factors) was analyzed to further confirm that a seven-factor model was appropriate.

The results of the analysis are shown in Appendix D, Table 2. Researchers recommend that the CFI (comparative fit index) and TLI (Tucker-Lewis index) indices

(both of which range from 0 to 1) be close to 1 to indicate a very good fit (Bollen, 1989). It is also recommended that the RMSEA (root-mean-square error of approximation) be less than 0.1 and that the $\chi^2$/df (minimum discrepancy divided by degrees of freedom) be close to or less than 3.0 for a good fitting model (Bollen, 1989).

The seven-factor model is the best fitting model, as this model has the highest CFI and TLI, the lowest RMSEA, and is the only model with a $\chi^2$/df less than 3. Fit is not improved with the eight-factor model, thus confirming the use of a seven-factor model to test the hypotheses.

*Section 5.1b: Descriptive Statistics*

The means, standard deviations, reliabilities (Cronbach alphas), and zero-correlation for the variables are presented in Appendix D, Table 3.

The control and descriptive variables that are significantly correlated with respondents' perceptions can be broken into two categories: 1) employee demographics such as age, education, tenure, job level and location, and 2) employee perceptions such as firm financial health, desire for information, coworkers' discussion of firm financial health, and training on financial information provided by the firm. None of the control and descriptive variables were significantly correlated with managers' perception of their subordinates' extra-role performance and employees' evaluation of shared profitability financial information.

Employee demographic control variables. Among the demographic control variables, several were significantly related to employees' beliefs. Employees' age is positively correlated with employees' commitment to the organization ($r = .14$, $p < .05$), psychological ownership ($r = .24$, $p < .01$), and trust in management ($r = .19$, $p < .01$); it

is negatively correlated with the firm's evaluation of employees' in-role performance ($r = -.25$, $p < .05$). Employees' education is negatively correlated with employees' evaluation of their own in-role performance ($r = -.13$, $p < .05$), the firm's evaluation of employees' in-role performance ($r = -.20$, $p < .05$), employees' evaluation of their own extra-role performance ($r = -.13$, $p < .05$), and employees' commitment to the firm ($r = -.15$, $p < .05$). Employees' tenure with the organization is negatively correlated with managers' evaluation of their subordinates' in-role performance ($r = -.37$, $p < .01$), employees' organizational commitment ($r = -.19$, $p < .01$), use of financial information to direct their attention to job tasks ($r = -.14$, $p < .05$), perception that the firm is transparent ($r = -.26$, $p < .01$), psychological ownership ($r = -.24$, $p < .01$), and trust in management ($r = -.29$, $p < .01$). Employees' job level is positively correlated with employees' evaluation of their own extra-role performance ($r = .16$, $p < .05$) and shared managerial financial information ($r = .14$, $p < .05$)[13]. Employees' evaluation of their own extra-role performance is higher at site 2 ($r = .12$, $p < .05$), even though there is less employee financial information ($r = -.36$, $p < .01$) shared with these employees.

Employee perceptual variables. Several perceptual variables were significantly correlated with employee attitudes. Employees' perception that the firm is financially healthy is positively correlated with employees' organizational commitment ($r = .25$, $p < .01$), use of financial information to direct their attention to job tasks ($r = .15$, $p < .05$), perception that the firm is transparent ($r = .29$, $p < .01$), psychological ownership ($r = .24$, $p < .01$), trust in management ($r = .24$, $p < .01$), and shared employee ($r = .14$, $p < .05$), quality ($r = .14$, $p < .05$), and managerial ($r = .13$, $p < .05$) financial information.

Employees' desire for financial information is negatively related to their perception that the firm is transparent ($r = -.20$, $p < .01$). Employees' perception that coworkers discuss the company's financial health is positively correlated with employees' use of financial information to direct their attention to job tasks ($r = .25$, $p < .01$), perception that the firm is transparent ($r = .25$, $p < .01$), psychological ownership ($r = .13$, $p < .05$), and shared employee ($r = .15$, $p < .05$) and quality ($r = .19$, $p < .01$) financial information. Employees' perception that the firm provided training on financial information is positively correlated with employees' organizational commitment ($r = .22$, $p < .01$), use of financial information to direct their attention to job tasks ($r = .31$, $p < .01$), perception that the firm is transparent ($r = .34$, $p < .01$), psychological ownership ($r = .22$, $p < .01$), trust in management ($r = .22$, $p < .01$), and shared employee financial information ($r = .21$, $p < .01$).

[13] This variable was coded so that a lower number refers to a lower level job; e.g., staff employees have job level 1.

**Section 5.2: Results of Hypothesis Testing**

*Section 5.2a: Testing Hypotheses using Regression Analysis*

To test my hypotheses, I used OLS multiple regression analysis and the methodology outlined by Baron and Kenny (1986) for testing the relationships involving mediators. For each hypothesis suggesting the presence of a mediator, I ran a series of analyses:

Analysis 1: Correlation of the independent variable and the mediator;

Regression 1: $Y = cX + e$; and,

Regression 2: $Y = c'X + bM + e$; where Y is the outcome variable, X is the independent variable and M is the mediator variable.

For mediation, three results must be significant: 1) the correlation of the independent and mediator variables, 2) the 'c' in Regression 1, and 3) the 'b' in Regression 2. If c' in Regression 2 equals zero, there is full mediation. However, if c' is less than c (in Regression 1), there is partial mediation.

*Section 5.2b: The Results of Regression Analysis*

The results for hypotheses 1 through 5 are shown in Appendix D, Tables 4 through 13. In the first column of each table, the results of the dependent variable regressed on the independent variable(s) are shown. The second column of each table shows the results of the dependent variable regressed on the independent variable(s) and the demographic control variables. The results of the dependent variable regressed on the independent variable(s) and the demographic and perceptual control variables are shown in the third column of each table. For the tables showing the results of mediation, the results of the dependent variable regressed on the independent variable(s), the control

variables, and the proposed mediating variable(s) appear in the fourth column. If the presence of the mediator reduced the relationship between the dependent and independent variables, I concluded that the variable played a mediating role.

Hypothesis 1a is supported, as shared employee ($\beta = .19$, $p < .01$), firm ($\beta = .10$, $p < .10$), quality ($\beta = .22$, $p < .01$), and managerial ($\beta = .14$, $p < .05$) financial information are positively related to employees' direction of effort to job tasks (see Appendix D, Table 4). Employees' tenure ($\beta = -.14$, $p < .05$) negatively impacts their direction of effort.

Several measures of employees' in-role performance were used to evaluate whether employees' use of financial information to direct their attention to job tasks mediated the relationship between financial information sharing and employees' performance of required job tasks. Managers' evaluation of in-role performance is significantly correlated with the evaluations of in-role performance by employees ($r = .20$, $p < .05$) and the firm ($r = .33$, $p < .05$) (see Appendix D, Table 3). There is no significant relationship between in-role performance evaluations by employees and the firm.

Using managers' and employees' evaluation of respondents' in-role performance, Hypothesis 2a is not supported because financial information sharing is not significantly related to employees' in-role performance (See Appendix D, Tables 5 and 6). Only employees' tenure (using managers' evaluation of in-role performance; $\beta = -.21$, $p < .01$; see Table 5) and employees' desire for financial information (using employees' evaluation of in-role performance; $\beta = -.12$, $p < .10$; see Table 6) significantly predict employees' in-role performance.

Hypothesis 2a is also unsupported when using the firm's measure to evaluate employees' in-role performance. As shown in Appendix D, Table 3, employees' direction of effort is significantly correlated with shared employee ($r = .18$, $p < .01$), quality ($r = .22$, $p < .01$), and managerial ($r = .14$, $p < .05$) financial information, thus satisfying the first condition for mediation. However, only shared profitability financial information is significantly related to employees' in-role performance ($\beta = 0.12$, $p < .10$; see Appendix D, Table 7). Therefore, employees' direction of effort cannot mediate the relationship between shared financial information and employees' in-role performance. As shown in the last column of Table 7, employees' in-role performance is significantly related to shared employee ($\beta = .12$, $p < .10$), quality ($\beta = .12$, $p < .10$), and profitability ($\beta = .12$, $p < .10$) financial information, as well as employees' age ($\beta = -.13$, $p < .05$), education ($\beta = -.12$, $p < .10$), and direction of effort ($\beta = -.14$, $p < .05$).

These results suggest that employees do use the employee, quality, and profitability financial information that is shared with them to enhance their in-role performance; however, employees' direction of effort decreases their in-role performance. It is possible that the negative effect is a result of the items used to measure employees' direction of effort. The "direction of effort" survey items assessed employees' use of financial information to set goals for their jobs and to prioritize job tasks. It is possible that employees increase their in-role performance through tasks other than goal setting and task prioritization.

It makes sense that shared employee and quality financial information would be highly correlated with employees' goal setting and task prioritization, as these types of financial information provide data on employees' productivity and errors. Employees can

use productivity and error information to set goals and prioritize tasks in hopes of improving productivity and reducing errors.

The results support Hypotheses 3a, b, and c because financial information sharing is positively related to employees' perception of the firm's transparency, psychological ownership and trust in management. As shown in Appendix D, Table 8, shared employee ($\beta = .15$, $p < .01$), firm ($\beta = .12$, $p < .05$), quality ($\beta = .16$, $p < .01$), and managerial ($\beta = .17$, $p < .01$) financial information positively predict employees' perception that the firm is transparent. Employees' transparency is also enhanced by their perceptions that the firm is financially healthy ($\beta = .22$, $p < .01$). Only employees' tenure ($\beta = -.23$, $p < .01$) and desire for financial information ($\beta = -.18$, $p < .01$) negatively impact employees' perception of the employer's transparency.

Employees' psychological ownership is positively influenced by shared firm ($\beta = .10$, $p < .10$) and managerial financial information ($\beta = .16$, $p < .01$), as well as by employees' age ($\beta = .27$, $p < .01$) and perception that the firm is financially healthy ($\beta = .19$, $p < .01$; see Appendix D, Table 9). Employees' education ($\beta = -.19$, $p < .01$) and tenure ($\beta = -.24$, $p < .01$) negatively impact their psychological ownership. As shown in Appendix D, Table 10, shared firm ($\beta = .11$, $p < .05$) and managerial ($\beta = .12$, $p < .05$) financial information, as well as employees' age ($\beta = .21$, $p < .01$) and perception that the firm is financially healthy ($\beta = .19$, $p < .01$), positively impact employees' trust in management. Employees' trust is negatively affected by their education ($\beta = -.13$, $p < .05$) and tenure ($\beta = -.28$, $p < .01$).

Hypotheses 4a, b, and c are supported because employees' perception that the firm is transparent ($\beta = .52$, $p < .01$), their psychological ownership ($\beta = .70$, $p < .01$), and

their trust in management ($\beta = .77$, $p < .01$) mediate the relationship between shared managerial financial information and employees' organizational commitment (see Appendix D, Table 11)[14]. In addition to employees' perception that the firm is transparent, employees' age ($\beta = .16$, $p < .01$), education ($\beta = -.18$, $p < .01$), and perception that the firm is financially healthy ($\beta = .12$, $p < .05$) significantly affect employees' organizational commitment. Employees' education ($\beta = -.09$, $p < .05$) and perception that the firm is financially healthy ($\beta = .10$, $p < .05$) are significant in predicting the relationship between employees' psychological ownership and organizational commitment.

In addition to employees' trust in management, employees' organizational commitment is significantly influenced by employees' education ($\beta = -.12$, $p < .01$), location ($\beta = .07$, $p < .10$), and perception that the firm is financially healthy ($\beta = .09$, $p < .05$). In examining the joint effect of employees' perception of the firm's transparency, their psychological ownership in the firm, and their trust in management on employees' organizational commitment, only shared profitability financial information ($\beta = -.06$, $p < .10$), employees' education ($\beta = -.09$, $p < .05$), psychological ownership ($\beta = .34$, $p < .01$), and trust in management ($\beta = .54$, $p < .01$) are significant.

Hypothesis 5 suggests that employees' organizational commitment is positively related to employees' extra-role performance. Using managers' evaluation of employees' extra-role performance, Hypothesis 5 is not supported (see Appendix D, Table 12).

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[14] Although shared firm financial information ($\beta = .11$, $p < .05$) is also significantly related to employees' organizational commitment, only shared managerial financial information ($\beta = .11$, $p < .05$) is significantly correlated with employees' perception of transparency ($r = .21$, $p < .01$), psychological ownership ($r = .19$, $p < .01$), and trust in management ($r = .15$, $p < .05$; see Appendix D, Table 3), thus satisfying the first condition for mediation.

However, when I used employees' evaluation of their own extra-role performance, Hypothesis 5 is supported, as employees' organizational commitment ($\beta = .15$, $p < .05$) is positively related to their extra-role performance (see Appendix D, Table 13). In addition, employees' job level ($\beta = .16$, $p < .05$) is also significant in this analysis. However, after the inclusion of the financial information sharing variables and employees' perception that the firm is transparent, their psychological ownership, and their trust in management, shared employee ($\beta = -.15$, $p < .05$) and managerial ($\beta = .12$, $p < .05$) financial information, employees' education ($\beta = -.11$, $p < .10$), job level ($\beta = .11$, $p < .10$), psychological ownership ($\beta = .36$, $p < .01$), and trust in management ($\beta = -.18$, $p < .10$) significantly predict employees' extra-role performance.

*Section 5.2c: Testing Hypotheses using Structural Equation Modeling*

To further test my hypotheses, I used structural equation modeling (using AMOS 4.0) and the methodology outlined by Kenny, Kashy and Bolger (1998) for using structural equation modeling to test relationships involving mediators. Structural equation modeling considers the entire system of relationships under study and assesses the goodness of fit of the data to the theorized model (Bollen, 1989; Byrne, 2001). Scale items were used as indicators of all the latent variables except the five financial information sharing factors[15]. The highest loading item for each scale (based on the confirmatory factor analysis) was used as a reference indicator, and the loadings for these items were set to a value of one. I used maximum likelihood estimation for the models.

*Section 5.2d: The Results of Structural Equation Modeling*

[15] The five financial information-sharing factors were treated as observed variables in the model because I used the factor scores as indicators for these variables.

One advantage to structural equation modeling is that several hypotheses can be simultaneously tested through one structural model known as the path diagram. The results for hypotheses 1a and 2a are shown in Appendix D using Figures 1 (using managers' evaluation of in-role performance), 2 (using employees' evaluation of their own in-role performance), and 3 (using the firm's evaluation of in-role performance). The result for Hypothesis 1a is similar to that reported for regression analysis. Shared employee ($\beta = .20$, $p < .01$), quality ($\beta = .24$, $p < .01$), and managerial ($\beta = .16$, $p < .01$) financial information are positively related to employees' direction of effort, thus supporting the hypothesis.

Similar to the methodology outlined by Baron and Kenny (1986), Kenny et al. (1998) suggest using correlations to satisfy the condition of mediation that requires financial information sharing to significantly predict employees' in-role performance for Hypothesis 2a. Only shared profitability financial information was significantly related to employees' in-role performance ($r = .27$, $p < .01$; see Appendix D, Table 3), and only for in-role performance as evaluated by the firm. However, employees' direction of effort was not significantly related to employees' in-role performance (see Appendix D, Figure 3 for the path diagram)[16]. Thus, Hypothesis 2a is not supported.

The results for hypotheses 3 and 4 are shown in Appendix D, Figure 4. Hypothesis 3 is supported, as financial information sharing positively predicts employees' perception that the firm is transparent, their psychological ownership, and their trust in management. Shared employee ($\beta = .17$, $p < .01$), quality ($\beta = .17$, $p < .01$), managerial ($\beta = .22$, $p < .01$), and profitability ($\beta = .12$, $p < .10$) financial information

predict employees' transparency. Employees' psychological ownership is affected by shared managerial ($\beta = .20$, $p < .01$) and profitability ($\beta = .12$, $p < .10$) financial information. Only shared managerial ($\beta = .15$, $p < .05$) financial information impacts employees' trust in management.

Hypothesis 4 is partially supported, as employees' psychological ownership and trust in management mediate the relationship between financial information sharing and employees' organizational commitment (see Appendix D, Figure 4 for the path diagram). Kenny et al.'s first condition for mediation (i.e., that financial information sharing be correlated with employees' organizational commitment) was satisfied only for shared managerial financial information ($r = .14$, $p < .05$; see Appendix D, Table 3). Shared managerial financial information is significantly related to employees' perception that the firm is transparent ($\beta = .22$, $p < .01$), psychological ownership ($\beta = .20$, $p < .01$), and trust in management ($\beta = .15$, $p < .05$). Only employees' psychological ownership ($\beta = .37$, $p < .01$) and trust in management ($\beta = .78$, $p < .01$) are significantly related to employees' organizational commitment. Employees' education ($\beta = -.08$, $p < .05$), tenure ($\beta = .11$, $p < .01$), and perception that the firm is financially healthy ($\beta = .11$, $p < .01$) also significantly affect employees' organizational commitment. This model adequately fits the data, as the CFI is .94, the TLI is .94, the minimum discrepancy (i.e., $\chi^2/df$) is 2.98 and the RMSEA = .09.

Similar to the regression results, Hypothesis 5 is supported only when using employees' evaluation of their own extra-role performance to examine the relationship between employees' organizational commitment and extra-role performance (see

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[16] See Appendix D, Figure 1 for the path diagram using managers' evaluation of in-role performance and

Appendix D, Figure 5 for the path diagram using managers' evaluation of extra-role performance and Figure 6 for the path diagram using employees' evaluation of their own extra-role performance). Employees' organizational commitment is significantly related to employees' extra-role performance as evaluated by employees ($\beta = .24$, $p < .01$). Employees' extra-role performance is also significantly affected by employees' tenure ($\beta = .15$, $p < .05$), job level ($\beta = .20$, $p < .01$), location ($\beta = .16$, $p < .05$), perception that the firm is financially healthy ($\beta = .19$, $p < .01$), and desire for financial information ($\beta = .26$, $p < .01$). The data adequately fit the model, as the CFI is .94, the TLI is .94, the minimum discrepancy (i.e., $\chi^2/df$) is 2.89, and the RMSEA is .09.

*Section 5.2e: Structural Equation Modeling and Full Model Fit*

In addition to testing my hypotheses, I examined the fit of my full model (i.e., Hypotheses 1a, 2a, 3, 4 and 5 as a whole). The path diagrams for the full model are in Appendix D. They use a) managers' evaluation of their subordinates' in-role and extra-role performance (Figure 7); b) employees' evaluation of their own in-role and extra-role performance (Figure 8); c) the firm's evaluation of employees' in-role performance and managers' evaluation of employees' extra-role performance (Figure 9); and d) the firm's evaluation of respondents' in-role performance and respondents' evaluation of their own extra-role performance (Figure 10). The goodness-of-fit measures for each of these models are summarized in Appendix D, Table 14. The model using managers' evaluations of employees' in-role and extra-role performance (see Appendix D, Figure 7) has the best fit to the hypothesized model because it is the model with a minimum

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Figure 2 for the path diagram using employees' evaluation of in-role performance.

discrepancy statistic (i.e., $\chi^2$/df) closest to 3.0, the recommended cutoff. The remaining fit indices are nearly identical for all of the models.

In the best fitting model, the only path that is not significant is that which connects employees' organizational commitment to their extra-role performance. Furthermore, the type of shared financial information affecting employees' perceptions varies. Employees' use of shared financial information to direct their attention to job tasks is enhanced only by shared quality financial information ($\beta = .10$, $p < .10$). There is a positive, significant relationship between employees' use of shared financial information to direct their attention to job tasks and their in-role performance ($\beta = .23$, $p < .05$). Employees' in-role performance is also significantly affected by employees' education ($\beta = .16$, $p < .10$), their location ($\beta = .17$, $p < .05$), their perception that the firm is financially healthy ($\beta = .24$, $p < .01$), and their desire for financial information ($\beta = .26$, $p < .10$).

Employees' perception that the firm is transparent is significantly affected by shared employee ($\beta = .17$, $p < .01$), quality ($\beta = .17$, $p < .01$), managerial ($\beta = .22$, $p < .01$), and profitability ($\beta = .12$, $p < .10$) financial information. Only shared managerial ($\beta = .20$, $p < .01$) and profitability ($\beta = .12$, $p < .10$) financial information significantly affect employees' psychological ownership. Employees' trust in management is significantly enhanced only by shared managerial financial information ($\beta = .15$, $p < .05$). Employees' perception that the firm is transparent ($\beta = .07$, $p < .10$), their psychological ownership ($\beta = .30$, $p < .01$), and their trust in management ($\beta = .84$, $p < .01$) significantly affect employees' organizational commitment. Although employees' organizational commitment does not significantly affect their extra-role performance, extra-role

performance is significantly affected by employees' job level ($\beta = .25$, $p < .01$), location ($\beta = .20$, $p < .05$), and desire for financial information ($\beta = .20$, $p < .05$).

*Section 5.2f: Regression Analysis versus Structural Equation Modeling*

As shown above, I have tested my hypotheses using two different statistical approaches. I will be limiting my discussion to the structural equation modeling results because I believe that structural equation modeling is a better analytical tool for three reasons: first, this approach estimates a series of interdependent regression equations simultaneously, making it a desirable tool for testing mediation[17]; second, unlike regression analysis, which assumes there is no error in the independent variables, structural equation modeling evaluates and minimizes measurement error (Byrne, 2001); and third, unobserved variables can be represented in structural equation modeling because survey items, not the scales constructed from the items, are used to measure the variables.

[17] Interdependent means that a variable can be both a dependent and independent variable in the model.

# Chapter 6: General Discussion and Conclusion

## Section 6.1: General Discussion

### *Section 6.1a: Contributions of the Dissertation*

In this dissertation, I set out to explore what types of financial information employers are sharing with their employees. In addition, I examined how this information affects employees' in-role and extra-role performance, as well as their relationship with the employer. This study finds that there are five types of financial information shared with employees in my data site: employee, firm, quality, managerial, and profitability. With the exception of firm financial information (e.g., productivity reports for the firm as a whole), each of these types of financial information significantly impacts at least one aspect of employees' relationship with their employer.

The study suggests that employees use shared employee (e.g., productivity reports), quality (e.g., error reports), and managerial (e.g., budgets, expense reports) financial information to set goals for and prioritize their job tasks, thus supporting Hypothesis 1a[18]. These results are consistent across the three measures of employees' in-role performance.

It is surprising that employees' direction of effort is not significantly related to their performance of required job duties. Direction of effort measures employees' use of shared financial information to set goals and prioritize tasks, whereas in-role performance it evaluates employees' completion of assigned or required tasks. It is possible that there are inconsistencies between the direction of effort and in-role performance measures.

[18] Recall that direction of effort assessed employees' use of financial information to set goals and prioritize tasks.

Employees may not consider goal setting and task prioritization to be a part of their expected or required job tasks. Therefore, there would not be a connection between employees' direction of effort and in-role performance.

As expected, this dissertation finds that employees' psychological ownership and trust in management mediate the relationship between shared managerial financial information and employees' organizational commitment. This finding contributes to organizational research on psychological ownership and trust, as earlier research has not empirically determined the factors that influence whether employees' develop psychological ownership in their workplace and trust in management. My results indicate that shared managerial and profitability financial information enhance employees' psychological ownership, and shared managerial financial information positively impacts employees' trust in management. Furthermore, these findings replicate prior research linking employees' psychological ownership (Vande Welle, et al., 1995) and trust in management (Folger & Konovsky, 1989; Whitener, 2001) to employees' organizational commitment.

Employees' perception that their employer is transparent did not mediate the relationship between financial information sharing and employees' organizational commitment. The transparency measure assesses employees' perception that the firm shares financial information and that the shared financial information is clear, credible, and useful to the employee. Results indicate that shared employee, quality, managerial, and profitability financial information enhance employees' perception that the firm is transparent. In addition, Appendix D, Table 3 shows employees' perception of firm

transparency is highly correlated with both employees' psychological ownership ($r = .58$, $p < .01$) and trust in management ($r = .61$, $p < .01$).

It is possible that employees' transparency mediates the relationship between financial information sharing on the one hand and employees' psychological ownership and trust in management on the other. I ran an additional structural equation model to examine this relationship (see Appendix D, Figure 11). The first condition for mediation is satisfied, as shared managerial financial information is significantly correlated with employees' psychological ownership ($r = .19$, $p < .01$) and trust in management ($r = .15$, $p < .05$). Results indicate that employees' transparency does mediate the relationship between shared managerial financial information, and employees' psychological ownership ($\beta = .66$, $p < .01$) and trust in management ($\beta = .70$, $p < .01$). Furthermore, both employees' psychological ownership ($\beta = .23$, $p < .01$) and trust in management ($\beta = .80$, $p < .01$) mediate the relationship between employees' organizational commitment and their perception that the firm is transparent[19].

I expected to replicate the findings of other researchers by confirming that employees' organizational commitment is positively related to employees' extra-role performance. The dissertation confirms this hypothesis, but only for employees' evaluation of their own extra-role performance. Managers' and employees' evaluation of extra-role performance were significantly correlated ($r = .39$, $p < .01$); however, the employees' measure of in-role performance is not very reliable because its Cronbach alpha reliability was only .66. Extra-role performance evaluates how often employees volunteer for non-required tasks, make suggestions to improve the organization, and help

coworkers with their tasks. Employees may not be as proficient or objective as their managers in evaluating their extra contributions to the workplace. It is also possible that these results are particular to the organization and/or industry used for this study.

Using managers' assessment of employees' in-role and extra-role behavior provided the best fit to the full structural model (see Appendix D, Figure 7). It is interesting that employees' direction of effort does mediate the relationship between shared quality financial information and employees' in-role performance in the full model, but not in the nested model (i.e., the model examining only the in-role performance). The results for the extra-role performance side of the full model are identical to those obtained when examining only the relationship between employees' organizational commitment and extra-role performance. Yet, it appears that the addition of this part of the model to in-role performance strengthens the relationship between employees' direction of effort and in-role performance ($\beta = .08$ with $p > .10$ in Appendix D, Figure 1 and $\beta = .23$ with $p < .05$ in Appendix D, Figure 7). One possible explanation is that managers' evaluation of subordinates' in-role performance is highly correlated with their evaluation of subordinates' extra-role performance ($r = .60$, $p < .01$).

A key finding of this study is the differential functioning of financial information types. Shared employee (e.g., productivity reports) and quality (e.g., error reports) financial information direct employees' attention to their job duties and shape their assessment of the employer's transparency. Employees use shared profitability financial information such as income statements and balance sheets to determine the employer's transparency and develop psychological ownership in the firm. The most pervasive type

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[19] The correlation between employees' transparency perception and organizational commitment is .57 with

of shared financial information is managerial information (e.g., budgets, FTE reports) because it impacts employees' direction of effort to tasks, perception of the firm's transparency, psychological ownership, and trust in management. Shared firm financial information (e.g., productivity for the firm as a whole) does not significantly impact employees' behaviors or attitudes. The last result is especially interesting, as many companies tend to share overall firm productivity, even if they do not share any other financial information (Parker, 1988)[20].

Data on the types of shared financial information were collected from both employees and managers. With the exception of six items, principal components analysis with varimax rotation yielded the same five types of financial information for both the employee and manager data. There was value in gathering similar information from multiple sources, as there was asymmetry in the information managers believe they are sharing with their subordinates and the information employees report they receive.

Another strength of this dissertation is that the significant results for hypotheses 2 and 5 are not subject to common method bias. The dependent variables (i.e., in-role and extra-role performances) were measured using managers' evaluations, and the independent variables and mediators (i.e., financial information sharing, direction of effort, transparency of the firm, psychological ownership, trust in management, and organizational commitment) were measured using employees' perceptions. Furthermore, using managers' evaluations of employees' in-role and extra-role performance and

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$p < .01$.

[20] In discussions used to ascertain the pieces of financial information shared in the firm, interviewees indicated that they use employee and quality information to monitor subordinates' productivity and progress toward goals set by senior managers. Hence, it is interesting to find that: 1) other types of information (i.e., managerial and profitability) are used by employees at least in their subconscious, and 2)

employees' perceptions for all of the other variables had the best fit to the full structural model (Appendix D, Figure 7).

One unexpected finding in this study is the impact a worker's manager has on the worker's receipt of financial information. Managers in the data site have discretion regarding what information they share with their subordinates. To examine whether a worker's manager significantly impacted the financial information the worker received, I ran an analysis of variance (ANOVA) using 'manager' as a categorical variable. The results indicate between-manager differences for shared employee, firm, managerial, and profitability financial information[21].

I also used the manager variable to predict financial information sharing in the full model (see Appendix D, Figure 12). A worker's manager was significantly related to shared employee ($\beta = -.50$, $p < .01$), quality ($\beta = -.15$, $p < .05$), managerial ($\beta = .18$, $p < .01$), and profitability ($\beta = .12$, $p < .05$) financial information. However, the significance and effect size of the other variables in the model remained the same as those when the manager variable was not included (i.e., the model in Appendix D, Figure 7). It is likely that manager effects were considered in the principal components analysis conducted to determine the types of shared financial information.

*Section 6.1b: Limitations of the Dissertation*

As with all research, this dissertation is subject to limitations. One limitation is that the causality of relationships has not been determined. Second, this study was conducted in only one firm. The results may not apply to other firms in the same industry

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this information is actually used by employees to form perceptions about the firm (e.g., the firm's transparency), about their psychological ownership, and their trust in management.

or to companies in other industries. The respondents in this study are fairly comfortable with interpreting and analyzing financial information. In addition, the firm shares approximately 30 different pieces of financial information to employees, and employees routinely use financial information on the job. To strengthen the importance of my results, I should replicate this study in other companies and industries in the future. Finally, it is possible that survey analysis is not the best way to examine the relationships among financial information sharing, employees' direction of effort, and employees' in-role performance. Protocol analysis might be a better method for gaining a better understanding of these relationships.

*Section 6.1c: Future Research*

This dissertation is my first attempt to understand the complex relationships among financial information sharing and employees' behaviors and beliefs. The model tested in this study should be analyzed using data from several firms so that I can assess the generalization of the results. In addition, I could use this data to examine whether support practices moderate the relationships between financial information sharing and employees' behaviors and beliefs (i.e., Hypothesis 6). I should find a better way to assess employees' direction of effort and use the results to design a measure or method for analyzing employees' level of effort expended on job tasks; protocol analysis is one possible method.

One avenue for future research is to explore the manager-employee information-sharing relationship. It is not clear why managers in this study chose to disseminate selective pieces of financial information. It is possible that managers varied in their

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[21] Managers do not vary in what information they share across their subordinates. That is, employees with

practices of disseminating pieces of financial information they thought would be useful for their workers because of their perception of workers' ability to interpret and use financial information. Future work could also examine whether workers in other firms share financial information with some employees and not with other employees. Reasons contributing to managers' sharing differences could also be considered.

Future research could further examine the transparency construct. It would be interesting to explore other aspects of financial information sharing, including why employers choose to share or not share financial information; whether there is information in an organization that senior management believes that everyone should know; whether transparency leads employees to feel more comfortable in questioning their superiors' actions; and the relationship between a firm's internal and external transparency. How transparency through financial information sharing is similar to and differs from other practices such as the balanced scorecard and activity-based costing is a fundamental question to examine.

This dissertation has focused on the potential benefits of transparency. It is possible that being transparent and sharing financial information are not necessarily prudent or practical practices for all organizations. It is possible the employees will abuse the shared information. For example, employees could share the information with a firm's competitors, use it for negotiating salaries, or choose to leave the organization. One way to explore whether financial information sharing advantages outweigh the pitfalls is to conduct a cost-benefit analysis of firms' sharing practices.

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the same manager report receiving the same information.

**Section 6.2: Conclusion**

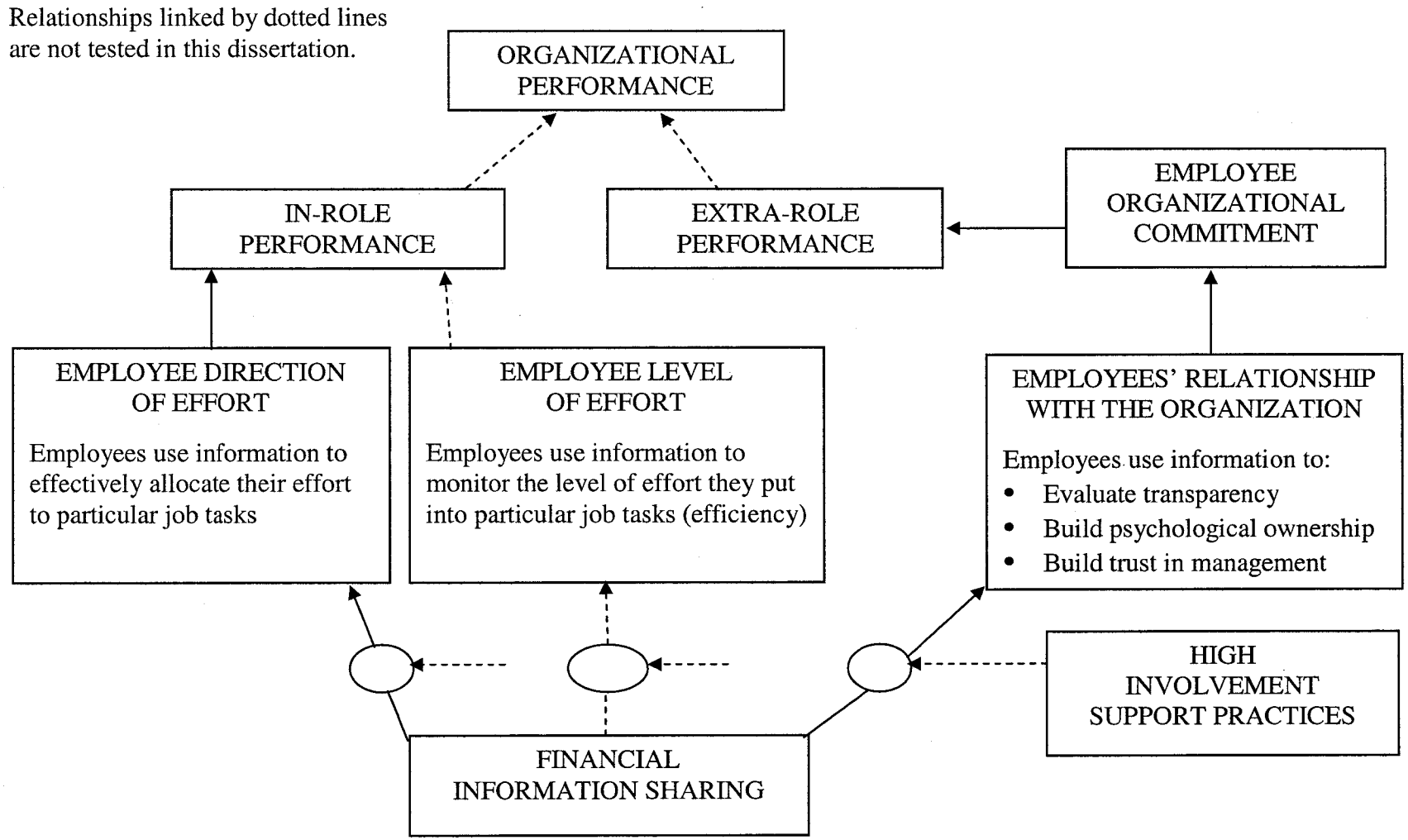
Although this dissertation is a first step in understanding employees' use of shared financial information, there are several important implications for managers.

First, there are at least five types of financial information that companies can share with their employees, and each of these types of financial information impacts employees differently. For example, information such as productivity, error reports, and budgets can help employees set goals for their jobs and prioritize their tasks.

Second, two important predictors of employees' organizational commitment are their psychological ownership and trust in management. One way to build employees' psychological ownership and trust is to share information regarding expense reports, budgets, salary, and staffing information. This information enhances employees' perception that the company is transparent.

Finally, the mainstream media have been highlighting the importance of transparency in accounting practices and financial reports for publicly traded firms. My research suggests that all firms should pay attention to transparency because of its substantial impact on employees' behaviors in and beliefs about the workplace.

**Appendix A – Figure 1: The Effects of Financial Information Sharing**



## Appendix B Human Resource and Ownership Practices in High Technology Firms

### Section 1: Conceptualizing Financial Information Sharing

To understand the effects of financial information sharing, we first need to understand the forms of financial information sharing that organizations use. Firms vary by the type of information shared, the recipients of shared information, the frequency of information dissemination, and the medium used for communication. This study examines the modes of financial information sharing and financial information sharing processes across 85 high-technology firms. These results not only show that there is organizational variation in the modes of financial information sharing, but they also guide the development of a methodology for examining how financial information impacts employees' behaviors and attitudes.

### Section 2: What Financial Information Is Shared?

Determining what financial information organizations are sharing with employees is an important first step in examining financial information sharing practices. Are organizations sharing the financial statements (i.e., the income statement, balance sheet, and statement of cash flows) and the detail upon which these statements are based? Or are they sharing a subset of the financial statements, such as gross revenue, supplies expense, and net income? Perhaps firms are sharing a single piece of information such as the number of new clients for the previous month. Thus, the type of financial information firms share can be a classification.

At one end of the continuum are those companies that share all available information; on the other are companies that share only one indicator of financial performance. The number of intermediate categories remains to be seen.

A corresponding component in determining what information is shared is the level of detail provided. For example, is the information provided for the organization as a whole? Or can the information be provided for a particular division or department? Do some organizations disseminate information pertinent to a particular employee or task? How fine-grained is the shared information? As these questions suggest, firms can be categorized according to the level of detail provided.

**Section 3: Who Receives Financial Information?**

Once firms decide what financial information is to be shared, they must decide with whom to share the information. Financial information can be shared with senior management only, all managers, or all employees. It is possible that employees receive different information depending upon their role in the firm. The profit status of the firm might also affect managers' decision to share financial information with particular employees. Most likely, organizations vary not only in who receives financial information, but also in the reasons for sharing or withholding information from select employees.

**Section 4: How Often Is Financial Information Shared?**

It is likely that the frequency of financial information sharing varies across firms. Information might be shared on a monthly, weekly, daily, or annual basis.

Particular financial information (e.g., net income, profit, etc.) might only be shared at year-end in accordance with bonuses and profit-sharing plans. It is likely that the frequency of information dissemination depends on the type of financial information that is shared and the firm's motivation for sharing.

**Section 5: What Medium Is Used To Share Financial Information?**

Organizations undoubtedly vary in the medium they use for information communication. The means of communication may include verbal or written reports, a scoreboard in a high-traffic area in the organization, email, an intranet, and/or any combination of these media.

Firms might also differ in the type of medium used according to the aforementioned categories of information type, recipients, and timing. For example, an organization might distribute paper copies of quarterly financial statements to all managers, but verbally update senior managers in weekly meetings. Information such as weekly sales, net income, or new clients might be available through email or the intranet. The medium used for information communication is most likely correlated with a firm's reasons for providing information.

**Section 6: Financial Ownership and Information Sharing in High-Technology Firms**

I first examined basic organizational differences in financial information sharing in high technology start-up firms. Founders or senior managers from each of the 85 firms (41 in the U.S. and 44 in Israel) provided information via a telephone survey. The survey asked about the circumstances surrounding the firm's start-up (e.g., details on the

founders and how the start-up was financed); the firm's current ownership structure; workforce issues (e.g., number of employees, turnover, strategies used to retain critical employees); compensation practices; distribution of financial information to employees; and the involvement of non-managerial employees in decision-making (see Appendix B, Form 1 for a copy of the survey).

*U.S. Firms*: Researchers obtained a list of high technology firms in Allegheny County, PA, from the CorpTech Explore Database of Technology Companies (2001 edition). A total of 93 firms (with founding dates between 1991 and 2001) were identified across four primary industries — biotechnology, computer hardware, computer software, and telecommunications. Each firm was contacted via a letter asking for its participation and a minimum of two follow-up phone calls.

The 41 respondents represent 44% of the sample. Representation across industries was adequate, as the respondents comprised 40% of the biotechnology, 40% of the computer hardware, 60% of the computer software, and 21% of the telecommunications firms in the sampled population. (Note: Twenty percent of the non-responding firms in the telecommunications industry were no longer in business at the time of our contact).

*Israel Firms*: Researchers identified high technology firms through the internet and personal contacts. The response rate was 21% across industries.

Results about high technology firms' use of ownership and related practices (e.g., bonuses and profit-sharing) and distribution of financial information to employees are discussed below.

*Section 6a: Descriptive Statistics*

Descriptive statistics for the 85 high technology firms are in Table 1 of this Appendix. Eighty-six percent of the firms are privately held, and the majority of firms (61%) are in the computer software industry. Most of the firms (68%) have fewer than 50 employees, with 40% of firms having between 10 and 50 employees. Only 22% of the firms have all of their employees working in information technology (e.g., computer programming, management of information systems, networking). The majority of firms (69%) has more than 50% of its workforce in information technology.

*Section 6b: Meaning of Ownership and Use of Ownership Practices*

Respondents were asked how they would define 'ownership' of a firm and how ownership is shared in their firms (see Appendix B, Table 2). Forty-nine percent of respondents indicate that ownership involved at least some degree of financial ownership in the firm. Specifically, 23% of respondents believe that only employees having an equity stake in the organization are owners, whereas 26% believe that owners have responsibility for decisions in addition to an equity stake. Control and responsibility alone define ownership for 40% of the companies. The majority of firms in each of the countries define ownership in this manner. However, there are country differences for whether financial ownership is accompanied by responsibility for decisions. More American companies believe that responsibility for decisions accompanies financial ownership, whereas more Israeli companies believe that financial ownership alone defines firm ownership.

When asked how ownership is shared in their firms, 60% of the respondents indicate that ownership is shared through stock or stock options. Twenty-nine percent of

firms share ownership through legal agreements or contracts. Founders hold all of the equity for 15% of the firms and more than half of the equity for 33% of the firms (Note: Forty-two percent of the firms did not want to answer this question).

Employees do not have any financial interest in 22% of the firms, but they hold between 10% and 25% of the equity for 19% of the companies (Note: Forty-four of the respondents did not want to answer this question).

*Section 6c: Use of Bonuses and Profit-sharing in High Technology Firms*

Seventy-seven percent of responding firms offer bonuses and/or profit-sharing plans (see Appendix B, Table 3). Bonuses and profit-sharing plans are available to all employees for the majority of firms (62%), and only 8% of firms offer these programs exclusively to managers. Both firm and employee performances provide the basis for bonuses and profit-sharing plans in 28% of companies. For 19% of firms, bonuses and profit-sharing plans are dependent only upon firm performance; for another 15%, bonuses and profit-sharing plans are solely dependent upon employee performance. The only distinguishing cross-national difference with regard to bonuses and profit-sharing plans is that 20% of American firms offer both bonuses and profit-sharing plans, whereas only 5% of Israeli firms offer both types of compensation incentives.

*Section 6d: Financial Information Sharing*

The professional business press often uses the term open-book management (OBM) for financial information sharing (Case, 1995). Respondents were asked if they were familiar with the term 'open-book management' and its meaning. Only 31% of all participants are familiar with OBM (see Appendix B, Table 4).

A cross-national difference exists, as 46% of American participants recognize the term, whereas only 16% of Israeli participants know the term. Of the respondents familiar with OBM 31% define it as the sharing of all information (including financial) with employees; 42% believe that it is the sharing of all financial information with employees; and 27% think that it is not about sharing information but about allowing employees to voice opinions in the workplace.

After researchers defined OBM for the purposes of the study (i.e., the sharing of financial information with employees), 65% of respondents reported that their firm practices some degree of OBM . When asked how OBM is used, 64% of respondents indicate they regularly share financial information with all employees, 11% regularly share financial information only with managers, and 16% share financial information only with employees that ask to see it. Therefore, I infer that firms do share financial information with employees, even though they are not familiar with the term 'open-book management', and the majority of firms sharing information distribute some information to all workers.

To gain an understanding of financial information sharing practices within firms, we asked respondents what type of financial information their companies share (e.g., financial ratios such as gross profit margin and return on assets, and other financial information), who receives it and how often it is shared (see Appendix B, Table 5). Fifty-five percent of respondents share financial ratios with employees. Of these firms, 77% distribute ratios to all employees and 17% disseminate ratios only to managers. Financial ratios are shared quarterly for the majority of these firms (44%). An additional 34% of firms share financial ratios only when required by a firm project.

Fifty-three percent of all firms share financial information other than financial ratios. Of the 26 American firms sharing other financial information, 58% share sales data, 19% share at least one financial statement (e.g., the income statement), 15% share budget or expense data, and only 8% share all financial information. The details regarding what other information is shared in the Israeli firms is not available.

Of the firms distributing other financial information, 78% disseminate it to all employees, while 18% share it only with managers. Thirty-one percent of firms disseminate the information monthly, 24% quarterly, 18% only when required by firm projects, and 13% annually. Only 7% of firms provide the information daily.

*Section 6e: Involving Non-managerial Employees in Firm Decisions*

We asked participants if non-managerial employees were involved in organizational decisions. Forty-two percent of respondents indicate that employees are involved in firm decisions (see Appendix B, Table 6). Inclusion of non-managerial employees is more common in the U.S. than in Israel, as 59% of American firms and only 27% of Israeli firms involve non-managerial employees in decision-making. For both countries, the majority of the decisions (69% overall) concern the companies' product-line or the services that are provided to customers.

The results are similar for companies that believe they practice OBM (see Appendix B, Table 6). Forty-five percent of these companies involve non-managerial employees in decisions, and 72% of the decisions concern the firms' products and services. Thus, it does not appear that a firm's perception of its being 'open-book' affects its decision to include employees in decision-making.

**Section 7: Conclusion**

In addition to illustrating that financial information sharing firms can be described using the dimensions discussed in Sections 2 through 4, the data obtained from the 85 high technology firms provide some information on the meaning of ownership, the kinds of shared financial information, the involvement of employees in decisions, and the variation in financial information sharing across organizations. However, the data from the high technology firms do not address the level of detail (e.g., whole organization, division, department, etc.) provided in shared information, the medium used for information communication, or how shared information affects employees. Future research should examine these phenomena.

**Appendix B, Form 1** **Survey of Human Resource and Ownership Practices in High Technology Firms**

Hello _____: Company Name_____

*I am part of the Carnegie Mellon Project on Human Resource and Ownership Practices in High Technology firms. I appreciate your taking the time to answer a few questions. This interview will take about one half-hour. Anything you say will be kept strictly confidential. Our report will provide a general summary of findings across more than 50 firms, but no specific firm will be named.*

*We are particularly interested in the use of various incentives and ownership arrangements to attract, motivate and retain workers. Our questions will cover how the firm was started, its initial ownership arrangements, its human resource practices, and how these have continued or changed over time.*

Code Number of Interviewee_____

What is the title of your position ? _____

How long have you been with the organization? _____

I. Firm's Background

*I would like to ask you a few questions regarding the firm's background.*

1. What are the principal products or services your firm provides?

2. When was the firm founded?_____

3. Were you present at the firm's founding? YES NO

4. Who were the founders? (probe for nature of involvement at that time):

5. Are these founders still involved with the firm? Yes__ No _

5a. If yes, in what capacity?

6. **If interviewee was a founder**: How much prior experience with a start-up did you personally have?

A lot ___ Some _____ None _____

7. How much prior experience with a start-up did the other founders have?

A lot ___ Some _____ None _____

8. What was your personal motivation in starting up this business?

**II. Firm's Financing**

In preparation to discuss current ownership arrangements, I would like to ask you some questions about how the firm was financed at the start.

1. How was the firm financed at the time it was founded?
(Probe: venture capital/debt/stock, etc.)

2. Is the firm currently public or privately held? Public _____ Private_____

2a. **If private,** are there plans to take the firm public in the near future:

Yes_____ No_____ Uncertain_____

**III. Firm's Ownership**

As you know, we are interested in exploring the issue of ownership in high technology firms. Would you please tell me what the term 'ownership' means to you?

**IV. Firm's Financial Ownership**

1. Now, I want to focus upon the ownership issues. Currently, who holds an equity stake in the company? (Probe for their **roles**)

2. What are the means by which equity is shared?
(Probe: through a legal, written contract / stock, etc.)

3. **If stock**, is there preferred and common stock? Preferred Common Both

3a. Who holds preferred stock?

3b. How large is the stock pool for Preferred Stock?
(Probe: get # of issues or shares)

3c. How large is the stock pool for Common Stock?
(Probe: get # of issues or shares)

3d. How was the size of each stock pool decided upon?

3e. What percent of the stock pool is held by the firm's founders?

3f. What percent of the stock pool is held by employees currently with the firm?

3g. Can you please describe how this distribution came about?

**V. Workforce Issues**

*Now, I would like to ask you some questions about your employees.*

1. How many people are currently employed at _____, in terms of FTEs (Full-Time Equivalents)? (company name)

Workforce Size_____

2. What proportion of your employees work in areas directly related to information technology, such as programming, MIS, or networks)? _____%

3. Within the current year, what percentage of your workforce has left the firm? _____%

4. In the previous year, what percentage of your workforce left the firm? _____%

5. What are the typical factors or reasons that you believe contributed to this turnover?

6. What annual percentage would you consider to be an acceptable turnover rate? _____%

6a. Why would you consider this turnover rate acceptable?

7. Are there specific employees whom you would describe as critical to the firm?

Yes ____ No ____

7a. If yes, how many?

7b. What strategies have you used to try to retain these critical workers? (Probe: Has ownership been used for this?)

8. In your opinion, could any of your current employees start their own business?

Yes ____ No ____

8a. If yes, what percentage do you believe could successfully start their own business?

9. How difficult is it for your firm to recruit competent employees?

Not at all Slightly Somewhat Very Difficult Extremely Difficult

**VI. Human Resource Practices**

*In this last section, I would like to ask you some questions about the human resource practices your firm uses.*

1. With regard to employee compensation, would you describe your firm's approach to compensation as being:

Below the market __ At the market __ Above the market __

Please explain.

2. Is there incentive compensation such as profit sharing or bonuses for employees?

Profit sharing Yes ___ No _

Bonuses Yes____ No____

Please describe:

3. **If yes**, to what layers in the organization do these apply:

All levels _____
Senior managers _____
All managers _____
Other _____

4. Are you familiar with the terms 'open-book management' or 'business literacy'?

Yes _ No _

**If yes:**
4a. What does the term "open-book management" mean to you?

4b. What does the term "business literacy" mean to you?

**If yes:**
4b. Does your firm engage in 'open-book management''?

Not at all _____ Somewhat _____ Highly ___

Please describe how your firm practices **open book management.**

**If yes:**
4b. To what extent would you characterize the employees of your firm as "business literate"?

Not at all _____ Somewhat _____ Highly ___

Please describe why would you would characterize your firm's employees as "business literate".

5. Are financial ratios, such as gross margin and return on assets, shared with employees?

YES NO

5a. **If yes,** How often?

5b. **If yes**, To which employees?

6. Are other kinds of financial information shared with employees? (Probe for information such as sales or activity-based-costing measures)

YES NO

6a. **If yes**, Which?

6b. **If yes,** How often?

6c. **If yes**, To which employees?

7. Please think about an important decision your firm has made regarding the future of its business. How involved were non-managerial employees in making this decision?

Not at all ____ Some _____ Highly ___

**If Some or Highly, probe for nature of decision.**

*We would like to thank you very much for your time and interest in helping us with our project. Do you have any questions for me regarding the project?*

*Thank you again.*

**Appendix B**

**Table 1: Descriptive Statistics for High Technology Firms [a]**

| | U.S. [b] | Israel [c] | Total [d] |
|---|---|---|---|
| Ownership Status: | | | |
| Privately held | 37 (90%) | 36 (82%) | 73 (86%) |
| Publicly traded | 3 (7%) | 8 (18%) | 11 (13%) |
| Government entity | 1 (3%) | 0 (0%) | 1 (1%) |
| Industry: | | | |
| Biotechnology | 2 (5%) | 3 (7%) | 5 (6%) |
| Computer Hardware | 2 (5%) | 0 (0%) | 2 (2%) |
| Computer Software | 30 (73%) | 22 (50%) | 52 (61%) |
| Telecommunications | 7 (17%) | 19 (43%) | 26 (31%) |
| Size of Firm [e]: | | | |
| FTEs < 10 | 13 (32%) | 11 (25%) | 24 (28%) |
| 10 ≤ FTEs < 50 | 18 (44%) | 16 (36%) | 34 (40%) |
| 50 ≤ FTEs < 100 | 5 (12%) | 11 (25%) | 16 (19%) |
| FTEs ≥ 100 | 5 (12%) | 6 (14%) | 11 (13%) |
| % of FTEs in IT: [f] | | | |
| % IT < 25% | 5 (12%) | 11 (25%) | 16 (19%) |
| 25% ≤ % IT < 50% | 3 (7%) | 7 (16%) | 10 (12%) |
| 50% ≤ %IT < 75% | 8 (20%) | 10 (23%) | 18 (21%) |
| 75% ≤ %IT < 100% | 13 (32%) | 9 (20%) | 22 (26%) |
| % IT = 100% | 12 (29%) | 7 (16%) | 19 (22%) |

a Sample size is 85.
b Cell entries are the numbers of U.S. firms and percentage of total U.S. firms.
c Cell entries are the numbers of Israel firms and percentage of total Israel firms.
d Cell entries are the numbers of total firms and percentage of total firms.
e FTEs = full-time equivalents, where 1 FTE = 2,080 hours per year
f Information Technology (e.g., programming, management of information systems, networks, etc.)

## Appendix B

**Table 2: Meaning and Use of Ownership in High Technology Firms [a]**

| | U.S. [b] | Israel [c] | Total [d] |
|---|---|---|---|
| Meaning of ownership: | | | |
| Financial stake in the firm | 6 (15%) | 14 (32%) | 20 (23%) |
| Financial stake and responsibility | 13 (32%) | 9 (20%) | 22 (26%) |
| Control and responsibility only | 17 (41%) | 17 (39%) | 34 (40%) |
| No response | 5 (12%) | 4 (9%) | 9 (11%) |
| How ownership is shared: | | | |
| Legal agreement/contract | 13 (32%) | 12 (27%) | 25 (29%) |
| Stock | 26 (63%) | 25 (57%) | 51 (60%) |
| No response | 2 (5%) | 7 (16%) | 9 (11%) |
| Total stock held by founders: | | | |
| Founder portion < 10% | 4 (10%) | 2 (5%) | 6 (7%) |
| 10% ≤ Founder portion < 25% | 1 (2%) | 7 (16%) | 8 (10%) |
| 25% ≤ Founder portion < 50% | 2 (5%) | 5 (11%) | 7 (8%) |
| 50% ≤ Founder portion < 75% | 7 (17%) | 4 (9%) | 11 (13%) |
| 75% ≤ Founder portion < 100% | 2 (5%) | 2 (5%) | 4 (5%) |
| Founder portion = 100% | 8 (20%) | 5 (11%) | 13 (15%) |
| No response | 17 (41%) | 19 (43%) | 36 (42%) |
| Total stock held by employees: | | | |
| Employee portion = 0% | 9 (22%) | 10 (23%) | 19 (22%) |
| 0 < Employee portion < 10% | 3 (7%) | 1 (2%) | 4 (5%) |
| 10% ≤ Employee portion < 25% | 3 (7%) | 13 (29%) | 16 (19%) |
| 25% ≤ Employee portion < 50% | 3 (7%) | 3 (7%) | 6 (7%) |
| 50% ≤ Employee portion < 75% | 1 (2%) | 0 (0%) | 1 (1%) |
| 75% ≤ Employee portion < 100% | 2 (5%) | 0 (0%) | 2 (2%) |
| No response | 20 (50%) | 17 (39%) | 37 (44%) |

a Sample size is 85.
b Cell entries are the numbers of U.S. firms and percentage of total U.S. firms.
c Cell entries are the numbers of Israel firms and percentage of total Israel firms.
d Cell entries are the numbers of total firms and percentage of total firms.

## Appendix B

**Table 3: Use of Bonuses and Profit-Sharing in High Technology Firms [a]**

| | U.S. [b] | Israel [c] | Total [d] |
|---|---|---|---|
| Use of Bonuses/Profit-sharing: | | | |
| Bonuses only | 22 (54%) | 28 (64%) | 50 (59%) |
| Profit-sharing only | 3 (6%) | 2 (5%) | 5 (6%) |
| Bonuses and profit-sharing | 8 (20%) | 2 (5%) | 10 (12%) |
| Neither bonuses/profit-sharing | 8 (20%) | 11 (25%) | 19 (22%) |
| No response | 0 (0%) | 1 (1%) | 1 (1%) |
| Who receives bonuses/profit-sharing: | | | |
| All employees | 25 (61%) | 28 (64%) | 53 (62%) |
| Managers only | 6 (14%) | 1 (2%) | 7 (8%) |
| A few employees (e.g., sales) | 2 (5%) | 3 (7%) | 5 (6%) |
| No response | 8 (20%) | 12 (27%) | 20 (24%) |
| Basis for bonuses/profit-sharing: | | | |
| Firm performance | 9 (22%) | 7 (16%) | 16 (19%) |
| Employee performance | 7 (17%) | 6 (13%) | 13 (15%) |
| Both firm and employee performance | 10 (24%) | 14 (32%) | 24 (28%) |
| No response | 15 (37%) | 17 (39%) | 32 (38%) |

a Sample size is 85.
b Cell entries are the numbers of U.S. firms and percentage of total U.S. firms.
c Cell entries are the numbers of Israel firms and percentage of total Israel firms.
d Cell entries are the numbers of total firms and percentage of total firms.

## Appendix B

**Table 4: Financial Information Sharing in High Technology Firms [a]**

| | U.S. [b] | Israel [c] | Total [d] |
|---|---|---|---|
| Familiar with the term 'open-book management': | | | |
| Yes | 19 (46%) | 7 (16%) | 26 (31%) |
| No | 22 (54%) | 37 (84%) | 59 (69%) |
| 'Open-book management' meaning [e]: | | | |
| Sharing all information (w/ financial) | 5 (26%) | 3 (43%) | 8 (31%) |
| Sharing only financial information | 11 (58%) | 0 (0%) | 11 (42%) |
| Allow employees to voice opinions | 3 (16%) | 4 (57%) | 7 (27%) |
| Use 'open-book management' [f]: | | | |
| Not at all | 10 (24%) | 7 (16%) | 17 (20%) |
| Somewhat | 21 (51%) | 17 (39%) | 38 (45%) |
| Highly | 6 (15%) | 11 (25%) | 17 (20%) |
| No response | 4 (10%) | 9 (20%) | 13 (15%) |
| How use 'open-book management' [g]: | | | |
| Regularly share financials to all | 16 (59%) | 19 (67%) | 35 (64%) |
| Regularly share financials w/ managers | 5 (19%) | 1 (4%) | 6 (11%) |
| Share financials w/ those who ask | 2 (7%) | 7 (25%) | 9 (16%) |
| Other | 4 (15%) | 1 (4%) | 5 (9%) |

a Sample size is 85.
b Cell entries are the numbers of U.S. firms and percentage of total U.S. firms.
c Cell entries are the numbers of Israel firms and percentage of total Israel firms.
d Cell entries are the numbers of total firms and percentage of total firms.
e Results are only for firms familiar with the term.
f Respondents answered after the term was defined for them.
g Results are for firms using open-book management 'somewhat' or 'highly'.

## Appendix B

**Table 5: Financial Information Shared in High Technology Firms [a]**

| | U.S. [b] | Israel [c] | Total [d] |
|---|---|---|---|
| Share financial ratios: | | | |
| Yes | 14 (34%) | 33 (75%) | 47 (55%) |
| No | 26 (63%) | 8 (18%) | 34 (40%) |
| No response | 1 (3%) | 3 (7%) | 4 (5%) |
| With [e]: | | | |
| All employees | 7 (50%) | 29 (88%) | 36 (77%) |
| Managers only | 4 (29%) | 4 (12%) | 8 (17%) |
| No response | 3 (21%) | 0 (0%) | 3 (6%) |
| When [e]: | | | |
| Monthly | 1 (7%) | 1 (3%) | 2 (4%) |
| Quarterly | 4 (29%) | 17 (52%) | 21 (44%) |
| Annually | 3 (21%) | 1 (3%) | 4 (9%) |
| When required by projects | 2 (14%) | 14 (42%) | 16 (34%) |
| No response | 4 (29%) | 0 (0%) | 4 (9%) |
| Share other financial information: | | | |
| Yes | 26 (63%) | 19 (43%) | 45 (53%) |
| No | 14 (34%) | 21 (48%) | 35 (41%) |
| No response | 1 (3%) | 4 (9%) | 5 (6%) |
| What [e]: | | | |
| All financial information | 2 (8%) | N/A | |
| At least one financial statement | 5 (19%) | N/A | |
| Budget/expenses | 4 (15%) | N/A | |
| Sales | 15 (58%) | N/A | |
| Utilization rate/number of clients | 3 (12%) | N/A | |
| With [e]: | | | |
| All employees | 20 (77%) | 15 (79%) | 35 (78%) |
| Managers only | 5 (19%) | 3 (16%) | 8 (18%) |
| No response | 1 (4%) | 1 (5%) | 2 (4%) |
| When [e]: | | | |
| Everyday | 3 (12%) | 0 (0%) | 3 (7%) |
| Monthly | 7 (27%) | 7 (37%) | 14 (31%) |
| Quarterly | 6 (23%) | 5 (26%) | 11 (24%) |
| Annually | 5 (19%) | 1 (5%) | 6 (13%) |
| When required by projects | 4 (15%) | 4 (21%) | 8 (18%) |
| No response | 1 (4%) | 2 (11%) | 3 (7%) |

a Sample size is 85.
b Cell entries are the numbers of U.S. firms and percentage of total U.S. firms.
c Cell entries are the numbers of Israel firms and percentage of total Israel firms.
d Cell entries are the numbers of total firms and percentage of total firms.
e Results are for firms that share financial ratios/other financial information.
N/A = Not available

## Appendix B

**Table 6: Involvement of Non-managerial Employees in High Technology Firms [a]**

| | U.S. [b] | Israel [c] | Total [d] |
|---|---|---|---|
| Non-managerial involved in decisions: | | | |
| Yes | 24 (59%) | 12 (27%) | 36 (42%) |
| No | 15 (37%) | 31 (71%) | 46 (54%) |
| No response | 2 (4%) | 1 (2%) | 3 (4%) |
| What decisions [f]: | | | |
| Business products/services | 16 (67%) | 9 (75%) | 25 (69%) |
| Location, phone system, etc. | 5 (21%) | 0 (0%) | 5 (14%) |
| No response | 3 (12%) | 3 (25%) | 6 (17%) |
| Non-managerial involved in decisions for 'open-book' companies [e]: | | | |
| Yes | 16 (59%) | 9 (32%) | 25 (45%) |
| No | 10 (37%) | 18 (64%) | 28 (51%) |
| No response | 1 (4%) | 1 (4%) | 2 (4%) |
| What decisions [f]: | | | |
| Business products/services | 11 (69%) | 7 (78%) | 18 (72%) |
| Location, phone system, etc. | 2 (12%) | 0 (0%) | 2 (8%) |
| No response | 3 (19%) | 2 (22%) | 5 (20%) |

a Sample size is 85.
b Cell entries are the numbers of U.S. firms and percentage of total U.S. firms.
c Cell entries are the numbers of Israel firms and percentage of total Israel firms.
d Cell entries are the numbers of total firms and percentage of total firms.
e Results are for firms using open-book management 'somewhat' or 'highly' (n = 55; 27 U.S. firms and 28 Israel firms).
f Results are for firms involving non-managerial employees in decisions.

**Appendix C – Financial Information Sharing Interviews**

To ensure that there was enough variation in the type and recipients of shared financial information in the firm, I interviewed 20 employees across various levels and departments in the organization. Interviewees disclosed the pieces of financial information they receive and whether they share this information with their employees (if a manager) or receive this information (if a subordinate). A summary of their input is on the next page.

**Interviewees:**
Executive Vice President
Vice President of Loan Processing/Quality Control
Vice President of Marketing
Vice President of Human Resources
Manager of Quality Control
Manager of Marketing
Manager of Human Resources (1 at each site)
Assistant Manager of Operations (2 at each site)
Supervisor of Loan Processing
Supervisor of Operations (2 at each site)
Staff (in Operations, 2 at each site)

**Summary of Interviews: Senior Management**

| Financial Information | Executive VP | VP, Loan Processing | VP, Marketing | VP, Human Resources |
|---|---|---|---|---|
| Profit/Loss Statement | S | | | |
| Balance Sheet | S | | | |
| Budget | S | RW, SW | RW, SV | RW, SV |
| Expense Report | S | | | |
| Revenue Report | S | | | |
| Full-Time Equivalent (FTE) Information | S | RW | | RW, SW |
| Money spent on marketing campaigns | S | | | |
| # of applications initiated by CFS | S | RW, SW | | RW, SW |
| # of applications initiated by your team | S | N/A | N/A | N/A |
| # of applications initiated by you | N/A | N/A | N/A | N/A |
| # of applications received by CFS | S | RW, SW | | RW, SW |
| # of applications received by your team | S | N/A | N/A | N/A |
| # of applications received by you | S | N/A | N/A | N/A |
| # of applications in-process for CFS | S | RW, SW | | RW, SW |
| # of applications in-process for your team | S | N/A | N/A | N/A |
| # of applications in-process for you | S | N/A | N/A | N/A |
| # of federal applications funded by CFS | S | RW, SW | RW, SW | RW, SW |
| # of federal applications funded – your team | S | N/A | N/A | N/A |
| # of federal applications funded – you | S | N/A | N/A | N/A |
| # of private applications funded by CFS | S | RW, SW | RW, SW | RW, SW |
| # of private applications funded – your team | S | N/A | N/A | N/A |
| # of private applications funded – you | S | N/A | N/A | N/A |
| # of rejected applications | S | RW | | |
| Dollars made by CFS per funded loan | S | | | RV, SV |
| Dollar value of consolidated loans for a time period (e.g., the year, quarter, etc.) | S | RV, SV | | RV, SV |
| User call statistics | S | | | |
| Quality control numbers | S | RW, SW | | RW, SW |
| # of outgoing pieces of regular mail sent by regular mail | S | RV | | |
| # of outgoing pieces of mail sent by Federal Express | S | RV | | |
| # of applications "kicked back" | S | RW | | |

Codes: R = receives; S = shares; V = verbally; W = written; N/A = not applicable

**Summary of Interviews: Middle Management**

| Financial Information | Manager, Quality | Manager, Marketing | Manager, HR, Site1 | Manager, HR, Site 2 |
|---|---|---|---|---|
| Profit/Loss Statement | | | | |
| Balance Sheet | | | | |
| Budget | RW, SV | RW, SV | RW, SV | RW, SV |
| Expense Report | | | | |
| Revenue Report | | | | |
| Full-Time Equivalent (FTE) Information | RW | | RW | RW |
| Money spent on marketing campaigns | | | | |
| # of applications initiated by CFS | RW, SV | | RW, SV | RW, SV |
| # of applications initiated by your team | N/A | N/A | N/A | N/A |
| # of applications initiated by you | N/A | N/A | N/A | N/A |
| # of applications received by CFS | RW, SV | | RW, SV | RW, SV |
| # of applications received by your team | N/A | N/A | N/A | N/A |
| # of applications received by you | N/A | N/A | N/A | N/A |
| # of applications in-process for CFS | RW, SV | | RV | RW |
| # of applications in-process for your team | N/A | N/A | N/A | N/A |
| # of applications in-process for you | N/A | N/A | N/A | N/A |
| # of federal applications funded by CFS | RW, SV | RW, SV | RV | RV |
| # of federal applications funded – your team | N/A | N/A | N/A | N/A |
| # of federal applications funded – you | N/A | N/A | N/A | N/A |
| # of private applications funded by CFS | RW, SV | RW, SV | | RW, SW |
| # of private applications funded – your team | N/A | N/A | N/A | N/A |
| # of private applications funded – you | N/A | N/A | N/A | N/A |
| # of rejected applications | RW | | | |
| Dollars made by CFS per funded loan | | | RV | RV |
| Dollar value of consolidated loans for a time period (e.g., the year, quarter, etc.) | | | RV | RW, SV |
| User call statistics | | | | |
| Quality control numbers | RW, SW | | | RW, SW |
| # of outgoing pieces of regular mail sent by regular mail | RV | | | |
| # of outgoing pieces of mail sent by Federal Express | RV | | | |
| # of applications "kicked back" | RW, SW | | | |

Codes: R = receives; S = shares; V = verbally; W = written; N/A = not applicable

**Summary of Interviews: Assistant Managers of Operations**

| Financial Information | Assistant Manager 1, Site 1 | Assistant Manager 2, Site 1 | Assistant Manager 1, Site2 | Assistant Manager 2, Site 2 |
|---|---|---|---|---|
| Profit/Loss Statement | | | | |
| Balance Sheet | | | | |
| Budget | | | | RW |
| Expense Report | | | | |
| Revenue Report | | | | |
| Full-Time Equivalent (FTE) Information | | | | |
| Money spent on marketing campaigns | | | | |
| # of applications initiated by CFS | | | | |
| # of applications initiated by your team | RV, SW | RV, SW | | RV, SW |
| # of applications initiated by you | N/A | N/A | N/A | N/A |
| # of applications received by CFS | | | | |
| # of applications received by your team | RV, SW | RV, SW | | RV, SW |
| # of applications received by you | N/A | N/A | N/A | N/A |
| # of applications in-process for CFS | | | | |
| # of applications in-process for your team | | | | |
| # of applications in-process for you | N/A | N/A | N/A | N/A |
| # of federal applications funded by CFS | | | | RV, SW |
| # of federal applications funded – your team | RV, SW | RV, SW | RV, SV | |
| # of federal applications funded – you | N/A | N/A | N/A | N/A |
| # of private applications funded by CFS | | | | |
| # of private applications funded – your team | | | | |
| # of private applications funded – you | N/A | N/A | N/A | N/A |
| # of rejected applications | | | | |
| Dollars made by CFS per funded loan | | RV | | RV |
| Dollar value of consolidated loans for a time period (e.g., the year, quarter, etc.) | RV | | | |
| User call statistics | RW | RW | | |
| Quality control numbers | | | | |
| # of outgoing pieces of regular mail sent by regular mail | | | | |
| # of outgoing pieces of mail sent by Federal Express | | | | |
| # of applications "kicked back" | | | | |

Codes: R = receives; S = shares; V = verbally; W = written; N/A = not applicable

**Summary of Interviews: Supervisor, Loan Processing**

| Financial Information | Supervisor, Loan Processing |
|---|---|
| Profit/Loss Statement | |
| Balance Sheet | |
| Budget | RW |
| Expense Report | |
| Revenue Report | |
| Full-Time Equivalent (FTE) Information | |
| Money spent on marketing campaigns | |
| # of applications initiated by CFS | RW, SV |
| # of applications initiated by your team | N/A |
| # of applications initiated by you | N/A |
| # of applications received by CFS | RW, SV |
| # of applications received by your team | N/A |
| # of applications received by you | N/A |
| # of applications in-process for CFS | RW, SV |
| # of applications in-process for your team | N/A |
| # of applications in-process for you | N/A |
| # of federal applications funded by CFS | RW, SV |
| # of federal applications funded – your team | N/A |
| # of federal applications funded – you | N/A |
| # of private applications funded by CFS | RW, SV |
| # of private applications funded – your team | N/A |
| # of private applications funded – you | N/A |
| # of rejected applications | RV |
| Dollars made by CFS per funded loan | |
| Dollar value of consolidated loans for a time period (e.g., the year, quarter, etc.) | RV |
| User call statistics | |
| Quality control numbers | RW, SW |
| # of outgoing pieces of regular mail sent by regular mail | RW, SW |
| # of outgoing pieces of mail sent by Federal Express | RW, SW |
| # of applications "kicked back" | RW, SW |

Codes: R = receives; S = shares; V = verbally; W = written; N/A = not applicable

**Summary of Interviews: Supervisors of Operations**

| Financial Information | Supervisor 1, Site 1 | Supervisor 2, Site 1 | Supervisor 1, Site2 | Supervisor 2, Site 2 |
|---|---|---|---|---|
| Profit/Loss Statement | | | | |
| Balance Sheet | | | | |
| Budget | | | | RW |
| Expense Report | | | | |
| Revenue Report | | | | |
| Full-Time Equivalent (FTE) Information | | | | |
| Money spent on marketing campaigns | | | | |
| # of applications initiated by CFS | | | | |
| # of applications initiated by your team | RV, SW | RV, SV | RV, SW | RV, SV |
| # of applications initiated by you | N/A | N/A | N/A | N/A |
| # of applications received by CFS | | | | |
| # of applications received by your team | RV, SW | RV, SV | RV, SW | RV, SV |
| # of applications received by you | N/A | N/A | N/A | N/A |
| # of applications in-process for CFS | | | | |
| # of applications in-process for your team | RV, SW | RV, SV | RV, SW | RV, SV |
| # of applications in-process for you | N/A | N/A | N/A | N/A |
| # of federal applications funded by CFS | | | | |
| # of federal applications funded – your team | RV, SW | RV, SV | RV, SW | RV, SV |
| # of federal applications funded – you | N/A | N/A | N/A | N/A |
| # of private applications funded by CFS | | | | |
| # of private applications funded – your team | RV, SW | RV, SV | RV, SW | RV, SV |
| # of private applications funded – you | N/A | N/A | N/A | N/A |
| # of rejected applications | | | | |
| Dollars made by CFS per funded loan | | | | |
| Dollar value of consolidated loans for a time period (e.g., the year, quarter, etc.) | | RV | | RV |
| User call statistics | RW | RW | RW | RW |
| Quality control numbers | | | | |
| # of outgoing pieces of regular mail sent by regular mail | | | | |
| # of outgoing pieces of mail sent by Federal Express | | | | |
| # of applications "kicked back" | | | | |

Codes: R = receives; S = shares; V = verbally; W = written; N/A = not applicable

**Summary of Interviews: Staff in Operations**

| Financial Information | Staff 1, Site 1 | Staff 2, Site 1 | Staff 1, Site 2 | Staff 2, Site 2 |
|---|---|---|---|---|
| Profit/Loss Statement | | | | |
| Balance Sheet | | | | |
| Budget | | | | RV |
| Expense Report | | | | |
| Revenue Report | | | | |
| Full-Time Equivalent (FTE) Information | | | | |
| Money spent on marketing campaigns | | | | |
| # of applications initiated by CFS | | | | |
| # of applications initiated by your team | RV | | | RW |
| # of applications initiated by you | RV | RV | RV | RW |
| # of applications received by CFS | | | | |
| # of applications received by your team | RV | | | RW |
| # of applications received by you | RV | RV | RV | RW |
| # of applications in-process for CFS | | | | |
| # of applications in-process for your team | RV | | | RW |
| # of applications in-process for you | RV | RV | RV | RW |
| # of federal applications funded by CFS | | | | |
| # of federal applications funded – your team | RV | | | RW |
| # of federal applications funded – you | RV | | | RW |
| # of private applications funded by CFS | | | | |
| # of private applications funded – your team | RV | | | RW |
| # of private applications funded – you | RV | | | RW |
| # of rejected applications | | | | |
| Dollars made by CFS per funded loan | | RV | | RV |
| Dollar value of consolidated loans for a time period (e.g., the year, quarter, etc.) | | RV | RV | |
| User call statistics | | | | |
| Quality control numbers | | | | |
| # of outgoing pieces of regular mail sent by regular mail | | | | |
| # of outgoing pieces of mail sent by Federal Express | | | | |
| # of applications "kicked back" | | | | |

Codes: R = receives; S = shares; V = verbally; W = written; N/A = not applicable

## Appendix C – Associate Survey

Each of the following is a statement that a person might make about his or her job. You are to indicate your own personal feelings about your job by marking how much you agree with each of the statements. Write a number in the blank for each statement, based on this scale:

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| *Strongly Disagree* | *Disagree* | *Neutral* | *Agree* | *Strongly Agree* |

NOTE: 'Financial information' (or 'financial reporting' or 'financial status') includes any information providing insight into the company's financial health. Examples include financial statements (e.g., income statement, balance sheet), budgets, profit and loss statements (P/Ls), expense reports, and single indicators (such as number of applications initiated, number of applications received, number of applications funded, etc.).

____ 1. I am willing to put in a great deal of effort beyond that normally expected in order to help this organization be successful.
____ 2. This is MY organization.
____ 3. I am not sure I fully trust my employer.
____ 4. I talk up this organization to my friends as a great organization to work for.
____ 5. I use the financial information shared with me to set goals for my job.
____ 6. The company openly shares financial information with me.
____ 7. I would accept almost any type of job assignment in order to keep working for this organization.
____ 8. My employer is open and upfront with me.
____ 9. The financial information that my employer shares with me helps me to understand the organization as a whole.
____ 10. I sense that this organization is OUR company.
____ 11. Financial information I receive influences the goals that I set for my job performance.
____ 12. I find that my values and the organization's values are very similar.
____ 13. The firm's financial reporting is clear and transparent.
____ 14. I believe my employer has high integrity.
____ 15. It does not matter to me whether the firm shares financial information with me.
____ 16. I am proud to tell others that I am part of this organization.
____ 17. The firm's financial information affects how I prioritize my tasks.
____ 18. I feel a very high degree of personal ownership for this organization.
____ 19. This organization is financially sound.
____ 20. This organization really inspires the very best in me in the way of job performance.
____ 21. In general, I believe my employer's motives and intentions are good.
____ 22. Information about the financial status of the firm is actively shared and widely disseminated.
____ 23. My coworkers and I discuss the firm's financial health.
____ 24. I sense that this is MY company.
____ 25. I am extremely glad that I chose this organization to work for over others I was considering at the time I joined.
____ 26. The financial information the firm shares with me is clear.
____ 27. My employer is not always honest and truthful.

____ 28. I use financial information to plan how much time I will spend on particular job tasks.
____ 29. It is common to hear employees discussing the firm's financial well-being.
____ 30. I really care about the fate of this organization.
____ 31. This is OUR company.
____ 32. The financial information the firm shares with me is credible.
____ 33. I am not particularly interested in my employer's sharing of financial information with me.
____ 34. I don't think my employer treats me fairly.
____ 35. For me this is the best of all possible organizations for which to work.
____ 36. The financial information that my employer shares with me helps me to understand how my job contributes to the organization as a whole.
____ 37. The financial information the firm shares with me is useful to me.
____ 38. In general, this organization is financially successful.

**Please answer the following question:**

39. Please check yes/no for the following items:

| **Financial Information** | **Do you receive this information:** |
|---|---|
| Profit/Loss Statement | ___ Yes ___ No |
| Balance Sheet | ___ Yes ___ No |
| Budget | ___ Yes ___ No |
| Expense Report | ___ Yes ___ No |
| Revenue Report | ___ Yes ___ No |
| Full-Time Equivalent (FTE) Information (e.g., # of employees, salaries, etc.) | ___ Yes ___ No |
| Money spent on marketing campaigns | ___ Yes ___ No |
| # of applications initiated by firm | ___ Yes ___ No |
| # of applications initiated by your team | ___ Yes ___ No |
| # of applications initiated by you | ___ Yes ___ No |
| # of applications received by firm | ___ Yes ___ No |
| # of applications received by your team | ___ Yes ___ No |
| # of applications received by you | ___ Yes ___ No |
| # of applications in-process for firm | ___ Yes ___ No |
| # of applications in-process for your team | ___ Yes ___ No |
| # of applications in-process for you | ___ Yes ___ No |
| # of federal applications funded by firm | ___ Yes ___ No |
| # of federal applications funded – your team | ___ Yes ___ No |
| # of federal applications funded – you | ___ Yes ___ No |
| # of private applications funded by firm | ___ Yes ___ No |
| # of private applications funded – your team | ___ Yes ___ No |
| # of private applications funded – you | ___ Yes ___ No |
| # of rejected applications | ___ Yes ___ No |
| Dollars made by firm per funded loan | ___ Yes ___ No |
| Dollar value of consolidated loans for a time period (e.g., the year, quarter, etc.) | ___ Yes ___ No |
| User call statistics | ___ Yes ___ No |
| Quality control numbers | ___ Yes ___ No |

Please check yes/no for the following items:

| **Financial Information** | **Do you receive this information:** |
|---|---|
| # of outgoing pieces of mail sent by regular mail | ___ Yes ___ No |
| # of outgoing pieces of mail sent by Federal Express | ___ Yes ___ No |
| # of applications "kicked back" | ___ Yes ___ No |
| Other (please specify): | ___ Yes ___ No |

**Each of the following is a statement that an individual might make about his or her performance. You are to indicate your own personal feelings about your performance by marking how often you complete the following tasks. Write a number in the blank for each statement, based on this scale:**

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| **Never** | **Occasionally** | **Fairly many times** | **Very often** | **Always** |

____ 40. I adequately complete assigned duties.

____ 41. I fulfill responsibilities specified in my job description.

____ 42. I perform tasks that are expected of me.

____ 43. I volunteer for things that are not required.

____ 44. I make suggestions to improve my department or the organization.

____ 45. I help others with their responsibilities here at the organization.

**The following are general statements about your background. This information will allow us to compare different groups of participants.**

46. How old were you on your last birthday? ____ years
47. What is the highest level of education you have completed? (Please check one.)
    - ____ Graduated from high school or G.E.D.
    - ____ Some college or technical training beyond high school
    - ____ Graduated from college
    - ____ Some graduate school
    - ____ Graduate degree (Master's, Ph.D., M.D., JD., etc.)
    - ____ Other (Please specify): _____
48. How long have you been employed with this company? (Please check one.)
    - ____ 3 months or less
    - ____ 4 to 6 months
    - ____ 7 to 9 months
    - ____ 10 months to 1 year
    - ____ More than 1 year
49. Have you taken an accounting or finance course? ____Yes ____ No
50. To what extent has your employer trained you on how to understand/interpret financial information?

    ____ Not at all ____ To some extent ____ To a great extent

51. To what extent are you confident in your ability to understand/interpret financial information?

    ____ Not at all ____ To some extent ____ To a great extent

**Thank you for your participation.**

## Appendix C – Manager Survey

**Financial Information Sharing Survey**
**Please answer the following question:**

| Financial Information | Do you receive this information: | Do you share this Information with your subordinates: |
|---|---|---|
| Profit/Loss Statement | ___ Yes ___ No | ___ Yes ___ No |
| Balance Sheet | ___ Yes ___ No | ___ Yes ___ No |
| Budget | ___ Yes ___ No | ___ Yes ___ No |
| Expense Report | ___ Yes ___ No | ___ Yes ___ No |
| Revenue Report | ___ Yes ___ No | ___ Yes ___ No |
| Full-Time Equivalent (FTE) Information (e.g., # of employees, salaries, etc.) | ___ Yes ___ No | ___ Yes ___ No |
| Money spent on marketing campaigns | ___ Yes ___ No | ___ Yes ___ No |
| # of applications initiated by firm | ___ Yes ___ No | ___ Yes ___ No |
| # of applications initiated by your team | ___ Yes ___ No | ___ Yes ___ No |
| # of applications initiated by employee | ___ Yes ___ No | ___ Yes ___ No |
| # of applications received by firm | ___ Yes ___ No | ___ Yes ___ No |
| # of applications received by your team | ___ Yes ___ No | ___ Yes ___ No |
| # of applications received by employee | ___ Yes ___ No | ___ Yes ___ No |
| # of applications in-process for firm | ___ Yes ___ No | ___ Yes ___ No |
| # of applications in-process for your team | ___ Yes ___ No | ___ Yes ___ No |
| # of applications in-process for employee | ___ Yes ___ No | ___ Yes ___ No |
| # of federal applications funded by firm | ___ Yes ___ No | ___ Yes ___ No |
| # of federal applications funded – your team | ___ Yes ___ No | ___ Yes ___ No |
| # of federal applications funded – employee | ___ Yes ___ No | ___ Yes ___ No |
| # of private applications funded by firm | ___ Yes ___ No | ___ Yes ___ No |
| # of private applications funded – your team | ___ Yes ___ No | ___ Yes ___ No |
| # of private applications funded – employee | ___ Yes ___ No | ___ Yes ___ No |
| # of rejected applications | ___ Yes ___ No | ___ Yes ___ No |
| Dollars made by firm per funded loan | ___ Yes ___ No | ___ Yes ___ No |
| Dollar value of consolidated loans for a time period (e.g., the year, quarter, etc.) | ___ Yes ___ No | ___ Yes ___ No |
| User call statistics | ___ Yes ___ No | ___ Yes ___ No |
| Quality control numbers | ___ Yes ___ No | ___ Yes ___ No |
| # of outgoing pieces of mail sent by regular mail | ___ Yes ___ No | ___ Yes ___ No |
| # of outgoing pieces of mail sent by Federal Express | ___ Yes ___ No | ___ Yes ___ No |
| # of applications "kicked back" | ___ Yes ___ No | ___ Yes ___ No |
| Other (please specify): | ___ Yes ___ No | ___ Yes ___ No |

**Comparison of Employees' Performance: Each of the following is a statement that a manager might make about his or her employee. You are to indicate your own personal feelings about your employees by marking how often the employee completes the following tasks. Write a number in the blank for each for each statement, based on this scale:**

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| Never | Occasionally | Fairly many times | Very often | Always |

| **Statement** | **Employee 1** |
|---|---|
| This employee adequately completes assigned duties. | ___ |
| This employee fulfills responsibilities specified in his/her job description. | ___ |
| This employee performs tasks that are expected of him/her. | ___ |
| This employee volunteers for things that are not required. | ___ |
| This employee makes suggestions to improve the department or the organization. | ___ |
| This employee helps others with their responsibilities here at the organization. | ___ |

| **Statement** | **Employee 2** |
|---|---|
| This employee adequately completes assigned duties. | ___ |
| This employee fulfills responsibilities specified in his/her job description. | ___ |
| This employee performs tasks that are expected of him/her. | ___ |
| This employee volunteers for things that are not required. | ___ |
| This employee makes suggestions to improve the department or the organization. | ___ |
| This employee helps others with their responsibilities here at the organization. | ___ |

| **Statement** | **Employee 3** |
|---|---|
| This employee adequately completes assigned duties. | ___ |
| This employee fulfills responsibilities specified in his/her job description. | ___ |
| This employee performs tasks that are expected of him/her. | ___ |
| This employee volunteers for things that are not required. | ___ |
| This employee makes suggestions to improve the department or the organization. | ___ |
| This employee helps others with their responsibilities here at the organization. | ___ |

| **Statement** | **Employee 4** |
|---|---|
| This employee adequately completes assigned duties. | ___ |
| This employee fulfills responsibilities specified in his/her job description. | ___ |
| This employee performs tasks that are expected of him/her. | ___ |
| This employee volunteers for things that are not required. | ___ |
| This employee makes suggestions to improve the department or the organization. | ___ |
| This employee helps others with their responsibilities here at the organization. | ___ |

## Appendix D

**Table 1**
**Factor Analysis of Financial Information Sharing Items**

| Did you receive: | Commu-nalities | Component | | | | |
|---|---|---|---|---|---|---|
| | | Employee | Firm | Quality | Managerial | Profitability |
| # applications received (employee) | .83 | ***.90*** | .07 | .06 | -.01 | -.04 |
| # federal applications funded (employee) | .80 | ***.88*** | .09 | .05 | -.01 | -.05 |
| # applications in-process (employee) | .78 | ***.86*** | .13 | .04 | -.01 | -.05 |
| # applications initiated (employee) | .77 | ***.85*** | .01 | .09 | -.04 | -.08 |
| # applications initiated (team) | .81 | ***.84*** | .14 | .16 | -.10 | .06 |
| # private applications funded (employee) | .71 | ***.82*** | .14 | .04 | .02 | -.08 |
| # applications received (team) | .72 | ***.78*** | .29 | .09 | -.10 | .07 |
| # federal applications funded (team) | .70 | ***.72*** | .38 | .06 | -.05 | -.04 |
| # applications in-process (team) | .70 | ***.66*** | .39 | .06 | -.05 | .01 |
| # private applications funded (team) | .68 | ***.65*** | .47 | .00 | .00 | -.03 |
| User call statistics | .45 | ***.43*** | .17 | .37 | -.03 | .17 |
| # federal applications funded (firm) | .73 | .10 | ***.82*** | .20 | .04 | -.08 |
| # private applications funded (firm) | .73 | .18 | ***.81*** | .01 | .14 | .03 |
| # applications received (firm) | .76 | .29 | ***.79*** | .18 | .02 | .03 |
| # applications in-process (firm) | .68 | .22 | ***.73*** | .20 | .09 | .01 |
| # applications initiated (firm) | .68 | .30 | ***.67*** | .25 | .11 | .01 |
| # rejected applications | .57 | .50 | ***.54*** | .10 | .01 | .12 |
| # outgoing pieces of express mail | .71 | .05 | .07 | ***.79*** | .21 | -.01 |
| # applications 'kicked back' | .56 | .12 | .25 | ***.66*** | .11 | .10 |
| # outgoing pieces of regular mail | .70 | -.03 | .18 | ***.78*** | .20 | .06 |
| Quality control numbers | .44 | .31 | .14 | ***.51*** | -.17 | .20 |
| Budget | .66 | -.22 | -.02 | -.11 | ***.71*** | .31 |
| Dollars made per funded loan | .55 | -.03 | .09 | .18 | ***.70*** | .03 |
| Expense report | .72 | -.23 | .00 | .00 | ***.67*** | .46 |

Note: Principal components analysis with varimax rotation
n = 258.

## Appendix D

**Table 1 (Continued)**
**Factor Analysis of Financial Information Sharing Items**

| Did you receive: | Commu-nalities | Component: Employee | Firm | Quality | Managerial | Profitability |
|---|---|---|---|---|---|---|
| FTE information | .45 | .05 | .01 | .15 | ***.63*** | .04 |
| Money spent on marketing | .33 | .12 | .14 | .35 | ***.39*** | .09 |
| Dollar value of loans for a period | .27 | -.02 | .27 | .08 | ***.39*** | .14 |
| Profit/loss | .70 | -.09 | .07 | .02 | .07 | ***.81*** |
| Balance sheet | .77 | -.01 | .08 | .14 | .28 | ***.81*** |
| Revenue report | .59 | .04 | -.06 | .16 | .23 | ***.70*** |
| Eigenvalue | | 7.38 | 4.20 | 2.68 | 2.50 | 2.29 |
| % variance explained | | 23.79 | 13.54 | 8.65 | 8.07 | 7.39 |
| Cumulative % variance explained | | 23.79 | 37.33 | 45.98 | 54.05 | 61.45 |

Note: Principal components analysis with varimax rotation
n = 258.

**Appendix D**

**Table 2**
**Confirmatory Factor Analyses Model Fit Indices**

| Model | CFI | TLI | $\chi^2$/df | RMSEA |
|---|---|---|---|---|
| One-factor | .91 | .90 | 5.09 | .13 |
| Two-factor | .92 | .92 | 4.58 | .12 |
| Three-factor | .94 | .94 | 3.71 | .10 |
| Four-factor | .95 | .94 | 3.37 | .10 |
| Five-factor | .96 | .95 | 3.07 | .09 |
| Six-factor | .95 | .95 | 3.21 | .09 |
| Seven-factor | .97 | .97 | 2.44 | .07 |
| Eight-factor | .97 | .97 | 2.44 | .07 |

n = 256.

Notes:

1. The one-factor model includes direction of effort, in-role performance, extra-role performance, organizational commitment, trust in management, transparency of the firm and psychological ownership.
2. The two-factor model uses direction of effort as one construct (Factor 1) and combines in-role performance, extra-role performance, organizational commitment, trust in management, transparency of the firm and psychological ownership into one construct (Factor 2).
3. The three-factor model uses direction of effort (Factor 1) and in-role performance (Factor 2) as separate constructs and combines extra-role performance, organizational commitment, trust in management, transparency of the firm and psychological ownership into one construct (Factor 3).
4. The four-factor model uses direction of effort (Factor 1), in-role performance (Factor 2) and extra-role performance (Factor 3) as separate constructs and combines organizational commitment, trust in management, transparency of the firm and psychological ownership into one construct (Factor 4).
5. The five-factor model uses direction of effort (Factor 1), in-role performance (Factor 2), extra-role performance (Factor 3) and organizational commitment (Factor 4) as separate constructs and combines trust in management, transparency of the firm and psychological ownership into one construct (Factor 5).
6. The six-factor model uses direction of effort (Factor 1), in-role performance (Factor 2), extra-role performance (Factor 3), organizational commitment (Factor 4) and trust in management (Factor 5) as separate constructs and combines transparency of the firm and psychological ownership into one construct (Factor 6).
7. The seven-factor model treats each variable as a separate factor.
8. The eight-factor model separates organizational commitment into two factors and treats all of the other variables as separate factors.
9. CFI = comparative fit index; TLI = Tucker-Lewis index; $\chi^2$/df = minimum discrepancy divided by degrees of freedom; RMSEA = root-mean-square error of approximation.

## Appendix D

**Table 3**
**Means, Standard Deviations, Reliabilities, and Correlations**

| Variable | Mean | s.d. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. In-role Performance[a] | 4.26 | .78 | (.94) | | | | | | | | | | | |
| 2. In-role Performance[b] | 4.69 | .49 | .20* | (.84) | | | | | | | | | | |
| 3. In-role Performance[c] | 48.46 | 39.64 | .33* | .07 | NA | | | | | | | | | |
| 4. Extra-role Performance[a] | 3.46 | 1.13 | .60** | .03 | .14 | (.88) | | | | | | | | |
| 5. Extra-role Performance[b] | 3.91 | .78 | .25* | .16** | .22* | .39** | (.66) | | | | | | | |
| 6.Organizational Commitment | 3.48 | .81 | -.01 | .15* | .18 | -.10 | .16* | (.91) | | | | | | |
| 7. Direction of Effort | 2.85 | .97 | .04 | -.00 | -.10 | -.03 | .09 | .41** | (.86) | | | | | |
| 8. Transparency | 2.53 | .87 | .06 | .07 | .06 | -.05 | .06 | .57** | .67** | (.90) | | | | |
| 9. Psychological Ownership | 2.83 | 1.06 | .08 | .09 | .07 | .03 | .25** | .73** | .49** | .58** | (.91) | | | |
| 10. Trust in Management | 3.17 | .89 | -.00 | .11 | .02 | -.12 | .07 | .79** | .39** | .61** | .69** | (.88) | | |
| 11. Financial Information Sharing – Employee[b] | .00 | 1.00 | -.08 | -.09 | .14 | -.08 | -.17** | .03 | .18** | .16** | .05 | .03 | NA | |
| 12. Financial Information Sharing – Firm[b] | .00 | 1.00 | .03 | -.04 | .11 | .07 | .08 | .09 | .09 | .11 | .08 | .09 | .00 | NA |
| 13. Financial Information Sharing – Quality[b] | .00 | 1.00 | .02 | -.00 | .14 | -.05 | .05 | .04 | .22** | .17** | .02 | -.00 | .00 | .00 |
| 14. Financial Information Sharing – Managerial[b] | .00 | 1.00 | .03 | .07 | .11 | .09 | .15* | .14* | .16* | .21** | .19** | .15* | .00 | .00 |
| 15. Financial Information Sharing – Profitability[b] | .00 | 1.00 | .11 | -.04 | .27** | .10 | .08 | .03 | .03 | .11 | .12 | .10 | .00 | .00 |
| 16. Financial Information Sharing – Employee[a] | .00 | 1.00 | -.28** | .06 | -.00 | -.09 | -.07 | -.00 | .14* | .11 | -.05 | .03 | .07 | .11 |

n = 258. Items in parentheses are Cronbach alpha reliabilities.

* $p < .05$

** $p < .01$

[a] Using managers' evaluations; n = 109.

[b] Using employees' evaluations

[c] Using firm's evaluations; n = 100.

## Appendix D

**Table 3 (Continued)**
**Means, Standard Deviations, Reliabilities, and Correlations**

| Variable | Mean | s.d. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 17. Financial Information Sharing – Firm[a] | .00 | 1.00 | -.03 | -.06 | -.05 | -.06 | -.10 | .07 | .16** | .14* | .09 | .06 | .31** | -.12 |
| 18. Financial Information Sharing – Quality[a] | .00 | 1.00 | -.11 | .06 | -.03 | -.18 | .04 | .03 | .00 | .02 | .08 | .04 | -.11 | -.02 |
| 19. Financial Information Sharing – Managerial[a] | .00 | 1.00 | .01 | -.01 | .15 | .19* | .06 | .08 | .13* | .08 | .10 | .05 | -.08 | -.02 |
| 20. Financial Information Sharing – Profitability[a] | .00 | 1.00 | -.01 | -.02 | -.02 | -.00 | .08 | .06 | .01 | .06 | .09 | .05 | -.10 | -.09 |
| 21. Age | 37.59 | 12.48 | -.10 | -.06 | -.25* | -.06 | -.01 | .14* | .05 | .04 | .24** | .19** | .04 | .01 |
| 22. Education | 2.52 | 1.01 | .09 | -.13* | -.20* | .06 | -.13* | -.15* | -.00 | .00 | -.08 | -.03 | .08 | .06 |
| 23. Tenure | 4.13 | 1.28 | -.37** | -.04 | .10 | -.19 | -.02 | -.19** | -.14* | -.26** | -.24** | -.29** | -.04 | .05 |
| 24. Job level | 1.21 | .80 | -.10 | -.03 | NA | .06 | .16* | -.04 | -.01 | .00 | .01 | -.06 | -.09 | .12 |
| 25. Location | .54 | .50 | -.03 | .12 | .18 | .13 | .12* | .01 | -.05 | -.07 | -.02 | -.05 | -.36** | .04 |
| 26. Firm financial health | 3.86 | .72 | -.10 | -.02 | .08 | -.14 | -.03 | .25** | .15* | .29** | .24** | .24** | .14* | .00 |
| 27. Desire for information | 3.86 | .88 | -.01 | -.11 | .10 | .05 | .05 | -.09 | .03 | -.20** | -.11 | -.10 | -.01 | -.03 |
| 28. Discussion of firm financial health | 3.08 | 1.08 | .09 | .02 | .05 | .02 | .06 | .09 | .25** | .25** | .13* | .02 | .15* | .07 |
| 29. Training on information | .49 | .50 | -.10 | .00 | -.02 | -.02 | -.03 | .22** | .31** | .34** | .22** | .22** | .21** | -.00 |

n = 258. Items in parentheses are Cronbach alpha reliabilities.
* $p < .05$
** $p < .01$
[a] Using managers' evaluations; n = 109.
[b] Using employees' evaluations

## Appendix D

**Table 3 (Continued)**
**Means, Standard Deviations, Reliabilities, and Correlations**

| Variable | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 13. Financial Information Sharing – Quality[b] | NA | | | | | | | | | | | | | |
| 14. Financial Information Sharing – Managerial[b] | .00 | NA | | | | | | | | | | | | |
| 15. Financial Information Sharing – Profitability[b] | .00 | .00 | NA | | | | | | | | | | | |
| 16. Financial Information Sharing – Employee[a] | .00 | -.04 | -.05 | NA | | | | | | | | | | |
| 17. Financial Information Sharing – Firm[a] | .17** | -.03 | .06 | .00 | NA | | | | | | | | | |
| 18. Financial Information Sharing – Quality[a] | -.04 | -.00 | -.01 | .00 | .00 | NA | | | | | | | | |
| 19. Financial Information Sharing – Managerial[a] | -.02 | .31** | -.10 | .00 | .00 | .00 | NA | | | | | | | |
| 20. Financial Information Sharing – Profitability[a] | -.10 | .14* | .00 | .00 | .00 | .00 | .00 | NA | | | | | | |
| 21. Age | .03 | .01 | .04 | -.02 | .10 | .06 | -.02 | .08 | NA | | | | | |
| 22. Education | .02 | .11 | .09 | -.06 | .07 | -.04 | .11 | .21** | .17** | NA | | | | |
| 23. Tenure | .01 | -.09 | -.11 | .17** | .03 | .08 | -.04 | -.12 | .06 | -.09 | NA | | | |
| 24. Job level | .05 | .14* | .06 | .00 | -.01 | .08 | .14* | .13* | .06 | .02 | .07 | NA | | |
| 25. Location | -.12 | .05 | .08 | .14* | -.41** | -.02 | .02 | .10 | -.28** | -.18** | .10 | .12* | NA | |
| 26. Firm financial health | .14* | .13* | .05 | .07 | .25** | -.10 | .13* | .07 | .14* | .14* | -.08 | -.07 | -.23** | (.73) |
| 27. Desire for information | .02 | -.02 | -.04 | .02 | -.15* | -.23** | -.08 | .02 | .01 | .07 | .04 | -.01 | .12 | -.05 |
| 28. Discussion of firm financial health | .19** | .06 | .04 | -.02 | .12 | -.02 | .02 | .01 | -.12 | .07 | -.06 | .02 | -.15* | .11 |
| 29.Training on information | .10 | .03 | -.06 | .10 | .19** | -.00 | .02 | -.05 | .05 | -.10 | -.03 | -.06 | -.14* | .14* |

n = 258. Items in parentheses are Cronbach alpha reliabilities.

* $p < .05$; ** $p < .01$

[a] Using managers' evaluations; n = 109.

[b] Using employees' evaluations

**Appendix D**

**Table 3 (Continued)**

**Means, Standard Deviations, Reliabilities, and Correlations**

| Variable | 27 | 28 | 29 |
|---|---|---|---|
| 27. Desire for information | (.74) | | |
| 28. Discussion of firm financial health | -.00 | (.81) | |
| 29.Training on information | -.10 | .13* | NA |

n = 258. Items in parentheses are Cronbach alpha reliabilities.

* $p < .05$

** $p < .01$

**Appendix D**

**Table 4**
**Results of Regression Analysis of Direction of Effort**

| Independent Variables | Before Controls | After Controls | After Controls |
|---|---|---|---|
| Financial information sharing | | | |
| Employee information | .18** | .20** | .19** |
| Firm information | .09 | .10+ | .10+ |
| Quality information | .22** | .23** | .22** |
| Managerial information | .16** | .15* | .14* |
| Profitability information | .03 | .02 | .01 |
| Controls | | | |
| Age | | .07 | .06 |
| Education | | -.06 | -.07 |
| Tenure | | -.14* | -.14* |
| Job level | | -.04 | -.03 |
| Location | | .06 | .07 |
| Firm financial health | | | .08 |
| Desire for information | | | .04 |
| F | 6.68 | 4.11 | 3.59 |
| $R^2$ | .12 | .14 | .15 |
| P | .00 | .00 | .00 |

n = 258. Standardized coefficients are reported.
+ $p < .10$
* $p < .05$
** $p < .01$

**Appendix D**

**Table 5**

**Results of Mediated Regression Analysis of In-Role Performance[a]**

| Independent Variables | Before Controls | After Controls | After Controls | After Controls and Mediator |
|---|---|---|---|---|
| Financial information sharing | | | | |
| Employee information | -.05 | -.07 | -.07 | -.07 |
| Firm information | .02 | .03 | .03 | .03 |
| Quality information | .01 | .01 | .02 | .02 |
| Managerial information | .02 | .00 | .01 | .01 |
| Profitability information | .06 | .04 | .04 | .04 |
| Controls | | | | |
| Age | | -.06 | -.05 | -.05 |
| Education | | .04 | .05 | .05 |
| Tenure | | -.21** | -.21** | -.21** |
| Job level | | -.02 | -.03 | -.03 |
| Location | | -.03 | -.05 | -.05 |
| Firm financial health | | | -.09 | -.09 |
| Desire for information | | | .00 | .00 |
| Mediator | | | | |
| Direction of effort | | | | .01 |
| F | .35 | 1.62 | 1.51 | 1.39 |
| $R^2$ | .01 | .06 | .07 | .07 |
| P | .88 | .10 | .12 | .16 |

n = 109. Standardized coefficients are reported.

[a] Managers' in-role performance measure.

+ $p < .10$

* $p < .05$

** $p < .01$

**Appendix D**

**Table 6**

**Results of Mediated Regression Analysis of In-Role Performance[a]**

| Independent Variables | Before Controls | After Controls | After Controls | After Controls and Mediator |
|---|---|---|---|---|
| Financial information sharing | | | | |
| Employee information | -.09 | -.06 | -.05 | -.05 |
| Firm information | -.04 | -.02 | -.03 | -.03 |
| Quality information | -.00 | .01 | .02 | .02 |
| Managerial information | .07 | .08 | .08 | .08 |
| Profitability information | -.04 | -.04 | -.05 | -.05 |
| Controls | | | | |
| Age | | .00 | .01 | .01 |
| Education | | -.11+ | -.10 | -.10 |
| Tenure | | -.06 | -.06 | -.06 |
| Job level | | -.05 | -.05 | -.05 |
| Location | | .09 | .12 | .12 |
| Firm financial health | | | .00 | .00 |
| Desire for information | | | -.12+ | -.12+ |
| Mediator | | | | |
| Direction of effort | | | | -.01 |
| F | .86 | 1.12 | 1.25 | 1.15 |
| $R^2$ | .02 | .04 | .06 | .06 |
| P | .51 | .35 | .25 | .32 |

n = 258. Standardized coefficients are reported.

[a] Employees' in-role performance measure.

+ $p < .10$

* $p < .05$

** $p < .01$

**Appendix D**

**Table 7**

**Results of Mediated Regression Analysis of In-Role Performance[a]**

| Independent Variables | Before Controls | After Controls | After Controls | After Controls and Mediator |
|---|---|---|---|---|
| Financial information sharing | | | | |
| Employee information | .05 | .10 | .09 | .12+ |
| Firm information | .07 | .07 | .08 | .09 |
| Quality information | .09 | .10 | .09 | .12+ |
| Managerial information | .05 | .07 | .06 | .08 |
| Profitability information | .10 | .12+ | .12+ | .12+ |
| Controls | | | | |
| Age | | -.13* | -.14* | -.13* |
| Education | | -.10 | -.11+ | -.12+ |
| Tenure | | .08 | .08 | .06 |
| Job level | | -.03 | -.02 | -.03 |
| Location | | .08 | .08 | .09 |
| Firm financial health | | | .07 | .08 |
| Desire for information | | | .06 | .07 |
| Mediator | | | | |
| Direction of effort | | | | -.14* |
| F | 1.47 | 2.22 | 2.03 | 2.23 |
| $R^2$ | .03 | .08 | .09 | .11 |
| P | .20 | .02 | .02 | .01 |

n = 100. Standardized coefficients are reported.

[a] Firm's in-role performance measure.

+ $p < .10$

* $p < .05$

** $p < .01$

**Appendix D**

**Table 8**
**Results of Regression Analysis of Transparency**

| Independent Variables | Before Controls | After Controls | After Controls |
|---|---|---|---|
| Financial information sharing | | | |
| Employee information | .16** | .16** | .15** |
| Firm information | .11+ | .13* | .12* |
| Quality information | .17** | .18** | .16** |
| Managerial information | .21** | .20** | .17** |
| Profitability information | .11+ | .08 | .06 |
| Controls | | | |
| Age | | .06 | .05 |
| Education | | -.08 | -.08 |
| Tenure | | -.24** | -.23** |
| Job level | | -.03 | -.02 |
| Location | | .02 | .08 |
| Firm financial health | | | .22** |
| Desire for information | | | -.18** |
| F | 7.18 | 5.63 | 7.29 |
| $R^2$ | .12 | .19 | .26 |
| P | .00 | .00 | .00 |

n = 258. Standardized coefficients are reported.
+ $p < .10$
* $p < .05$
** $p < .01$

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**Table 9**

**Results of Regression Analysis of Psychological Ownership**

| Independent Variables | Before Controls | After Controls | After Controls |
|---|---|---|---|
| Financial information sharing | | | |
| Employee information | .05 | .06 | .05 |
| Firm information | .08 | .10+ | .10+ |
| Quality information | .02 | .03 | .01 |
| Managerial information | .19** | .19** | .16** |
| Profitability information | .12+ | .09 | .07 |
| | | | |
| Controls | | | |
| Age | | .28** | .27** |
| Education | | -.18** | -.19** |
| Tenure | | -.25** | -.24** |
| Job level | | -.03 | -.01 |
| Location | | .06 | .10 |
| Firm financial health | | | .19** |
| Desire for information | | | -.08 |
| | | | |
| F | 3.20 | 6.02 | 6.28 |
| $R^2$ | .06 | .20 | .23 |
| P | .01 | .00 | .00 |

n = 258. Standardized coefficients are reported.

+ $p < .10$

* $p < .05$

** $p < .01$

**Appendix D**

**Table 10**
**Results of Regression Analysis of Trust in Management**

| Independent Variables | Before Controls | After Controls | After Controls |
|---|---|---|---|
| Financial information sharing | | | |
| Employee information | .03 | .02 | .01 |
| Firm information | .09 | .12* | .11* |
| Quality information | .00 | .00 | -.02 |
| Managerial information | .15* | .15* | .12* |
| Profitability information | .10 | .07 | .06 |
| Controls | | | |
| Age | | .22** | .21** |
| Education | | -.12* | -.13* |
| Tenure | | -.29** | -.28** |
| Job level | | -.08 | -.07 |
| Location | | .01 | .05 |
| Firm financial health | | | .19** |
| Desire for information | | | -.07 |
| F | 2.19 | 5.19 | 5.46 |
| $R^2$ | .04 | .17 | .21 |
| P | .06 | .00 | .00 |

n = 258. Standardized coefficients are reported.
+ $p < .10$
* $p < .05$
** $p < .01$

**Appendix D**

**Table 11**
**Results of Regression Analysis of Organizational Commitment**

| Independent Variables | Before Controls | After Controls | After Controls | After Controls and Mediators: Trans-parency | Psycho-logical Ownership | Trust in Management | All Mediators |
|---|---|---|---|---|---|---|---|
| Financial information sharing | | | | | | | |
| Employee information | .03 | .05 | .04 | -.04 | .01 | .03 | .01 |
| Firm information | .09 | .12* | .11* | .05 | .05 | .03 | .02 |
| Quality information | .04 | .05 | .03 | -.06 | .02 | .04 | .03 |
| Managerial information | .14* | .15* | .11* | .02 | .00 | .02 | -.01 |
| Profitability information | .03 | .02 | .00 | -.03 | -.05 | -.05 | -.06+ |
| Controls | | | | | | | |
| Age | | .20** | .18** | .16** | -.01 | .02 | -.03 |
| Education | | -.21** | -.22** | -.18** | -.09* | -.12** | -.09* |
| Tenure | | -.21** | -.20** | -.08 | -.03 | .01 | .04 |
| Job level | | -.08 | -.06 | -.05 | -.05 | -.01 | -.02 |
| Location | | .07 | .11+ | .07 | .05 | .07+ | .05 |
| Firm financial health | | | .23** | .12* | .10* | .09* | .06 |
| Desire for information | | | -.06 | .03 | -.01 | -.01 | .01 |
| Mediators | | | | | | | |
| Transparency | | | | .52** | | | .04 |
| Psychological ownership | | | | | .70** | | .34** |
| Trust in management | | | | | | .77** | .54** |
| F | 1.63 | 3.93 | 4.87 | 12.07 | 24.47 | 36.50 | 41.34 |
| $R^2$ | .03 | .14 | .19 | .39 | .57 | .66 | .72 |
| P | .15 | .00 | .00 | .00 | .00 | .00 | .00 |

n = 258. Standardized coefficients are reported.
+ p < .10; * p < .05 ** p < .01

**Appendix D**

**Table 12**
**Results of Regression Analysis of Extra-Role Performance[a]**

| Independent Variables | Before Controls | After Controls | After Controls | After Controls and Mediators | After All Variables |
|---|---|---|---|---|---|
| Organizational commitment | -.06 | -.08 | -.06 | -.04 | -.03 |
| Financial information sharing | | | | | |
| Employee information | | | | | -.03 |
| Firm information | | | | | .05 |
| Quality information | | | | | -.01 |
| Managerial information | | | | | .06 |
| Profitability information | | | | | .04 |
| Controls | | | | | |
| Age | | .01 | .01 | .00 | .00 |
| Education | | .02 | .03 | .04 | .03 |
| Tenure | | -.14* | -.14* | -.14* | -.14* |
| Job level | | .01 | .01 | .00 | -.02 |
| Location | | .10 | .09 | .08 | .05 |
| Firm financial health | | | -.07 | -.08 | -.08 |
| Desire for information | | | .02 | .02 | .02 |
| Mediator | | | | | |
| Transparency | | | | -.01 | -.01 |
| Psychological ownership | | | | .16 | .14 |
| Trust in management | | | | -.17 | -.18 |
| F | .83 | 1.27 | 1.11 | 1.17 | .93 |
| $R^2$ | .00 | .03 | .03 | .05 | .06 |
| P | .36 | .27 | .36 | .31 | .54 |

n = 109. Standardized coefficients are reported.
[a] Managers' extra-role performance measure.
+ $p < .10$
* $p < .05$
** $p < .01$

**Appendix D**

**Table 13**
**Results of Regression Analysis of Extra-Role Performance[a]**

| Independent Variables | Before Controls | After Controls | After Controls | After Controls and Mediators | After All Variables |
|---|---|---|---|---|---|
| Organizational commitment | .15* | .14* | .15* | .06 | .07 |
| Financial information sharing | | | | | |
| Employee information | | | | | -.15* |
| Firm information | | | | | .06 |
| Quality information | | | | | .05 |
| Managerial information | | | | | .12* |
| Profitability information | | | | | .07 |
| Controls | | | | | |
| Age | | .01 | .01 | -.04 | -.05 |
| Education | | -.10 | -.10 | -.09 | -.11+ |
| Tenure | | -.02 | -.02 | -.01 | .00 |
| Job level | | .16* | .16* | .14* | .11+ |
| Location | | .09 | .07 | .06 | -.01 |
| Firm financial health | | | -.02 | -.03 | -.04 |
| Desire for information | | | .07 | .07 | .07 |
| Mediator | | | | | |
| Transparency | | | | -.07 | -.08 |
| Psychological ownership | | | | .38** | .36** |
| Trust in management | | | | -.16 | -.18+ |
| F | 6.22 | 3.25 | 2.60 | 3.49 | 3.23 |
| $R^2$ | .02 | .07 | .08 | .13 | .18 |
| P | .01 | .00 | .01 | .00 | .00 |

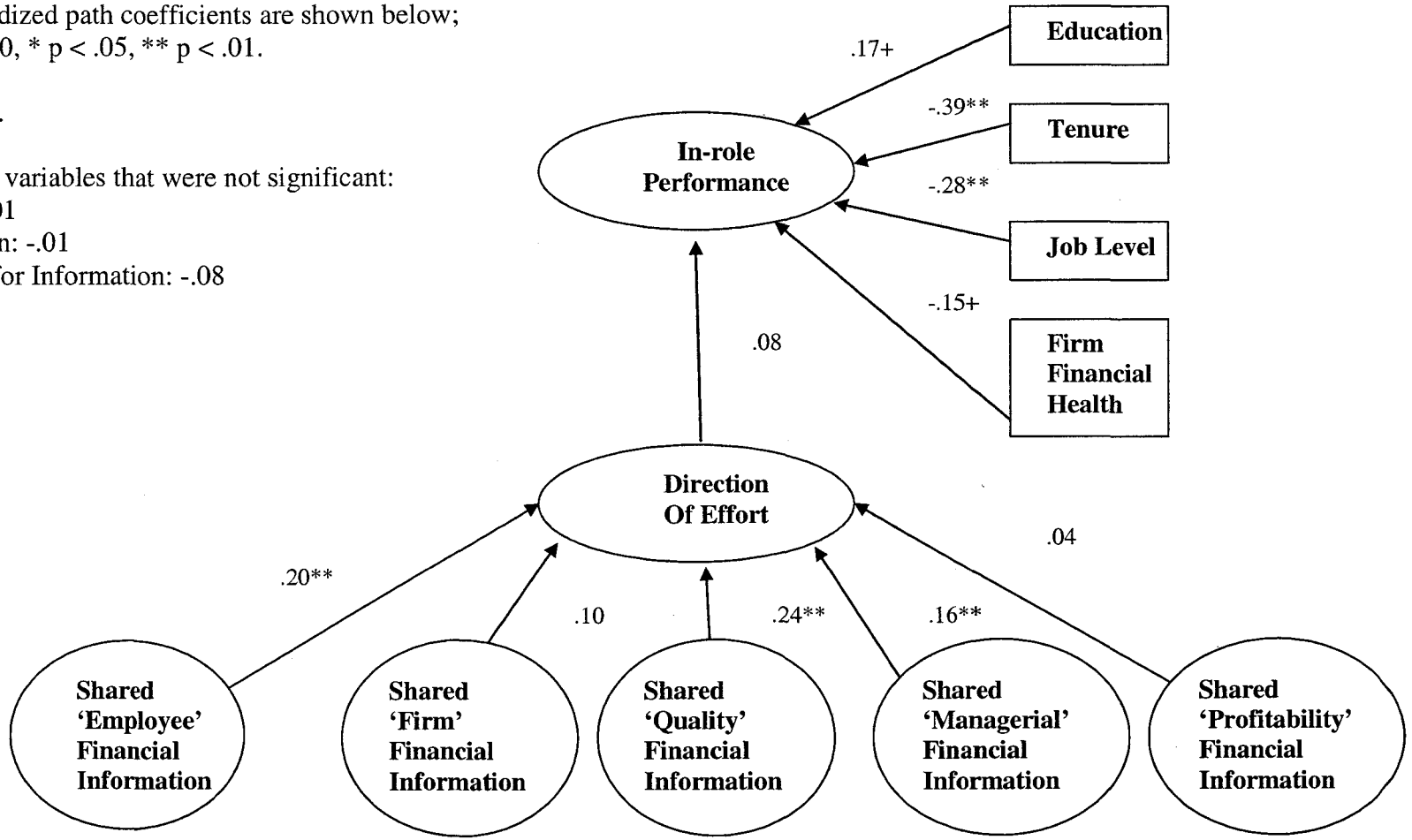
n = 258. Standardized coefficients are reported.
[a] Employees' extra-role performance measure.
+ $p < .10$
* $p < .05$
** $p < .01$

**Appendix D – Figure 1: Path Diagram for Hypotheses 1a and 2a Using Managers' Evaluation of In-role Performance**

Standardized path coefficients are shown below;
+ p < .10, * p < .05, ** p < .01.

n = 109.

Control variables that were not significant:
Age: -.01
Location: -.01
Desire for Information: -.08

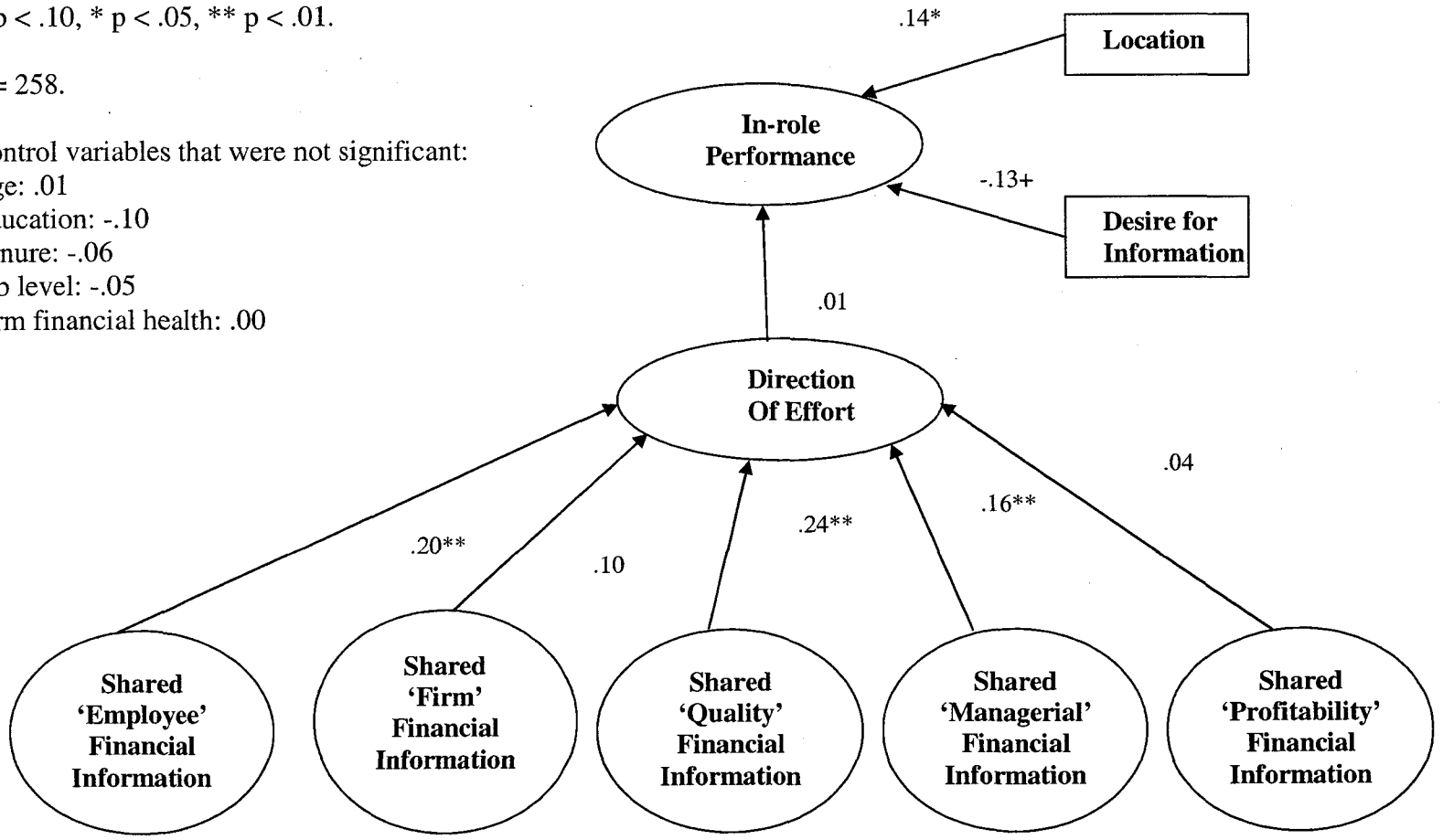


**Appendix D – Figure 2: Path Diagram for Hypotheses 1a and 2a Using Employees' Evaluation of In-role Performance**

Standardized path coefficients are shown below;
+ p < .10, * p < .05, ** p < .01.

n = 258.

Control variables that were not significant:
Age: .01
Education: -.10
Tenure: -.06
Job level: -.05
Firm financial health: .00

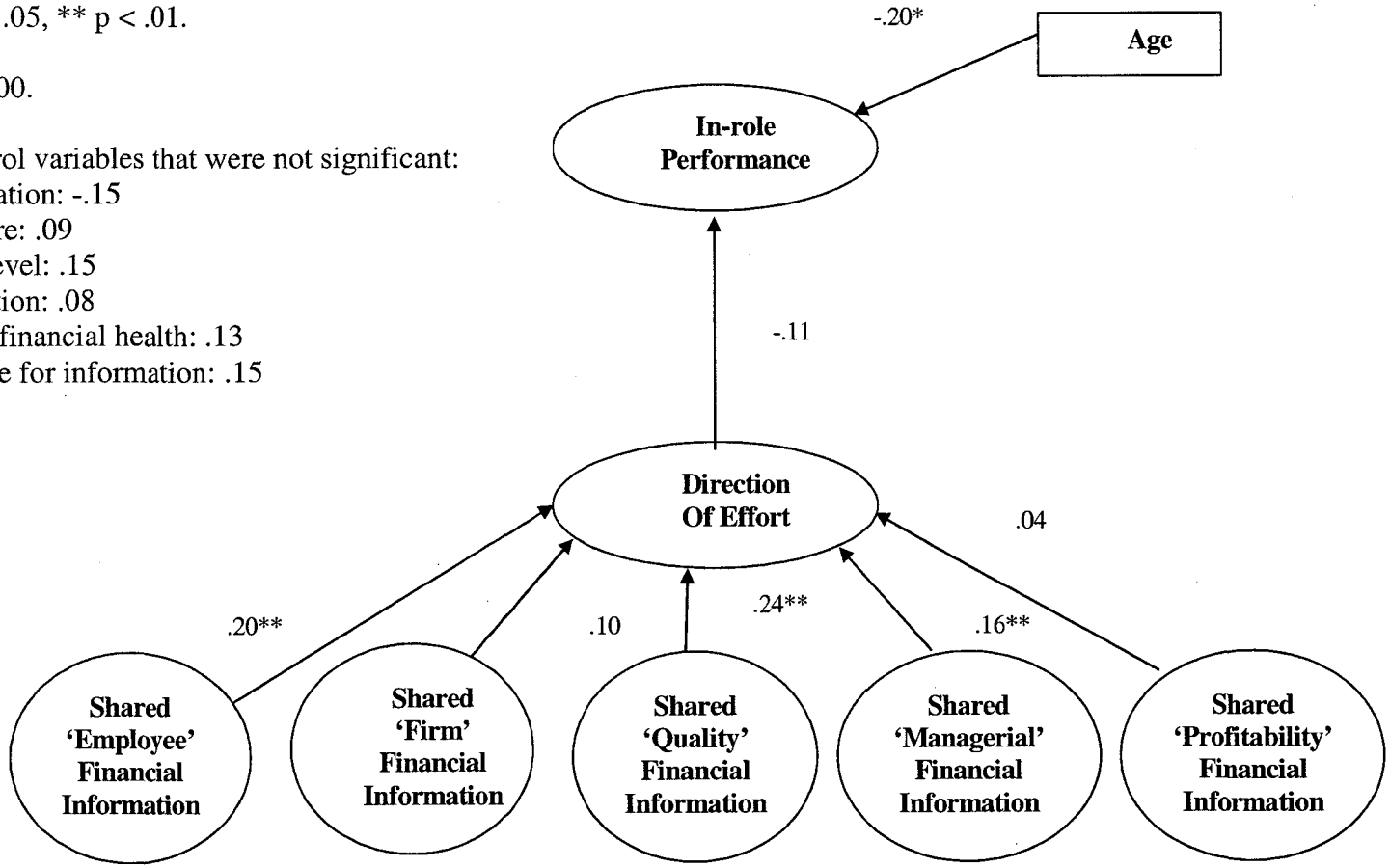


**Appendix D – Figure 3: Path Diagram for Hypotheses 1a and 2a Using Firm's Evaluation of In-role Performance**

Standardized path coefficients are shown below;
* p < .05, ** p < .01.

n = 100.

Control variables that were not significant:
Education: -.15
Tenure: .09
Job level: .15
Location: .08
Firm financial health: .13
Desire for information: .15



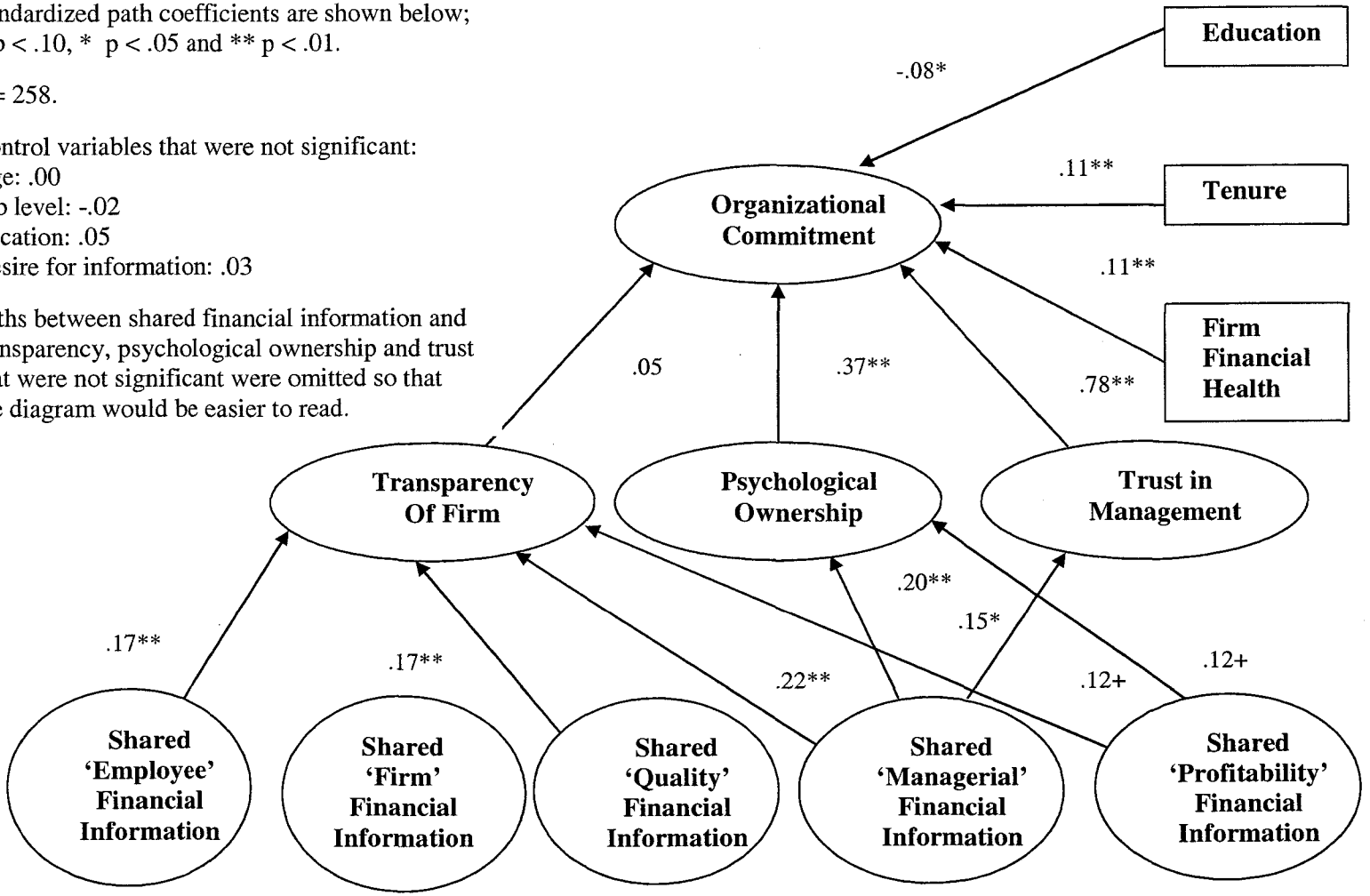
## Appendix D – Figure 4: Path Diagram for Hypotheses 3 and 4

Standardized path coefficients are shown below;
+ $p < .10$, * $p < .05$ and ** $p < .01$.

n = 258.

Control variables that were not significant:
Age: .00
Job level: -.02
Location: .05
Desire for information: .03

Paths between shared financial information and transparency, psychological ownership and trust that were not significant were omitted so that the diagram would be easier to read.



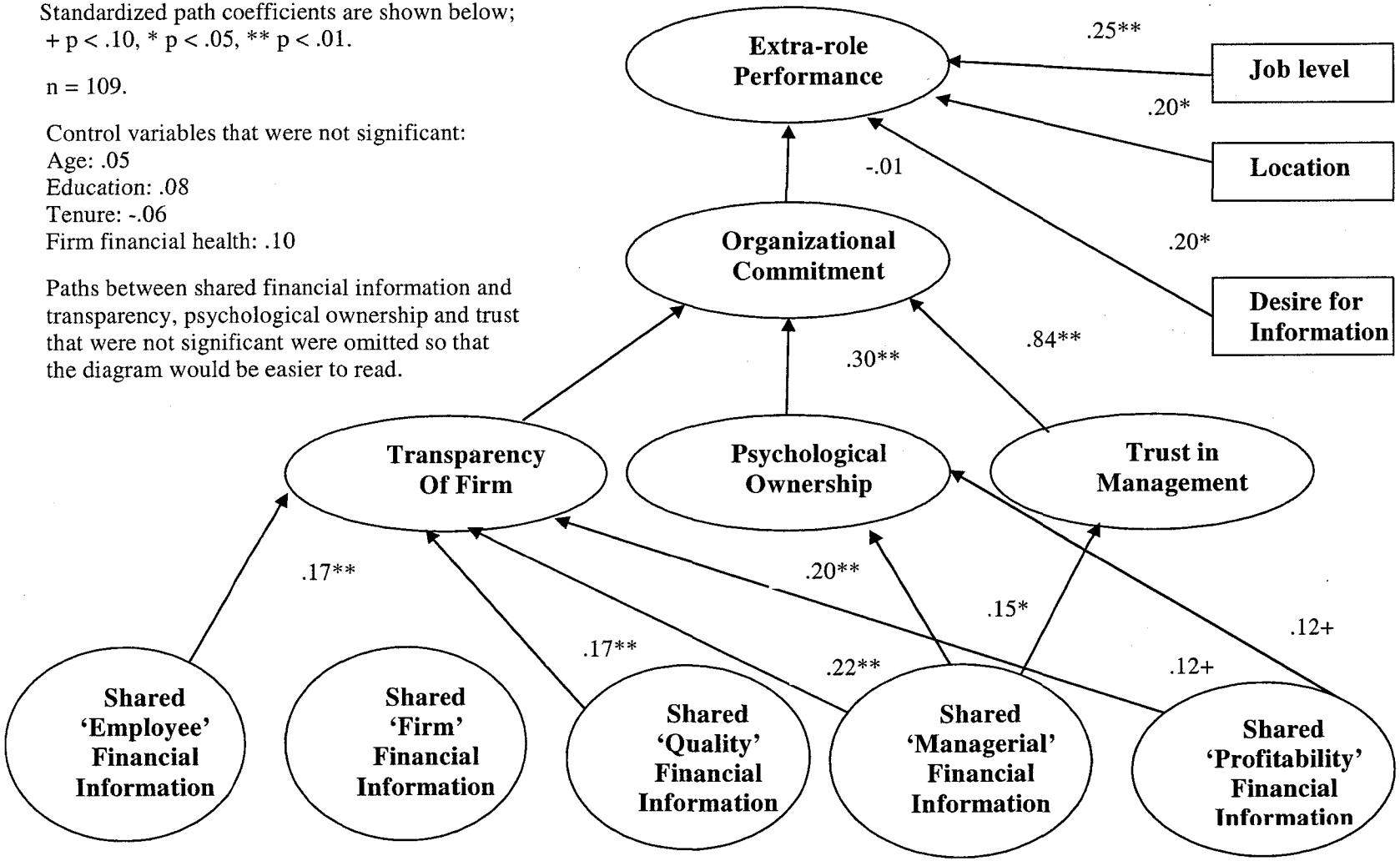
## Appendix D – Figure 5: Path Diagram for Hypothesis 5 Using Managers' Evaluation of Extra-role Performance

Standardized path coefficients are shown below;
+ p < .10, * p < .05, ** p < .01.

n = 109.

Control variables that were not significant:
Age: .05
Education: .08
Tenure: -.06
Firm financial health: .10

Paths between shared financial information and transparency, psychological ownership and trust that were not significant were omitted so that the diagram would be easier to read.



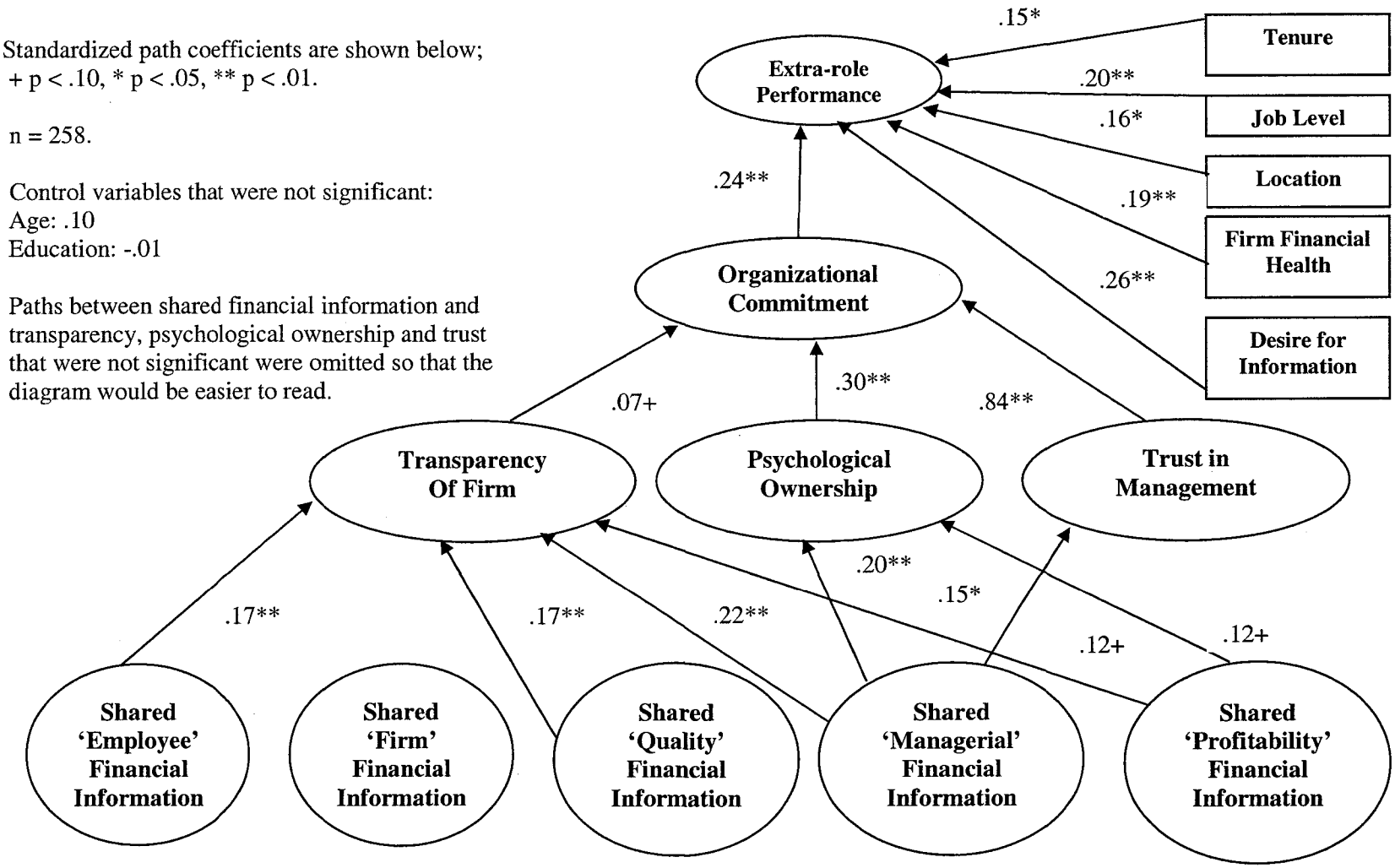
## Appendix D – Figure 6: Path Diagram for Hypothesis 5 Using Employees' Evaluation of Extra-role Performance

Standardized path coefficients are shown below;
+ p < .10, * p < .05, ** p < .01.

n = 258.

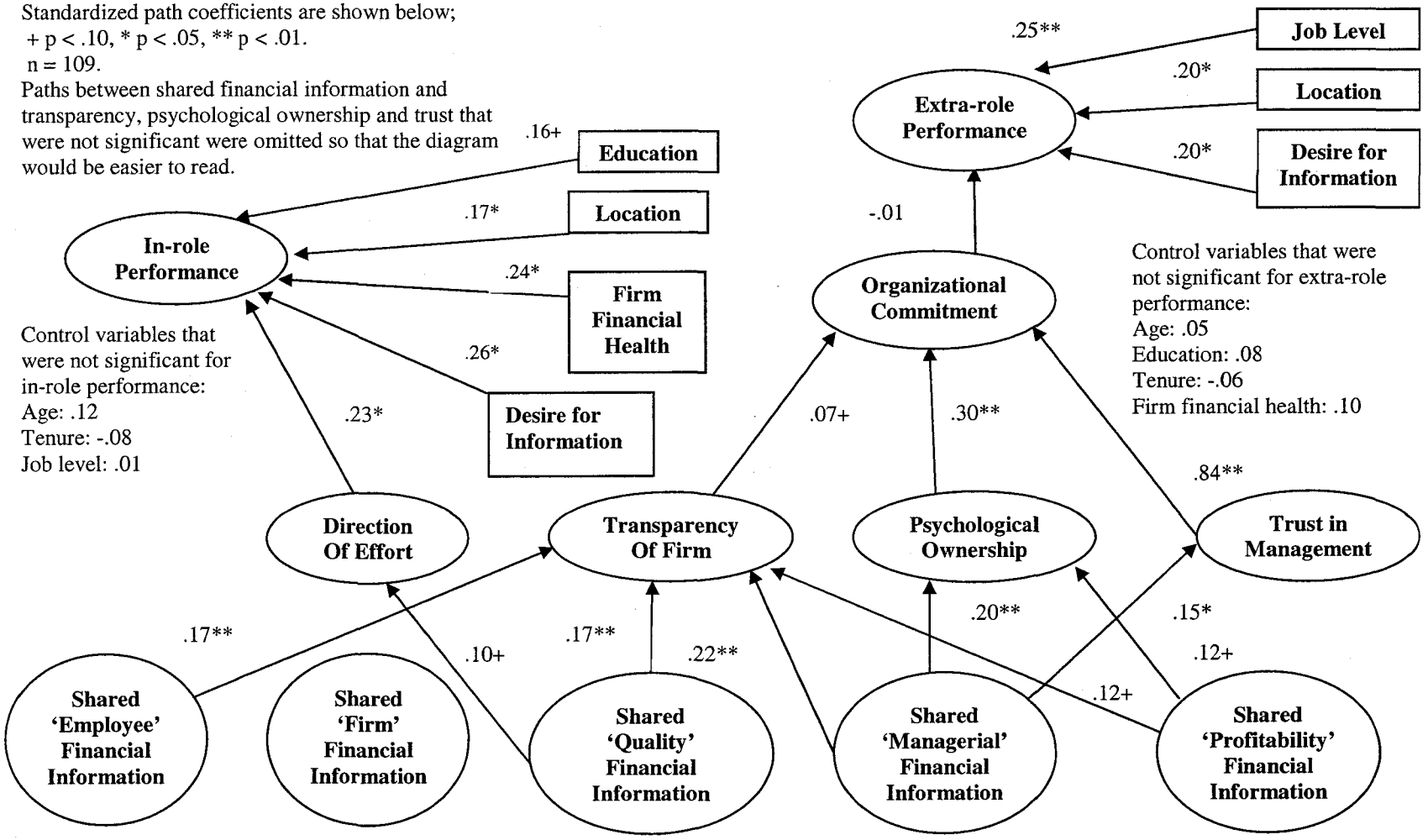
Control variables that were not significant:
Age: .10
Education: -.01

Paths between shared financial information and transparency, psychological ownership and trust that were not significant were omitted so that the diagram would be easier to read.

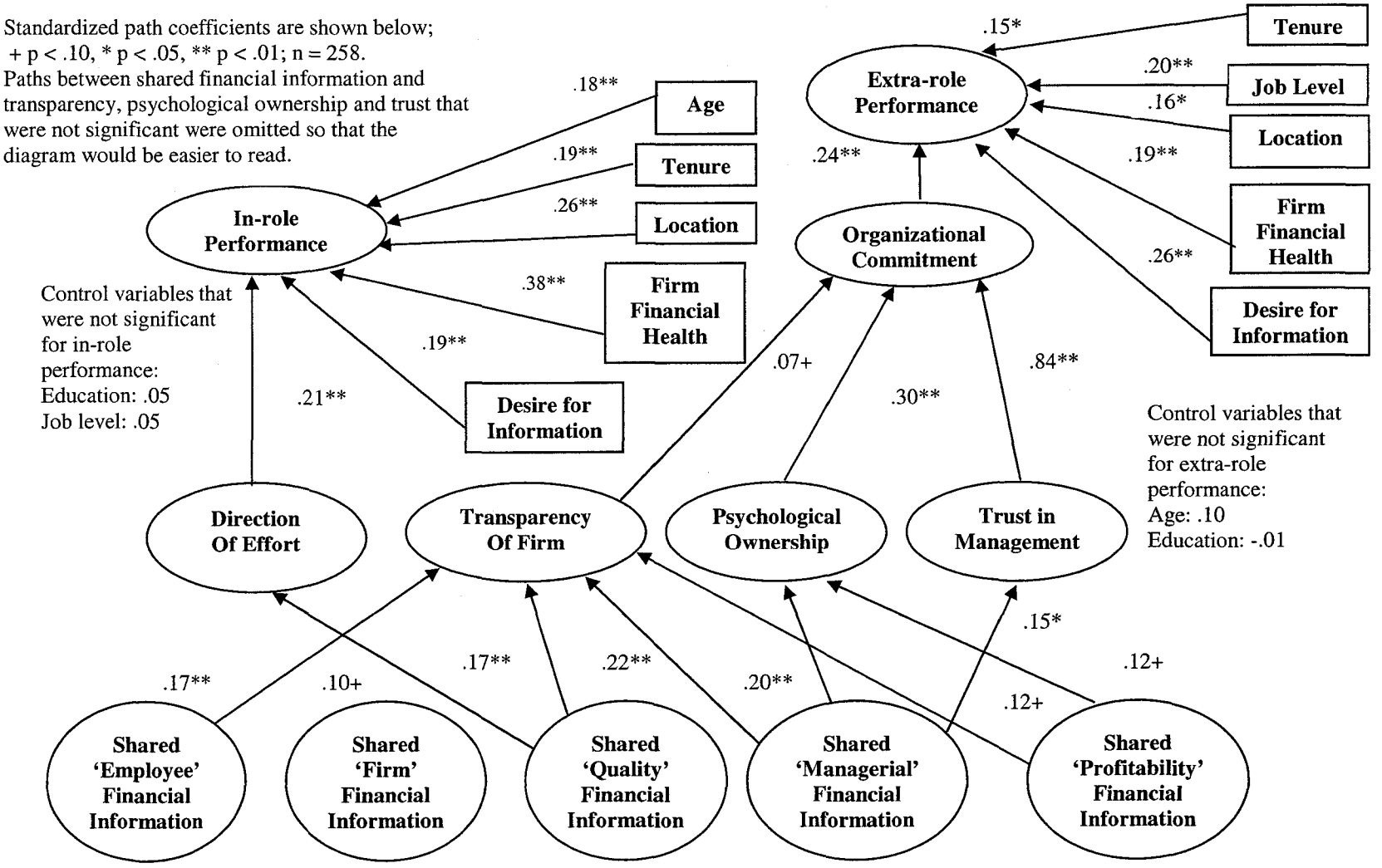


## Appendix D – Figure 7: Path Diagram for Full Model Using Managers' Evaluations of In-role and Extra-role Performance

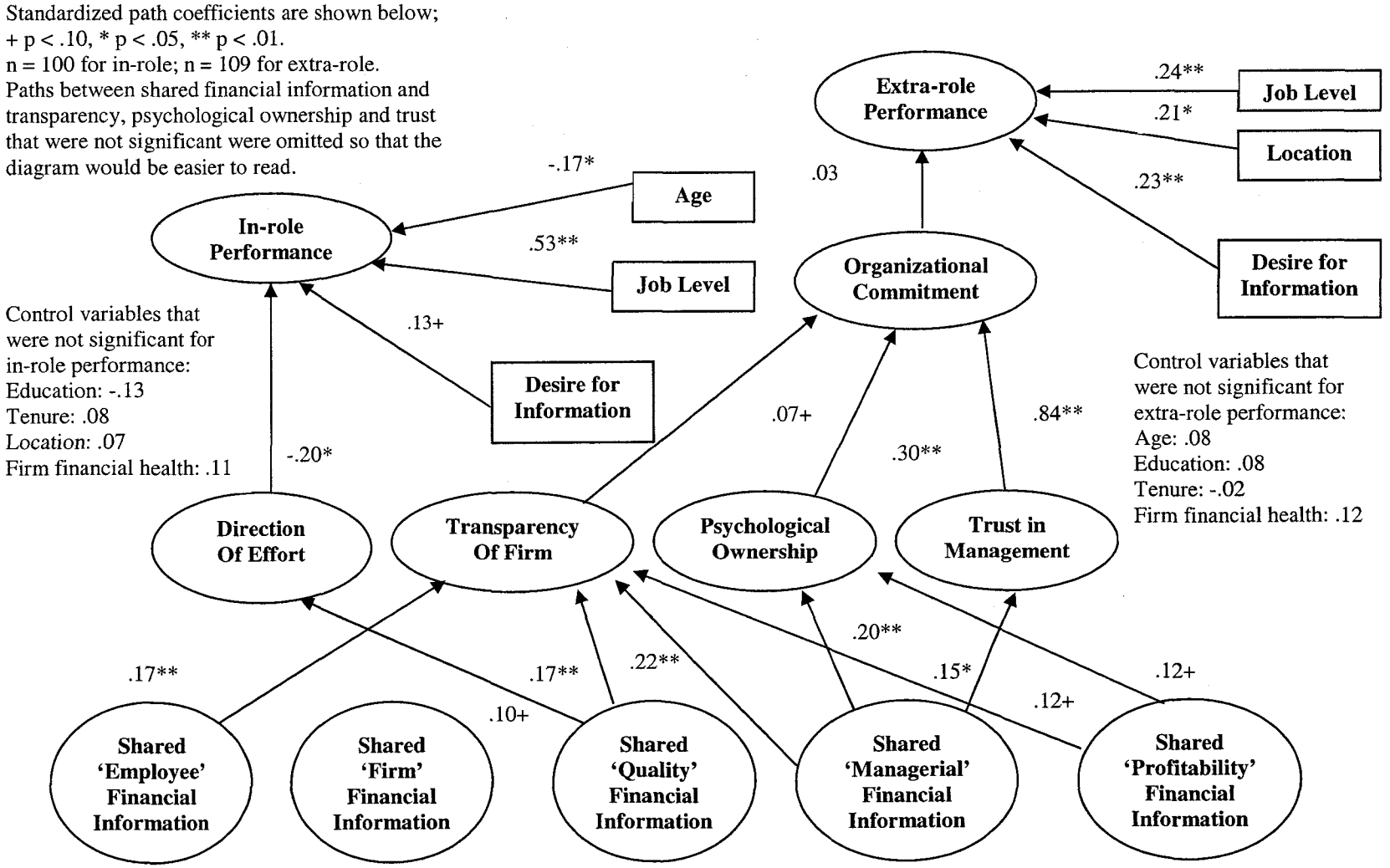
Standardized path coefficients are shown below;
+ p < .10, * p < .05, ** p < .01.
n = 109.
Paths between shared financial information and transparency, psychological ownership and trust that were not significant were omitted so that the diagram would be easier to read.



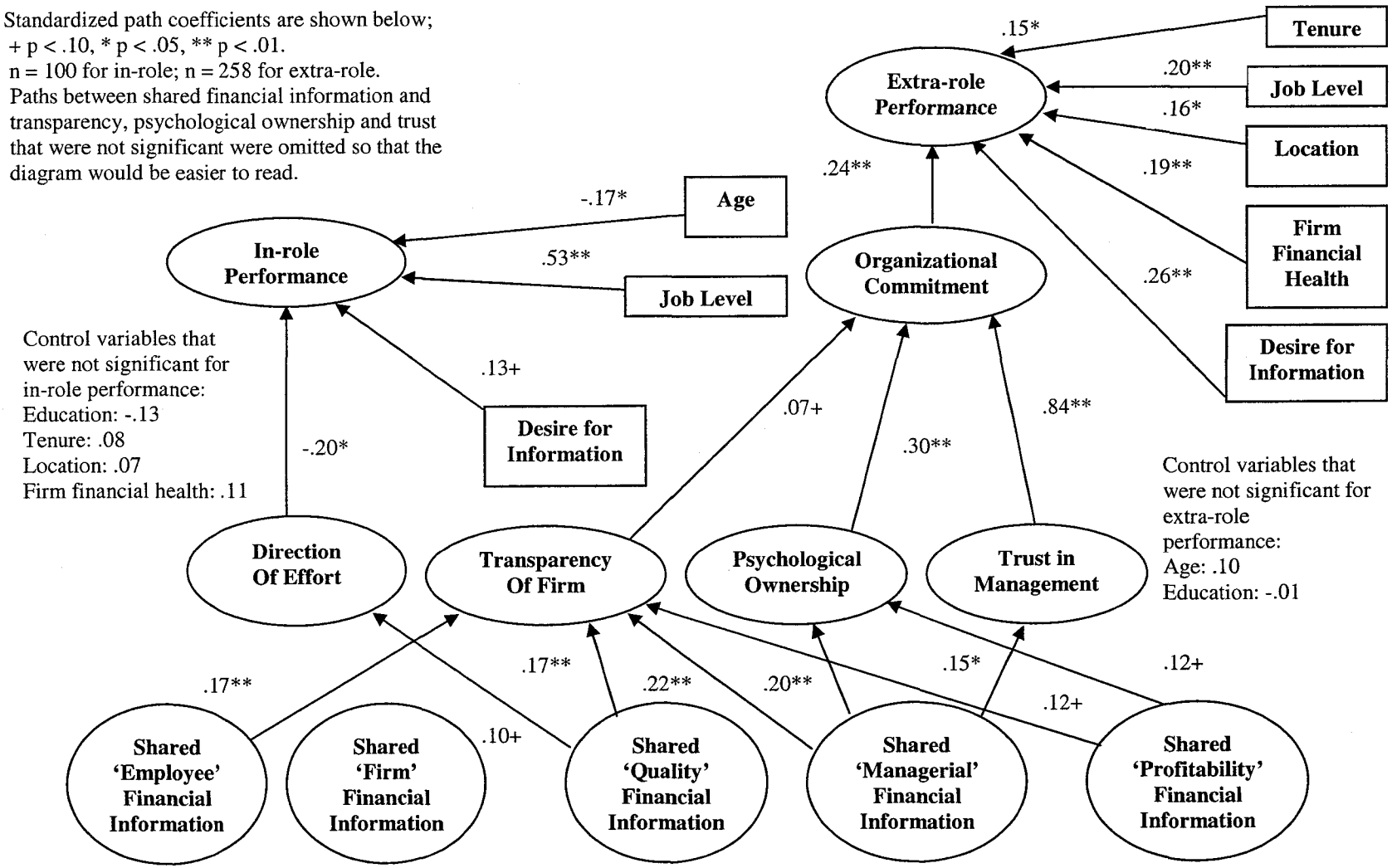
## Appendix D – Figure 8: Path Diagram for Full Model Using Employees' Evaluations of In-role and Extra-role Performance



**Appendix D – Figure 9: Path Diagram for Full Model Using Firm's Evaluation of In-role Performance and Managers' Evaluation of Extra-role Performance**



**Appendix D – Figure 10: Path Diagram for Full Model Using Firm's Evaluation of In-role Performance and Employees' Evaluation of Extra-role Performance**

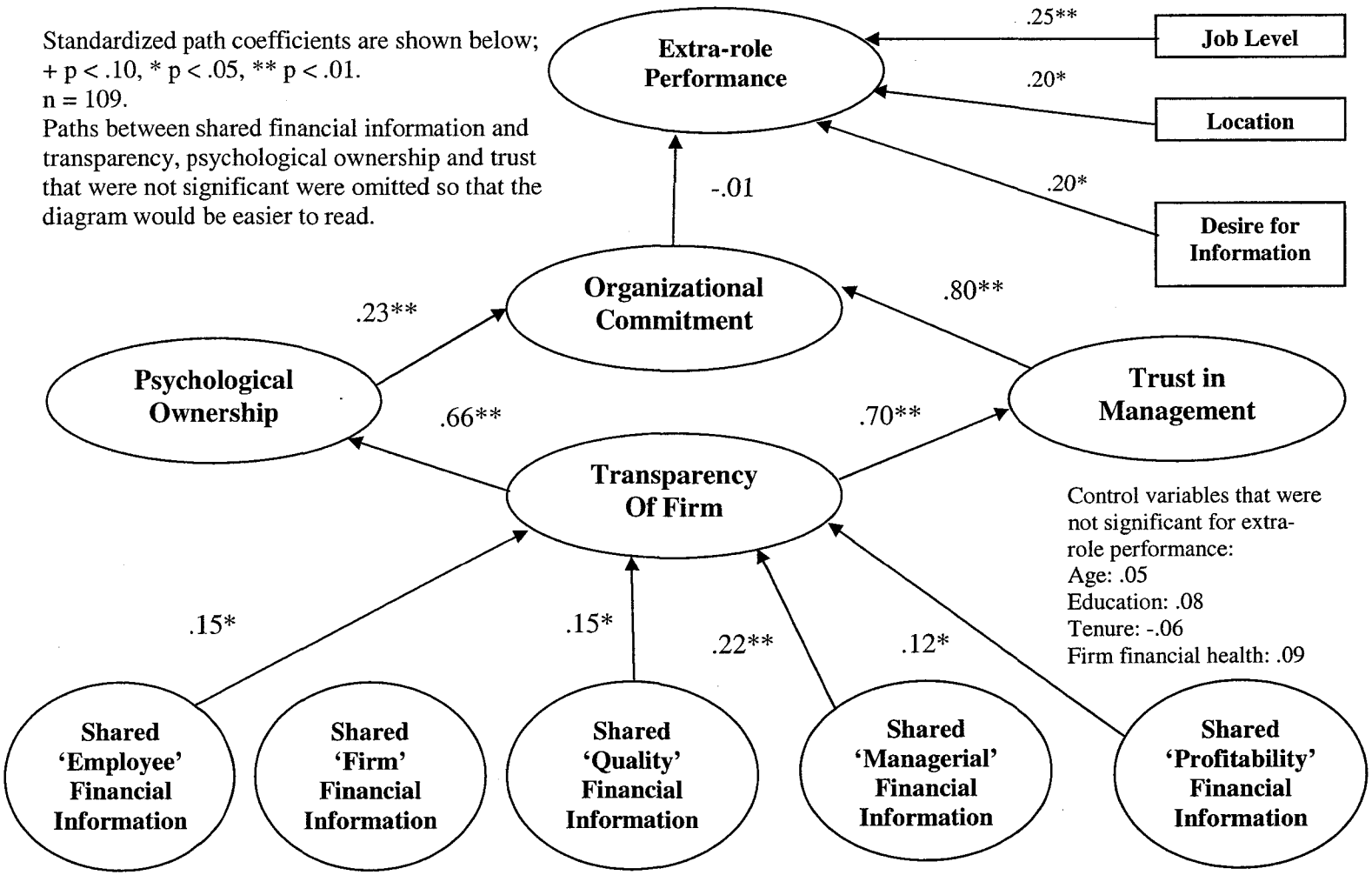


**Appendix D**

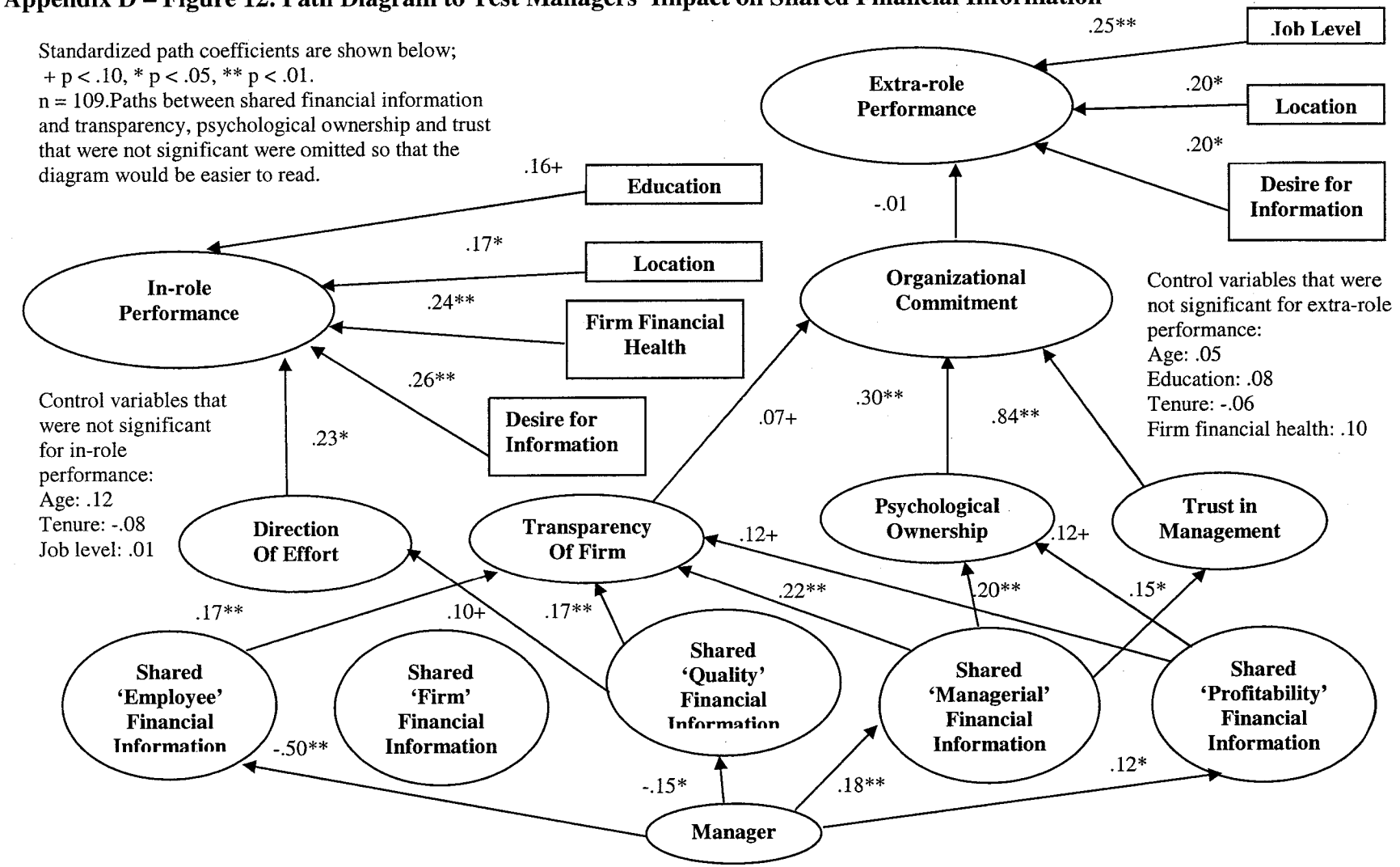
**Table 14**
**Model Fit Indices for the Full Model**

| Model | CFI | TLI | $\chi^2$/df | RMSEA |
|---|---|---|---|---|
| Using managers' evaluations of in-role and extra-role performance (n = 109) (Figure 7) | .93 | .92 | 3.01 | .09 |
| Using employees' evaluations of in-role and extra-role performance (n = 258) (Figure 8) | .93 | .92 | 3.21 | .09 |
| Using firm's evaluation of in-role Performance and managers' evaluation of extra-role performance (n = 100 for in-role; n = 109 for extra-role) (Figure 9) | .92 | .91 | 3.36 | .10 |
| Using firm's evaluation of in-role performance and employees' evaluation of extra-role performance (n = 100 for in-role; n = 258 for extra-role) (Figure 10) | .92 | .92 | 3.24 | .09 |

**Appendix D – Figure 11: Path Diagram to Test the Mediation Role of Psychological Ownership and Trust in Management**



## Appendix D – Figure 12: Path Diagram to Test Managers' Impact on Shared Financial Information



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