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Users' Perspective on the Relationship between Internal Controls and Key Constructs

by

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Dissertation

Submitted to the College of Technology

Eastern Michigan University

In partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY IN TECHNOLOGY

Concentration in Technology Management

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Ypsilanti, Michigan

Abstract

This study sought to understand a user's perspective on the level of influence that internal controls had on the levels of trust, employee engagement, employee performance, and organization performance. The relationship between the level of implementation of internal controls with the level of trust that employees have for their employer, employee engagement, employee performance, and organization performance has not been adequately explored. The study was conducted on users who worked in organizations that implemented Committee of Sponsoring Organizations of the Treadway Commission (COSO) internal controls, and these organizations strictly maintain all of their information in digital format. About nine hundred users were targeted from COSO implemented small intensive information-technology organizations in southeastern Michigan. The influence that COSO Internal Controls have on the levels of trust, organization performance, employee performance, and employee engagement was explored.

The findings revealed that a significant positive relationship existed between the degree of implementation of internal controls and participant-reported organization performance. It was also found that there was a significant positive relationship between the level of implementation of internal controls and the level of trust an employee has for his/her employer. Further, it was found that the level of implementation of internal controls has a significant positive relationship with both employee engagement and employee self-reported performance. This study also determined that there was a significant positive relationship between the level of trust an employee has towards the employer and employee engagement in small businesses. One implication of this study is that private-information technology-intensive organizations should consider implementing a system of internal controls such as the COSO system.

It is recommended that future research efforts focus on understanding internal controls interrelated components such as control environment, risk assessment, control activities, information and communication, and monitoring to determine which component has more influence on the level of trust that an employee has regarding his/her employer, employee engagement, employee performance, and organization performance.

Dedication

I dedicate this work to my mom Lakshmi; and to my wife Bhagyasree. I dedicate this work to Achanta family; to my brother-in-law Kishore and my sister Parimala; and to all my cousins. I also dedicate this work to my friends Surekha and Sushma.

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Chapter 1: Introduction

In order to ensure efficiency, effectiveness, safety of information, reliability of financial reporting, and compliance with the applicable laws in small organizations, most small businesses and organizations rely heavily on a system of internal controls (COSO, 1994). According to the Committee of Sponsoring Organizations of the Treadway Commission (1994), *internal control* is defined as a process effected by an entity's board of directors, management, and other personnel, which is designed to provide reasonable assurance regarding the achievement of objectives in the following categories: effectiveness and efficiency of operations, reliability of financial reporting, and compliance with applicable laws and regulations.

Pressly (2009) wrote that the Committee of Sponsoring Organizations of the Treadway Commission (COSO) was originally formed in 1985 by major groups of financial and accounting associations. As part of its agenda, "the Committee has advocated strong internal controls as a deterrent to financial fraud" (Pressly, 2009, p. 49). The five components that were identified by the commission are control environment, risk assessment, control activities, information and communication, and monitoring. The use of internal controls is especially important as the use of electronic business transactions continues to expand.

Pressly (2009) indicated that robust financial internal controls promote reliable processes and a positive business image that lead to long-term relationships with customers. Small organizations that rely on internal controls such as the COSO framework may boost performance, achieve profitability targets, and prevent loss of resources. COSO (1994) declared that its five interrelated components can help an organization reduce risks and ensure reliability in financial statements. So with the increasing number of failures and frauds that affect small organizations such as those that result from internal employee attacks, network intrusions, and

fraud in financial reporting, more emphasis is being placed on internal control systems (Pressly, 2009).

Based on the analysis of the Ohlson (1995) model, the negative impact of weak internal controls on a firm's value may arise from three factors: higher cost of capital, lower precision of accounting information, and lower effectiveness and efficiency of business operations. Firms can achieve competitive advantage and also can achieve effectiveness and efficiency of business operations through the resources they have (Barney, 1991). Barney (1991) states that an organization's resources can take many forms, including assets, as well as the employees' performance, capabilities, employee engagement, trust, and knowledge.

According to Pathak (2003), in addition to COSO, another framework is available from the Information Systems Audit and Control Association (ISACA): Control Objectives for Information and Related Technology (COBIT). First released in 1996, this framework is narrower than the COSO framework and addresses the need for management and control of information and Information Technology (IT) processes. The primary objective of the Systems Audit and Control (eSAC) approach is to focus on how organizational risks can be dealt with by management and auditors in the discussion and the implementation phases (Pathak, 2003). The eSAC approach is primarily designed for managers and auditors.

Small organizations need internal controls to provide higher levels of assurance that they will achieve their operating, financial reporting, and compliance objectives, precisely to help the organization succeed in its mission. Internal control helps ensure that the policies, directions, procedures, and practices designed and approved by management and the board are put in place and are functioning as per the need. The more elaborate the organization, the more the need for

internal control to counteract any loss of effectiveness sustained when more employees and processes are involved in the business (COSO, 1994).

The COSO model has broader applicability as it focusses on the complete life cycle of a business and can be implemented by any business type. Possible variables that might be affected by the utilization of internal controls include: the level of trust that an employee has for an employer who implements the COSO internal controls framework, the level of employee engagement with work, and the employee's individual performance. Additionally, the overall performance of the organization may also be influenced by the utilization of a system of internal controls.

Statement of the Problem

There is a paucity of evidence to suggest that the use of internal controls such as those identified by the COSO framework had any significant influence on the level of trust perceived by an employee regarding the employer, the level of employee engagement, individual employee performance, and overall performance within small organizations. Based on this gap, this research sought to determine whether a relationship existed between the level of use of COSO internal controls, level of trust felt by employees, the level of employee performance, the level of employee engagement, and the performance of the organization in which the employee worked.

Nature and Significance of the Problem

Over the past few years, our society has witnessed several large-scale corporate scams. In many of these cases, the top executives formed elaborate schemes to commit massive fraud over multiple years (Ashbaugh et al, 2006). One of the notorious scams was the internal control failure of consulting and IT services provided in India.

> Satyam is the consulting and IT services provider in India whose chairman and chief financial officer have confessed to overstating profits and creating a fictitious cash balance of more than $1 billion. The company counts roughly one-third of the Fortune 500 among its customers. Satyam's auditor, Price Waterhouse, a regional arm of PricewaterhouseCoopers, says the company's financial statements from 2000 to 2008 should no longer be considered reliable. (Whitehouse, 2009, p. 1)

Ashbaugh et al. (2006) stated that firms that exist with weak internal control have more chances of increased exposure to accounting and fraudulent risks. Therefore, it is critical that an organization have strong internal controls in order to achieve accuracy and reliability of financial reporting, along with compliance with applicable laws and regulations. At the same time, organizations should protect employees' trust in their managers and in the organization.

Hewitt Associates LLC indicated that based on employees' efforts, a significant relationship exists between employee engagement and the performance of an organization (Hewitt Associates LLC, 2005). This firm wrote that they "have established a conclusive, compelling relationship between engagement and profitability through higher performance, sales, customer satisfaction, and employee retention" (Hewitt Associates LLC, 2005, p. 1).

Erickson (2005, p. 14) wrote that employee engagement is above and beyond simple satisfaction with the employment arrangement or basic loyalty to the employer that most organizations have measured for many years. Engagement, in contrast, is about passion and commitment to invest oneself and have one's own discretionary efforts to help the employer succeed. One dimension of this research examined Erickson's view and determined whether an employee would work with the same passion and commitment and help the employer succeed even if the employer implements internal controls in the organization.

Cook and Wall (1980) concluded that trust among the individuals and a team in an organization is very important and significant for both short-term and long-term stability of an organization. Cohen and Prusak (2001) believe that trust is an essential fluid for all social activities, allowing people in an organization to work together, without creating unnecessary stresses and conflicts during negotiations or carrying out natural business processes.

According to Burton (2011), performance is a versatile measure used at both individual and company levels to determine how much work gets done. On the individual level, people strive to be more productive in their jobs. Companies analyze costs per employee and are often concerned with employee morale as a means of maintaining or increasing performance. This research attempted to determine whether employee engagement and the level of an employee's trust in his/her employer had any significant relationship with performance in a small organization. Also, this research analyzed whether COSO internal controls had any significant relationship with the performance of the individual or the small organization in which he/she was working.

Cascio (1992) stated that performance is an employee's accomplishment of an assigned task. He stated further that predetermined standards are set, against which actual performance can be measured. In other words, managers can claim an employee is underperforming or over-performing only when there are some performance expectations. The objective of an employee performance analysis exercise is to review employee performance against set standards and identify strengths and weaknesses of employees both in terms of personal characteristics and work skills (Goss, 1994). It then becomes a question of whether employee performance has anything to do with the performance of the organization in which he/she works.

Of particular interest is how the existence of COSO internal controls affect the important constructs mentioned above. Determining whether these relationships exist will help guide future organizations as they attempt to enjoy the many benefits of a system of internal controls. Figure one provides the theoretical framework tested for the purposes of this study.

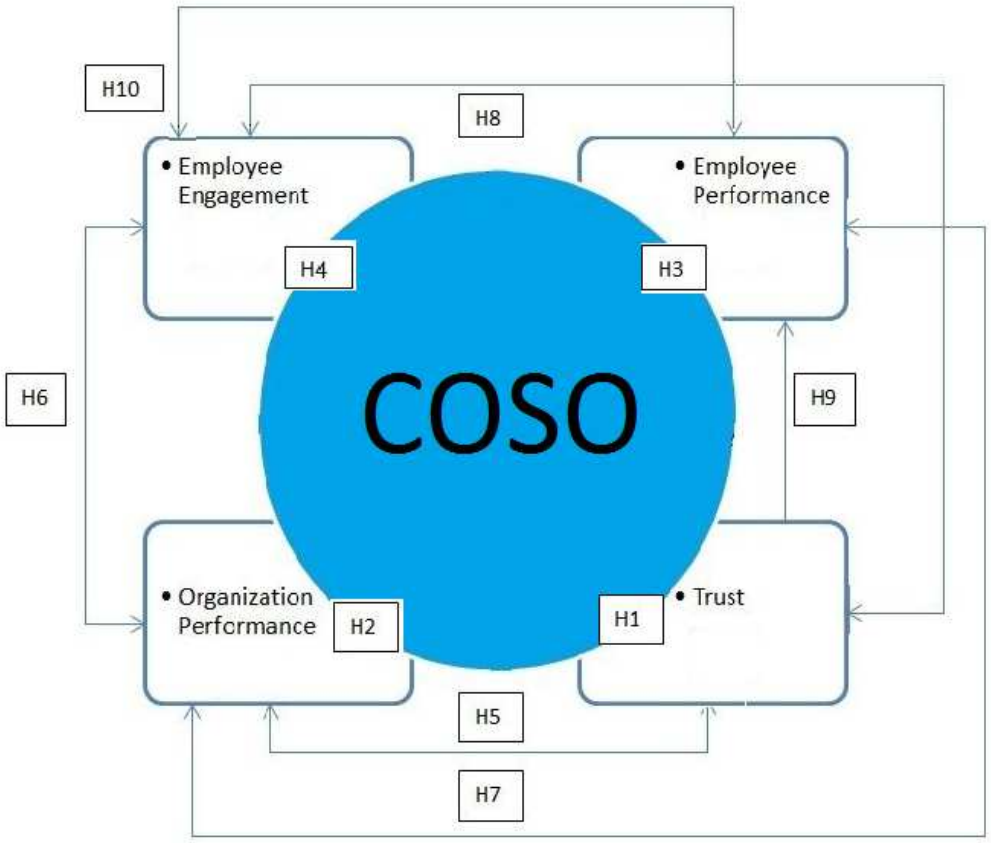

Figure 1. Model of Proposed Study

The COSO small-business document provides principles and attributes, aligned with COSO's internal-controls framework, that allow small organizations to understand the necessary elements to ensure a robust system of internal control reflecting size, structure, and degree of complexity (COSO, 1992). This study attempted to broaden the scope; instead of focusing on an HR consulting firm, this effort captured the nature of small privately held organizations that have

more than 50 but fewer than 250 employees, that maintain all information in a digital format, that store customer-related information, and that use internal controls. This study determined whether there was a relationship between employee engagement and performance in all categories of small firms such as finance, sales, HR, IT, manufacturing, and engineering.

Objective of the Research

The purpose of this study was to determine whether a relationship exists based on a user's perspective between the level of implementation of an internal-control framework (COSO) in a small privately held organization and the dimensions of level of trust, level of employee engagement, level of employee performance, and performance of the organization.

Research Questions

The following research questions were used to frame the study.

1. Does the level of implementation of the COSO control framework have any relationship with the level of trust that an employee has in his/her employer as perceived by users?
2. Does the level of implementation of the COSO control framework have any relationship with the performance of an organization as perceived by users?
3. Does the level of implementation of the COSO control framework have any relationship with the performance of an employee in an organization as perceived by users?
4. Does the level of implementation of the COSO control framework have any relationship with the engagement of an employee in an organization as perceived by users?

5. Does the level of trust that the employee has in the employer have any relationship with the performance of an organization as perceived by users?
6. Does the level of employee engagement have any relationship with the performance of an organization as perceived by users?
7. Does the level of performance of an employee have any relationship with the performance of an organization as perceived by users?
8. Does the level of trust that the employee has in the employer have any relationship with employee engagement as perceived by users?
9. Does the level of trust that the employee has in the employer have any relationship with the employee performance as perceived by users?
10. Does the level of employee engagement have any relationship with the employee performance as perceived by users?

Null Hypotheses

According to the theoretical framework and proposed research model this study tests the hypothesis listed below.

H1. There is no significant relationship between the level of implementation of a COSO framework and the level of trust that employees have in their employer.

H2. There is no significant relationship between the level of implementation of a COSO framework and the performance of a small organization.

H3. There is no significant relationship between the level of implementation of a COSO framework and the level of employee performance in a small organization.

H4. There is no significant relationship between the level of implementation of a COSO framework and the level of employee engagement in a small organization.

H5. There is no significant relationship between level of trust in the employer reported by employees in a small organizations and the performance of a small organization.

H6. There is no significant relationship between the level of employee engagement and performance of a small organization.

H7. There is no significant relationship between the level of trust in the employer reported by employees and the performance of a small organization.

H8. There is no significant relationship between level of trust in the employer reported by employees and employee engagement in a small organization.

H9. There is no significant relationship between the level of trust with the employer reported by employees and employee performance in a small organization.

H10. There is no significant relationship between the level of employee engagement and employee performance in a small organization.

Limitations and Delimitations

The following delimitations helped define this study.

1. This research focused on the employees who work in small privately held information-technology intensive organizations.
2. Focused on SE Michigan small organizations.
3. This research was delimited to organizations that used the COSO framework.

The following limitations influenced this study.

1. The limitations found with electronic survey research apply to this study.
2. The number of participants responding from an individual organization was unknown.

Assumptions

The following assumptions form the basis for this study.

1. Participants reported honestly and were able to understand the instrumentation.
2. It was assumed that the COSO internal control items, when combined would form a latent variable that can be used to measure the level of implementation of COSO internal controls.
3. The level of performance of an organization may be determined by summing perceptions from employees regarding the selected organizational performance variables.
4. The level of employee trust regarding their employer may be determined by summing perceptions from employees regarding the selected employee trust variables.
5. The level of performance of an employee may be determined by summing perceptions from employees regarding the selected employee performance variables.
6. The level of engagement of an employee may be determined by summing perceptions from employees regarding the selected employee engagement variables.
7. It was assumed that at least a few employees from each of the surveyed organizations participated in the survey.
8. It was assumed that the respondents were representative of the population regardless of which organization they belonged to.

Definitions of Terms

Internal Controls: "Internal control is broadly defined as a process, affected by an entity's board of directors, management and other personnel, designed to provide reasonable assurance

regarding the achievement of objectives in the following categories: Effectiveness and Efficiency of operations, Reliability of financial reporting, Compliance with applicable laws and regulations" (COSO, 1994).

Control Environment: "Control environment factors include the integrity, ethical values, and competence of the entity's people; management's philosophy and operating style; the way management assigns authority and responsibility, and organizes and develops its people; and the attention and direction provided by the board of directors" (COSO, 1994).

Risk Assessment: "Risk assessment is the identification and analysis of relevant risks to achievement of the objectives, forming a basis for determining how the risks should be managed" (COSO, 1994).

Summary

The chapter provides an introduction to the study, including a statement of the problem, the purpose and significance of the study, the research scope, and the research objectives. This chapter also presents the research questions and hypotheses. In the following chapter literature pertaining to this chapter is reviewed.

Chapter 2: Literature Review

This study seeks to answer questions regarding the use of internal controls and its influence on organizational performance. These questions have been developed regarding relationships among trust, employee engagement, and employee performance in small organizations. This chapter is structured with the following headings: the concept of internal controls as a solution for threats to digital storage, vulnerability to fraud, and vulnerability to external and internal employee attacks, the role of employee engagement, summary of relevant findings, and measuring employee engagement. This chapter follows a similar structure for other constructs such as trust, employee performance, and employee trust.

The Concept of Internal Controls as a Solution

Fraudulent activities take place in an organization because of the lack of internal control, which detects and prevents fraudulent acts; insufficient inspection; inadequacy in determining the quality of the work being done; lack of access to information; failure in punishing the criminals of fraud; neglect; and lack of capacity (Piskin, 2004). Vulnerability to fraud is one of the important factors to be considered by small organizations, and the use of internal controls will be a good bet to overcome them.

Vulnerability to Fraud. A number of categories of attacks exist such as Distributed Denial of Service attacks, internal employee attacks, network intrusions, database attacks, phishing, and Advanced Evasion Techniques. Each may cause serious deterioration as discussed above. Organizations face one more threat that has emerged over the past few decades: fraud. According to the Association of Certified Fraud Examiners (ACFE; 2010, p. 42), “Fraud is the use of one’s occupation for personal enrichment through the deliberate misuse or misapplication of the employed organization’s resources or assets.” This kind of fraud can be committed by

anyone in an organization. It doesn't have to do with the role of an employee in an organization; even a chief executive officer can commit fraud. Fraud can be as simple as misappropriation of funds or as complex as cheating on financial tables. In the report, based on the results of a research study carried out in 2009 on 146 companies regarding the inspection of misconduct, the types of fraud were determined as follows: theft of company assets; bribing public institutions; forgery of documents; non-fulfillment of legal obligations; financial table tricks; bribes given by sellers; theft of non-material goods, such as secrets of the company; financial misconduct committed by executives; non-compliance with the rules of conduct of the company; obtaining income or goods by fraudulent acts; consumer frauds; theft of credentials and creditcard fraud; E-trade and risks of misconduct related to information systems; and money laundering (KPMG Turkey Department of Prevention and Investigation of Misappropriations, 2009). In another study done on fraudulent acts, six different fraud categories were formed: employee, seller, customer, management, investment frauds, and other (Albrecht, Albrecht, & Albrecht, 2009). It is possible to increase the number of examples. In general, according to ACFE (2010), which considered how fraudulent acts were performed, the acts of fraud in businesses were divided into three groups: misconduct of goods, corruption, and fraudulent financial tabulation. In this scope, ACFE (2010) stated that the type of fraud that lasted the longest was fraudulent financial tabulation, while the shortest one was theft of cash. According to the American Institute of Certified Public Accountants (AICPA; 2002, p. 34), "Fraud is also a comprehensive legal concept that can be separated from 'error' depending on its detection as an intentional or unintentional act." In conclusion, fraud was the intentional misuse or abuse of resources and assets of a business or the obtaining of illegal advantage by acquiring them (Bozkurt, 2009).

The elements inferred from the definition of fraud were secrecy, intention, and the benefit that caused damage to the victim of the fraud (Çitak, 2007). When trustworthy employees find themselves in a financial crisis that they cannot share, they often breach the trust given to them. They tend to solve their problems discreetly by misusing their trusted position in the company (Akdemir, 2010).

In order to overcome such fraud, organizations should provide an honest and transparent working environment and should create a support line that helps the company fight against fraud, employ the right people for the job, create a positive working environment, determine the code of conduct in an organization, and eliminate fraud opportunities. All of these factors point to the existence of an internal control system (Bozkurt, 2009).

Vulnerability to External and Internal Employee Attacks. Vulnerability to internal and external employee attacks is also an important factor organizations should deal with. Use of internal controls might overcome that risk. From an organization perspective, digital security attacks, which include outsider attacks and insider employee attacks, affect every entity from small organizations to large organizations, from private businesses to not-for-profit organizations. To generalize, digital security attacks can happen to any organization that uses digital information. Outsider attack varies from illegal access to information and/or monetary gain. However, insider employee threats are also seen as a major issue for all organizations, sometimes even more severe than damage from outsiders, as seen in the WikiLeaks and NSA surveillance incidents (Silowash et al., 2012). The Verizon breach report (Verizon, 2013) also looks at some of the characteristics of the current digital security incidents. The Verizon report indicated that 75% of the digital security compromises were considered opportunistic attacks, and nearly two-thirds took months to discover; these were actually discovered by external parties

and not by the companies themselves. The report lists 14% of data breaches as insider employee attacks and claims that most of these were deliberate or malicious in nature and arose from financial incentives. Some were deliberate attempts to steal proprietary information as people were terminated or on the way out the door. Some, however, were accidental, such as taking work home via personal email accounts, sending sensitive materials to the wrong recipients, and errors made by the IT staff themselves (Verizon, 2013).

Insider employee attacks are real and substantial. The 2011 Cybersecurity Watch Survey, conducted by the U.S. Secret Service, the CERT Insider Threat Center, CSO Magazine, and Deloitte, found that in cases where respondents could identify the perpetrator of an electronic crime, 21% were committed by insiders. In addition, 43% of respondents had experienced at least one malicious, deliberate insider incident in the previous year. The survey also revealed that 46% of the respondents thought that damage caused by insider attacks was more severe than damage from outsider attacks (Software Engineering Institute, 2011). Symantec's 2013 Internet Security Threat Report states that small organizations are the path of least resistance for many external attackers (Symantec, 2013). The Symantec report reveals that in 2012, half of the targeted attacks were aimed at organizations with fewer than 2,500 employees. These companies are often less careful in their cyber defenses and so make themselves low-difficulty intrusion targets, particularly for criminals. The use of COSO internal controls elements such as control activities, risk assessment, control environment, information communication, and monitoring would provide an extra eye on employees' activities and thereby would definitely reduce the risk of internal and external employee attacks.

Threats to Digital Storage. Up until a few decades ago, almost all information was stored in a physical format that consisted of images on a substrate. By the early 1980s, the

personal computer revolution began to expand. Computer use started to increase exponentially all around the world. Companies began to rely more on computers to store and retrieve digital information. Currently, with the prices for computation capability at an all-time low, the growing menu of applications available as solutions to traditional storage problems is forcing businesses of every size to rely more on digital storage, making the physical format for information storage all but extinct. The ever-increasing volume of digital data that needs to be reliably retained for long periods of time and the decreasing costs of disk storage, memory, and processing have motivated organizations to use low-cost, high-efficiency disk-based storage systems (Lawrence et al., 2011). Also, most companies have started using digital data, which prompted the digital data to grow exponentially (Lyman et al., 2003). With the increase of data storage, a company tends to store and archive all of its data. Archival storage systems typically use the following process for memory-storage hierarchy: primary storage in the form of random-access main memory, secondary storage in the form of random-access magnetic disk, and, finally, tertiary storage in the form of magnetic tape or optical disk. Hierarchical storage management spans these systems by automatically migrating files through the hierarchy (Gibson, 1998). When storing the archival data, most companies use the following data-compression implementations, which include the following popular programs: zip, compress, gzip (Free Software Foundation 2000, based on Lempel–Ziv compression [Ziv and Lempel, 1977]), and bzip2 (Seward 2002, based on Burrows–Wheeler compression [Burrows and Wheeler, 1994]). Due to the ease of backup and access, along with low cost, most organizations have chosen to use digital data storage.

With the proliferation of digital information management and storage, new risks have emerged. Major concerns for organizations include managing data protection within the

organization's budgetary constraints, meeting the changing legal and regulatory requirements, storing and managing an increasing amount of personally identifiable information, avoiding external attacks, such as becoming hijacked by a botnet with the subsequent risk to reputation, ensuring the confidentiality of intellectual property from insider and outsider threats, meeting the increasing threat of cybercrime from inside and outside the organization, and understanding the impact of state-sponsored cyber-attacks such as the ones by the Syrian Electronic Army that compromised the New York Times and Twitter (Kerner, 2013). According to one of the major cyber-incident reports, the 2013 Verizon Data Breach Identification Report confirms that 37 percent of incidents involved the exposure of business information affecting financial organizations, 24 percent of data breaches occurred in retail environments, and some 20 percent of network intrusions were linked to the manufacturing, transportation, and utility industries (Verizon, 2013). "Well-known examples include the February, 2000, spate of denial of service attacks on popular sites such as CNN and E-Bay" (Slatalla, 2004). This form of behavior is commonly known as hacking. "Price Waterhouse Coopers, in a multi-industry study of 897 companies from 19 Asian countries, revealed that 63% of respondents suffered a security breach or attack over the previous 12 months" (PriceWaterhouseCoopers, 2003, p. 14). Even personal computers are coming under increased attention from hackers; Furnell (2004, p. 410) reports that it is not uncommon for home computers to suffer 50 attempted hacks or port scans a day. Symantec (2011) says that 20% of small businesses lost at least $100,000 due to cyber-attacks last year, while 20% of larger enterprises reported cyber-attack damages amounting to $271,000 or more. While larger businesses are bigger targets, small businesses are more vulnerable to hacking. Insider employee attacks are a prime example of a vulnerability to small organizations as they may lack the financial resources to build comprehensive automated techniques that could

overcome such attacks. As per the Internet Security Threat Report, "The top industry that has been attacked in 2012 was the Manufacturing Industry" (Internet Security Threat Report, April, 2013, p. 15). According to Fossi et al. (2009), the United States was the top country for overall malicious activity in 2008, and the average cost per incident of a data breach just in the United States was $6.7 million. "In 26,000 targeted attacks that were documented by Symantec last year, half were on businesses with fewer than 2,500 employees and 18% on businesses with fewer than 250 employees" (September 17, 2012, Information Week). According to the Internet Security Threat Report, the "average number of identities exposed per breach in 2012 is 604,826" (Internet Security Threat Report, April, 2013, p. 10).

One of the COSO internal-controls elements, the control-activities element, is used to minimize the risks of digital storage. At this stage, information security office/internal auditors involved in the development of the organization digital-storage system can help ensure that controls are built into the system and the business processes associated with the system. The important categories of control activities are

* Separation of duties.
* Physical controls.
* Information-processing controls.
* Performance reviews.

These categories can be used in order to mitigate the risks involved with the storage of digital information.

Defining Internal Controls. According to the AICPA (2009, p. 65), "Internal control comprises the plan of organization and all of the coordinated methods and measures adapted within a business to safeguard its assets, check the accuracy and reliability of its accounting data,

promote operational efficiency, and encourage adherence to prescribed management policies." In general, *control* refers to the whole body of policy and regulations that help an organization achieve its objectives soundly (Ataman, Rustemoglu, & Bozkurt, 2001).

Committee of Sponsoring Organizations (COSO) of Treadway Commission defined an internal control system as a process, effected by an entity's board of directors, management, and other personnel, designed to provide reasonable assurance regarding the achievement of objectives in the following categories: effectiveness and efficiency of operations; reliability of financial reporting; and compliance with laws and regulations (Yılancı, 2006).

Defining Internal Controls Elements. In COSO's reports, an internal control system consists of five components: control environment, risk assessment, control activities, information and communication, and monitoring (Pickett & Pickett, 2010). Organizations related to the control environment compose the basis of internal-control systems and provide the necessary environment for the organization to achieve its objectives. Risk evaluation is the stage where definitions regarding the objectives of an organization are made and where risks are determined and analyzed. Control activities aim to lower the risks to a reasonable level and consist of policies and procedures that assist the application of executive decisions. Some of the control activities carried out are approval mechanisms, authorizations, validations, review of performance, protection of assets, and segregation of duties. The information and communication element refers to the production and sharing of information that relevant business parties need to manage and also control their decisions. Monitoring is a process designed to ensure that internal control procedures are operating effectively, and all operations are meeting the standards. The consistency of monitoring and internal-control performance with the procedures must be constantly examined (Pickett & Pickett, 2010).

Important Factors when Considering Internal Controls. Ashbaugh et al. (2006) stated that firms that report weak internal control have more complex operations, have experienced recent changes in organizational structure, are at increased exposure to accounting and fraudulent risks, and have fewer resources to invest in internal control. The majority of the studies involving internal controls are focused on investigating the characteristics of organizations that disclose material weaknesses in internal controls. Adding to that, Doyle et al. (2005) indicated that firms with material weaknesses have a lower earnings quality than those that do not report material weaknesses. Weili Ge and Sarah McVay (2005) found that companies with material weaknesses are more complex, smaller, and less profitable than firms that do not disclose material weaknesses. Doyle et al. (2007b) confirmed Ge and McVay's results and also show that firms disclosing material weaknesses are younger, growing rapidly, or undergoing restructuring.

Based on the analysis of Ohlson (1995) model, the negative impact of the disclosures of weak internal controls on firm value may arise from three factors: higher cost of capital, lower precision of accounting information, and lower effectiveness and efficiency of business operations. This indicates that organizations with weak internal controls have lower efficiency and effectiveness regarding its business operations. The researcher will try to identify how much influence internal controls have on the performance of an organization.

Also, this research seeks to answer questions regarding the COSO internal controls on employee trust, employee engagement, employee performance, and performance of small organizations. The questions will be developed regarding relationships with COSO internal controls, job satisfaction, employee engagement, and employees' performance, and an organization's performance using the standards of performance during employees' work and the influence that multiple variables have on this relationship.

The role of Employee Engagement

Employee Engagement, as defined by Kahn, is "the harnessing of organization members' selves to their work roles" (Kahn, 1990, p. 694). An engaged employee is someone who is well compensated and whose interests are aligned with the organization (Gill, 2012). Kahn (1990, 1992) stated that employee engagement is dependent on three psychological conditions in the workplace: meaningfulness, psychological safety, and availability. *Meaningfulness* refers to the value an employee attaches to his/her performance in the work role. It is influenced by the tasks employees perform and the roles they fill (May et al., 2004). *Safety* refers to the sense of whether an employee perceives the freedom to be authentic in the work role that he or she was assigned. Finally, *availability* involves employees' beliefs regarding whether they possess the physical, cognitive, and emotional resources needed to invest themselves fully in their work roles. It is determined largely by individuals' perceptions of the quantity and quality of available resources and the extent of involvement in activities outside of work (May et al., 2004; Schaufeli & Bakker, 2004). Collectively, these three conditions determine whether employees are more engaged or disengaged (Kahn, 1990).

Harter, Schmidt, and Hayes (2002) define employee engagement as "the individual's involvement and satisfaction with as well as enthusiasm for work" (p. 269). Leiter and Maslach (1998) define employee engagement as "an energetic experience of involvement with personally fulfilling activities that enhance a staff member's sense of professional efficacy" (p. 351).

More recently, Macey et al. (2009) distinguished engagement in terms of employee engagement feelings consisting of urgency, intensity, focus, and enthusiasm from employee-engagement behaviors consisting of persistence, role expansion, proactivity, and adaptability.

Measuring Employee Engagement. Researchers have engaged with a wide variety of constructs to describe employee engagement in an organization. Sanchez-Burks (2005) used the socio-religious construct of Protestant Relational Ideology to describe organizational behavior in American firms. Markos and Sridevi (2010) discussed the complexity and diversity associated with adequately describing employee engagement. Meduna (2009) identified multiple themes associated with employees, which could be instrumental to organizational success. Salanova et al. (2005) showed that higher levels of employee engagement corresponded to a more hospitable service climate. Likewise, Harter et al. (2002) conducted a meta-analysis, finding that employee engagement related positively to customer satisfaction, performance, and profit, and negatively to employee turnover. More recent meta-analytic evidence also indicated significant negative relationships with absenteeism and shrinkage or unaccounted for, lost merchandise (Harter, Schmidt, Killham, & Asplund, 2006). According to a survey of 656 chief executive officers hailing from different countries all around the world, employee engagement is the fourth most important management challenge, behind creating customer loyalty, managing mergers and alliances, and reducing costs (Wah, 1999). It is really essential for organizations to make sure that high employee-engagement is maintained. Also, these organizations should make sure that employee disengagement is as minimal as possible.

Summary of Relevant Findings. Existing studies have uncovered positive links between different facets of employee engagement and business outcomes. Mathew, Ogbonna, and Harris (2011) demonstrated that satisfaction and performance at work lead to profitability and growth in software companies, while the quality of work contributes to organizational innovation. The Gallup Organization recently found that nearly 20 percent of U.S. employees were disengaged, and an additional 54 percent were effectively neutral about their work (Fleming et al., 2005).

Also, Gallup Inc. (2010) proposed that a high ratio between the number of engaged employees and the number of disengaged employees ensures superior financial performance in an organization. It was claimed that world-class organizations have an employee engagement ratio of 9.57. Despite this evidence of the importance of engagement, very few empirical studies have investigated its antecedents (cf. Bakker, van Emmerik, & Euwema, 2006). Harter, Schmidt, Killham. and Agrawal (2009) and Buckingham and Coffman (1999) demonstrated that employee engagement and business outcomes share a directly proportional relationship. So, it is proven that employee engagement has a relationship with the organization's performance. The researcher will try to identify how much influence employee engagement has on an organization's performance. Extending the findings of these few exceptions, the researcher believes that COSO internal controls could affect employee engagement.

The Role of Employee Trust

Trust in general is conceptualized in a variety of ways, and several follow. Luhmann's (1979) conceptualization is that trust represents the level of confidence that one individual has in another to act in a fair, ethical, and predictable manner. Griffin (1967) defines *trust* as "the reliance upon the characteristics of an object, or the occurrence of an event, or the behavior of a person in order to achieve a desired but uncertain objective in a risky situation" (p. 105). Carnevale and Wechsler (1992) state that trust "involves faith or confidence in the intentions or actions of a person or a group, the expectation of ethical, fair, and non-threatening behavior, and concerns for the rights of others" (p. 473). Culbert and McDonough (1986) contend that "trust pertains to whether or not one individual is able to value what another is up to and demonstrate respect for him or her particularly when the individual's need and those of the person taking the action momentarily compete" (p. 175).

Measuring Employee Trust. Argyris (1964) states that trust will be positively associated with openness, experimentation with new behaviors, and nonthreatening feedback on performance. This statement is very apt when it comes to employees' trust in other employees. Zand (1972) and Boss (1978) state that high levels of trust are the key factor in effective problem-solving; this can even be related to problem-solving as a team in an organization. Trust is a "positive force from which cooperation is derived" (Scott, 1980, p. 158). Savage (1982) states that the performance methods have trust as a basis. She believes that merely creating an atmosphere of trust can positively affect performance without new programs or expense. Matthai (1989) says "trust is defined as the employees' feelings of confidence that, when faced with an uncertain or risky situation, the organization's words and behaviors are consistent, and are meant to be helpful" (p. 29).

Culbert and McDonough (1986) state that "when an individual perceives that an organizational system is not trustworthy—that the system will not recognize and reward contributions the individual seeks to make—the individual seeks to reduce his or her vulnerability by emphasizing only those performance areas that can be objectively tabulated and defended" (p. 179).

Luhmann (1979) states that a system's trust stands beyond the experiences that influence personal trust on a daily basis (p. 58). This dichotomization assumes that an employee's degree of trust in his or her supervisor varies when compared to the organization as a whole. Employees' trust in an organization varies based on the decisions and actions of the executive group. These images of an organization as an entity are separate from those that are formed based on the immediate contact the employee has on a daily basis with his or her supervisor. The

supervisor controls the flow of information in most organizations, and access to information is a key manifestation of the level of trust in an organization (Creed & Miles, 1996).

Winning employees' trust is an important element for an organization's success. Trust has long been recognized as being fundamental to cooperative relationships (Blau, 1964). In particular, employee trust is an important part of the relationship between individuals and organizations. However, the main issue has previously been "trust in whom?" (Perry & Mankin, 2004). Hunt and Aldrich (1998) suggest that direct supervisors have a stronger influence than company CEOs. In turn, trust in leaders has been tied to desirable outcomes such as job satisfaction, commitment, and OCB (Dirks & Ferrin, 2002). Morrison and Robinson (1997) stated that employees who trust their supervisors are obliged to tell them the truth about the company, and, if they do not, the employees feel that they are treated unfairly, which then decreases their work engagement.

Cook and Wall (1980) concluded that trust among the individuals and a team in an organization is very important and significant for both short-term and long-term stability of an organization. Cohen and Prusak (2001) believe that trust is an essential fluid for all social activities, allowing people in an organization to work together, without creating unnecessary stresses and conflicts during negotiations. Thus, the influential elements that develop employees' trust in their supervisors are integrity, goodwill, and professional competency; these are necessary components that determine whether supervisors can be trusted (Colquitt, Scott, & LePine, 2007).

Summary of relevant findings. Iacono and Weisband (1997) found that trust resulted in greater efficiency in moving through project processes. Not all research is in agreement, however, concerning the necessity of trust for success, as Aubert and Kelsey (2003) found that

trust was not needed for a team to deliver a high quality product. Aryee, Budhwar, and Chen (2002) found that trust in the organization completely moderated the relationship between work attitudes of job satisfaction, turnover intentions, and organizational commitment. Kanawattanachi and Yoo's (2002) research concerning trust examined it as being both cognitively and affectively-based. Their study hypothesized correctly that cognitive-based trust would be slightly higher than affective-based trust in a team's project in an organization. Furthermore, their study determined that high-performing teams would have higher levels of both cognitive and affective-based trust than lower performing teams, and that low performance was related to affective-based trust. These findings clearly suggest that workers will trust because they want it to be in their best interests because of an emotional reaction.

The Role of Employee Performance

Employee is a key element of the organization. The success or failure of an organization depends on employee performance. Hence, organizations are investing huge amounts of money on employee development. This research proposal analyzes the impacts on employee performance when the organizations have strict internal controls. This proposal will also try to determine whether employee performance has any impact on an organization's performance.

Defining Employee Performance. *Employee performance* is defined as "What an employee does or does not do" (Mathis & Jackson, 2003, p. 339). Employee performance is common to most jobs and includes timeliness of output, presence at work, cooperativeness, and job-specific criteria. Employees in small organizations are rated on their achievement of established goals with formal evaluations. These evaluations are the basis for identifying areas of improvement needed by the employee to enhance his or her performance, which contributes to the success of the company (Bourguignon, 2004). In an organization, employee performance

evaluations are necessary to ensure that each employee understands his or her role within the organization and is working in accordance with the organization's overall strategies and objectives (Woodford & Maes, 2002). Employees perform better when the efforts of their work connect to the vision of the company and when there is a belief that the contributions of the employee are making a difference in an organization (Heathfield, 2007).

Measuring Employee Performance. Employee characteristics like cognitive ability or goal-orientation have been found to influence the work performance in an organization (Ackerman, 1989). Kane proposes that employee performance be evaluated in terms of the percentage of time that an employee performs a task at varying levels of performance. Kane also mentioned that evaluating employee performance levels, as a percentage of time, may be stronger and more accurate than more subjective formats (Kane, 2000). Sacket, Zedeck, and Fogli's (1988) findings also set up the following additional issues. First, while it clearly demonstrates that employees tend to vary the level at which they perform a task, it does not consider the true opposite of maximum performance (i.e., minimum performance) and its implications for work performance as a criterion. Also, it may be important to consider the impact of minimum to maximum performance variation, in and of itself, on higher levels of performance. So we can assume that an employee's performance level might vary with the level at which internal controls are being implemented in small organizations.

Summary of Relevant Findings. De Avila (2007) said that Mercer's findings supported information from a study distributed about the same time in 2007 by WorldatWork (www.worldatwork.org), a human-resource association located in Scottsdale, Arizona, that found employers rewarded, with bonuses and pay raises, employees who significantly exceeded their performance and business objectives. The WorldatWork study uncovered that employers offered

telecommuting, flextime, and compressed workweeks as incentives, in addition to linking pay to performance in an attempt to retain and continually motivate top-tiered employees. So in order to maintain an employee's productive performance, it is important that organizations provide the attributes that employees would rely on and that would increase employee performance. "In the United States, just 29% of employees are energized and committed at work, according to Gallup Poll data. Perhaps more distressing is that 54% are effectively neutral—they show up and do what is expected, but little more. The remaining employees, almost two out of ten, are disengaged" (Thibodeau, 2006, p. 16). An employee's performance varies greatly due to various factors; this research will try to identify whether there is a relationship between stringent internal controls and an employee's performance.

Organization Performance

It is critical for any organization to continue to perform better in order to remain competitive and, ultimately, to continue to exist. Organizations should analyze the factors that impact their overall performance. Richard, Devinney, Yip, and Johnson (2009) suggest that "measuring [organizational performance] is essential in allowing researchers and managers to evaluate the specific actions of firms and managers, where firms stand vis-à-vis their rivals, and how firms evolve and perform over time" (p. 719). Barney (1991) states that an organization's resources can take many forms, including assets, as well as an employee's performance, capabilities, and knowledge. The resource-based view of an organization suggests that firms can achieve competitive advantage through the resources they have. However, in order for competitive advantage to be realized, such resources must be very valuable, rare, not imitable, highly immobile, and heterogeneously distributed across firms (Barney, 1991). Jarvenpaa and Leidner (1999) suggest that the resource-based perspective is predominantly used in information

systems research to understand competitive advantage in firms. Managerial resources (the skills and abilities of managers) are important contributors to the success of an organization (Castanias & Helfat, 2001). As per Lumpkin and Dess, innovative techniques can be employed by small businesses to improve the performance of their organization. Innovativeness is an indicator of a firm's tendency to engage in and support new ideas, processes, and creative methods from its employees. This type of activity may result in new processes, services, or technologies being produced (Lumpkin & Dess, 1996). Innovation could be applied in management processes, promotion, human resources, IT services, Information Security, visual merchandising, and other aspects of running a small business. These are all areas where a firm or small businesses could employ innovative techniques to improve the performance of their businesses. Innovation is an important aspect of EO as it reflects the means by which firms might pursue new opportunities (Lumpkin & Dess, 1996).

Lumpkin and Dess (1996) suggest that innovativeness occurs on a continuum. This can include employees' willingness to try a new product line or commit fully to a new technology. An often-used method for assessing innovation is the number of new products or services a small organization introduces, or the frequency of product/service line changes (Miller & Friesen, 1982: Covin & Slevin, 1989). So earlier studies suggest that innovativeness is directly related to overall organizational performance. This research tries to extend the previous literature and see whether internal controls have any impact on an organization's performance. One way to analyze this is to see if internal controls curb the innovativeness of an organization's employees.

Miller (1993) suggests that organizations will engage in competitive tactics to improve relative organization performance. Such tactics include the struggle for market share through price cuts and advertising campaigns (Vilcassim, Kadiyali, & Pradeep, 1999), new product

development (Banbury & Mitchell, 1995), new market entry (Ferrier, Smith, & Grimm, 1999; Makadok, 1998), and competitive differentiation (Caves & Ghemawat, 1992). Organizations may engage in competitive actions that have proven successful or develop new competitive actions when past actions become ineffective (Miller, 1990) or were found to be flawed (Kirzner, 1997). A competitive action may disrupt a market or steal market share from a competitor. An action may fragment a previous market sector, leading customers and employees to switch to a new organization.

Cushing (1974) mathematically shows that internal controls facilitate effective operations by enhancing the reliability of the system, which increases the firm's profit. Cushing's research proves that there is a relationship between internal controls and a firm's performance. But the research can be extended to see the performance of an organization when there is a deficiency in internal-controls implementation. Also the research can be extended if the internal controls have been implemented very strictly, which means constant monitoring of employee activities.

Summary of Organization's Performance. An organization's performance has a direct correlation with an employee's performance, capability, and knowledge. When an employee in an organization is unique which means if an employee in an organization cannot be imitated then an organization can see good performance. Also when employees in an organization have fresh ideas, this can include employees' willingness to try a new product line or commit fully to a new technology, then it results in good organization performance.

Summary

This chapter provided relevant information about the key constructs being studied. These include: the level of trust of an employee in his/her employer, the level of implementation of COSO internal controls, the level of implementation of employee engagement, the level of implementation of employee performance, and the level of implementation of organization performance. In chapter three, this study will provide more information about research methodologies used to answer the research questions that have been generated based on the introduced research model.

Chapter 3: Methodology

A descriptive approach was deemed most appropriate as this study sought to understand the influence that COSO Internal Control factors have on the levels of trust, organizational performance, employee performance, and worker engagement in a small organization. This chapter is structured by headings that reflect the key methodological steps.

Research Design

This research used descriptive methodology to determine the effect of the COSO framework on the level of employee trust, employee engagement, employee performance, and performance of the small organization. According to Leedy (2010), the descriptive methodology can be used to find relationships between several variables.

Population

The target population of the research consisted of users in small organizations in Michigan that satisfied the following criteria:

a. Users belong to an Organization that has more than fifty employees and fewer than two hundred and fifty employees.
b. Users belong to an Organization that maintained all of its information in a digital format, including customer-related information.
c. Users belong to an Organization with COSO-implemented internal controls.

Sample and Sampling Technique

The minimum sample size required for a study may appear to be subjective; however, it has been recognized that a sample size between 100 and 160 employees is satisfactory for valid statistical analysis (Dell, R., Holleran, S., & Ramakrishnan, R., 2002). While a sampling of data with 100 respondents is considered statistically adequate and reliable, a larger sample (n = 136)

was used for this investigation. The return rate of the sample was approximately seventeen percent. Vaske (2008) stated that "email surveys can have low response rates because using the delete key makes disposing of the questionnaire easy" (p. 167). Witmer stated that it is common to have a 20 percent or lower response rate when a survey was distributed through email (Witmer, et al., 1999).

Purposive sampling was used for selecting the companies. Purposive sampling techniques engage the researcher's decision to identify the exact characteristics of the population and sub-populations under investigation. The latitude provided by this technique allows for the comparison of the outcome that may not be otherwise attainable with common probability sampling (Leedy & Ormrod, 2010, pp. 210-213). The users who responded to the survey were completely random.

Instrument Design

This research utilized an online survey questionnaire to examine the research hypotheses and predictive research model formulated from the in-depth review of corresponding literature reported in Chapter 2. The questionnaire in this survey consisted of items designed to measure constructs such as internal-control structure, employees' evaluation of internal-control effectiveness, employee engagement, employee performance, and the level of employee trust in the employer. The questionnaire also included a demographics section, which includes gender, time on the job, education, and the category of industry.

The first draft was developed by the researcher based on relevant literature. This draft was presented to panel of experts, consisting of three faculty members at Eastern Michigan University. The panel confirmed that the survey had good content validity. Each construct was measured through the use of multiple items where each item utilized a seven-point likert-type

scale from 1, “very strongly disagree” to 7, “very strongly agree.” As illustrated in Table 1, the items have been adapted from constructs existing from previous literature.

Table 1

Constructs and Items

Construct	Items
Demographic	Gender Age Education Experience Industry
Trust	**Adapted from Ronald C. Nhyan and Herbert A. Marlowe (1997).** TR1. My organization is treating me fairly. TR2. The level of trust between supervisors and workers in this organizations is very high. TR3. The level of trust among the people I work with on regular basis is very high. TR4. The level of trust that I have in the organization is very high. TR5. The degree to which we can depend on each other in this organization is very high.

COSO	**Adapted from Jokipii (2010).** COSO1. The personnel understand the content and responsibilities of their tasks. COSO2. The personnel have demonstrated commitment to honesty and the ethical values of the company through their conduct. COSO3. Management actively evaluated both internal and external risks likely to prevent the achievement of goals. COSO4. Those in managerial functions were aware of the risks of their areas of responsibility and knew how risk management was implemented. COSO4. In my opinion the company's risk analysis and means of protection could have been more efficient. COSO5. In my opinion the internal control measures should have been stepped up still further. COSO6. There were functioning controls in the company's processes which gave warning whenever something exceptional occurred. COSO7. Our company's information and communications system was not quite up to date with respect to functions. COSO8. The work was efficiently coordinated within the function and also with other functions. COSO9. Line managers take excellent care of day-to-day control. COSO10. We conducted analyses based (customer satisfaction, job satisfaction, efficiency) changes during the last year.

Organization Performance	**Adapted from William E. Baken and James M. Sinkula (1999).** OP1. The basic values of this business unit include learning as key to improvement. OP2. The collective wisdom in this enterprise is that once we quit learning, we endanger our future. OP3. Overall performance in your business unit last year was excellent. OP4. Relative to competition, overall performance in your business unit last year was excellent. OP5. Your organization will always be the first to introduce new applications to market. OP6. Degree of product differentiation is high.
Employee Engagement	**Adapted from Avery, McKay, and Wilson (2007).** EE1. The personnel know how to complete the task. EE2. The personnel used the required materials and equipment to finish the work. EE3. My organization gives me the opportunity to do what I am supposed to do. EE4. My organization takes my opinion into count. EE5. The mission or purpose of my company makes me feel my job is important. EE6. My associates or fellow employees did high quality work. EE7. My organization gave me an opportunity to work and grow.

Employee Performance	**Adapted from Nathaniel Barksdale (2008).** EP1. My previous year's performance ranking was significantly exceeded. EP2. I have been treated fairly with my performance ranking. EP3 My organization provides excellent career development opportunities. EP4. The company tries to create an exciting work environment. EP5. I met the current target performance goals and objectives.

Instrumentation Validity

The dimensions of the COSO category were found to associate with items from an existing study conducted by Jokipii (2010). The Cronbach's coefficient alpha for the items was high. Additionally, an analysis of the survey results provided evidence of high reliability, so the items from this survey were adapted for the purpose of this study.

The dimensions of employee engagement were found to associate with questions in the Employee Engagement Scale utilized by Avery, McKay, and Wilson (2007). The items composing the Gallup Q12 (also known as the Gallup Workplace Audit; Gallup Organization, 1993–1998) were used to assess employee perceptions of engagement in their workplace. It is important to note that each of the items regarding employee engagement related to one of Kahn's (1990) three psychological conditions promoting engagement: meaningfulness, psychological safety, and availability. The study conducted by Avery, McKay, and Wilson (2007) concludes that the selected scales are reliable. The sample chosen by Avery, McKay, and Wilson falls under the researcher's sample. Hence the researcher for his study used this scale.

The dimensions of employee performance were found to associate with items used in a study conducted by Nathaniel Barksdale (2008). The sample that was chosen by Barksdale was similar to the sample used for this research. Additionally, the calculated Cronbach's coefficient alpha for the items used in this study was high indicating acceptable internal consistency.

The dimensions of trust of an employee in his or her employer were found to associate with items in existing literature conducted by Ronald C. Nhyan and Herbert A. Marlowe (1997). The scale that was chosen for employee trust was utilized by Nhyan and Marlowe (date). Additionally, internal consistency tests conducted by Nhyan and Marlowe showed that each of the study groups' coefficient alphas was very high. A confirmatory factor analysis (CFA) was used to test the validity of the dichotomized scale. Hence, the researcher relied on this scale for this study.

The dimensions of organization performance were found to associate with items used in a study conducted by William E. Baken and James M. Sinkula (1999). Cronbach's coefficient alpha for the items was also high. Additionally, the survey measure achieved reliability, so the researcher used this survey.

Items for the instrument were selected from previously developed instruments that were deemed to be valid and reliable, along with items prepared by the researcher that received approval from the panel of experts. The respondents provided their perceptions regarding their level of agreement on a 7-point scale (1 = very strongly disagree to 7 = very strongly agree) with each of the items found in the six categories.

External Validity

The small organizations that were selected for this study were very similar to other U.S.-based, privately held small organizations. The similarity between the small organizations chosen

for the study and other similar organizations provides solid evidence for the external validity of this research proposal. This, in turn, supports the notion that the results of this research can be generalized to all U.S.-based, privately held small organizations, which participate in the engineering industry, manufacturing, IT services industry, and accounts and finance.

Human Subjects Approval

As this study involved the study of humans and the measurement of human responses on a survey, human subjects' approval was obtained from the University Human Subjects Review Committee on January 26, 2015 (Appendix A). After gaining approval of the dissertation committee (Appendix B), a part of the application process required the development of an informed consent based on the guidelines of the Eastern Michigan University Graduate School to be presented to survey participants. Consent to the use of data obtained in this survey was implied by taking the survey, as the informed consent form concluded with the statement "BY BEGINNING THIS SURVEY, YOU ARE GIVING YOUR CONSENT." Participation was voluntary and confidential.

Pilot Test

After ensuring the content validity of the developed survey, the reliability of the survey was tested through a pilot test to make sure that the survey was reliable and readable. One of the main goals of the pilot test was to ensure that the respondents did not have any problem answering the questionnaire and also to confirm the reliability was demonstrated.

In order to examine the reliability of the instrument, the researcher used the Cronbach alpha coefficient, which assesses the reliability and internal consistency. A Cronbach's alpha score of 0.7 or above is desirable (Park & Chen, 2007). The results are summarized in Table 2 and indicate a high level of internal consistency for the following scales: trust (0.94), COSO

internal control (0.77), organization performance (0.89), employee engagement (0.95), and employee performance (0.86). Based on the results, all of the scales except the COSO scale are considered to have a very good reliability.

Table 2

Reliability Analysis from pilot test

Variable	Valid	Number of items	Cronbach's alpha
Trust	16	5	0.94
COSO Internal Control	16	11	0.77
Organization Performance	16	5	0.89
Employee Engagement	16	7	0.95
Employee Performance	16	5	0.86

Since all of the Cronbach's alpha scores were over 0.7 for COSO internal controls, employee engagement, employee performance, trust, and organization performance, all of the items demonstrated very good reliability.

Data Collection

Organizations were contacted, and the researcher obtained approval to distribute a survey concerning trust, reliability, employee engagement, performance, and organization performance. Data collection was done through electronic questionnaire. Each employee in an organization was asked to complete the questionnaire. These questions did not test the employee's credibility but just gathered information about trust, performance, employee engagement, and performance of an organization.

Participants were provided with a uniform resource locator (URL) in the e-mail message. The URL included a unique identifier (ID). A participant following the URL link was automatically directed to a website hosting the survey where it was completed. Initially, e-mail was sent to all of the participants from the organization's human-resource department. After one week, the researcher sent a reminder to the human-resource department and requested that they forward the URL to their employees one more time.

In order to get a maximum response from the respondents, the researcher announced a $100 gift card that would be provided to a randomly selected respondent upon completion of the data collection. This survey was conducted through email and required the participant to respond only once, which limited the cost in time and effort of the participant. It was important to limit the size of this survey to further limit costs regarding time spent by the participant.

Construct Validity and Scale Reliability

Items were chosen based on previously accepted scales that have passed peer reviews and that have appeared in referenced journals. A promax rotation with the principal components factoring method was used for the confirmatory factor analysis. All items had adequate loadings. Then a reliability estimate was calculated using Cronbach's alpha. In this way, both construct validity and scale reliability were confirmed.

Data Analysis

Linear regression was used to determine the nature of the relationship between the variables in this study. The constructs in this study were the COSO internal controls, employee's trust in his/her employer, employee engagement, employee performance, and an organization's overall performance. The moderating influence of employee engagement, trust, and performance were also determined in this study. The standard for low and high in moderation procedures was

to use the median or a point closest to the median, except for gender. Gender was split between male and female. The final procedure performed on the data was outlier analysis. Tukey's Outlier Labeling Rule was used to determine if any outliers existed in the dataset (Hoaglin, Iglewicz & Tukey, 1986).

Reliability Analysis

The level of internal consistency of scales used in this study was estimated through the use of Cronbach's Alpha Coefficient of Reliability. The reliability analysis results yielded an alpha score of .70 or greater for the scales. The individual dimension of the scale, which was used to measure employee engagement, was found to have a reliability score of .877. Employee performance was found to have a reliability score of .839. The reliability score of trust of an employee in his/her employer was found to be 0.923. The reliability score of COSO internal controls was found to be 0.76, and the reliability score of an organization's performance was to be 0.84. So all of the above items were found to have acceptable alpha scores and posed no concern (Appendix G).

Outliers

Outliers in this study were determined by using the Outlier Labeling Rule. This method of analysis will be run on all scales to determine if any outliers in the data exist. The procedure for identifying outliers required the following process (Hoaglin, Iglewicz & Tukey, 1986):

1. Identification of the lower quartile and upper quartile of a dataset measuring a variable.
2. Determining the difference between the upper quartile and the lower quartile.
3. Determining the product of the difference between the upper quartile and the lower quartile and a factor of 2.2.

4. Determining the sum of the product of the difference between the upper quartile and the lower quartile and a factor of 2.2 and the upper quartile to find the upper limit.

5. Determining the difference of the product of the difference between the upper quartile and the lower quartile and a factor of 2.2 and the lower quartile to find the lower limit.

Summary

The methodology that was explained in this chapter is how the research questions designed in the introduction of this paper were answered. When possible, scales were chosen from previous studies where they had been found to be reliable. When new scales were used, they were developed in consultation with Eastern Michigan University faculty and from definitions of constructs found in prior literature. A number of procedures were chosen to test the validity and reliability of scales used and of the data itself. One hundred and sixty participants completed the survey and responded in a way that could be used to measure constructs in this study.

Chapter 4: Data Analysis

The activities for this study spanned from the initial literature review to the design of the research project and research questions, to the acceptance of the research project by the Eastern Michigan University College of Technology and Graduate School, to the conclusion of data collection. This chapter addresses the null hypotheses that were listed in the introduction. A reliability analysis is presented, along with the descriptive statistics for the demographic variables. The chapter also provides an individual item analysis for each scale.

Reliability Analysis

In order to examine the reliability of the instrument, the researcher used the Cronbach alpha coefficient, which assesses the reliability and internal consistency. A Cronbach's alpha score of 0.7 or above is desirable (Park & Chen, 2007). The results are summarized in Table 3 and indicate a high level of internal consistency for the following scales: trust (0.936), COSO internal control (0.754), organization performance (0.872), employee engagement (0.941), and employee performance (0.857). Based on the results, all of the scales except the COSO scale are considered to have a very good reliability. The COSO scale coefficient exceeds the threshold to be acceptable but is not as reliable as the other scales.

Table 3

Reliability Analysis

Variable	Valid	Number of items	Cronbach's alpha
Trust	136	5	0.936
COSO Internal Control	136	11	0.754
Organization Performance	136	5	0.872

Employee Engagement	136	7	0.941
Employee Performance	136	5	0.857

Since all of the Cronbach's alpha scores were over 0.7 for COSO internal controls, employee engagement, employee performance, trust, and organization performance, all of the items demonstrated very good reliability.

Descriptive Analysis of Demographics

The survey instrument was constructed to gather responses regarding the constructs studied in this research project as well as responses regarding the respondent's gender, age, education level, experience, and industry. One hundred and sixty responses were received; only surveys that were 100 percent complete were used. Since the human resource department distributed the survey, it is hard to determine the exact response rate. However, the estimated response rate was 32 percent based on an approximate potential sample of 490 participants.

An examination of the descriptive data collected in this study uncovered a number of interesting findings. More females took part in the survey than males. Sixty-eight women and 63 men participated in the survey.

Age groups have been divided based on the generations, and almost all generations participated equally, which helps to minimize threats to external validity. Millennials (born from 1981-2000) who participated in the survey constituted 20.37% of the responses; Generation Xers (born 1964-1980) had a response rate of 25.92%. Baby Boomers (born 1946-1964) responded at a rate of 39.81%, and the Silent Generation (born 1922-1945) had a response rate of 13.88%.

The education level of the respondents was divided based on the following: high school, some college, bachelor's degree, master's degree, and doctorate. Threats to external validity may

have been minimized since all the education levels are represented. The highest proportion of the level of education was 27.94%, which belongs to those respondents possessing bachelor's degrees, and the lowest proportion of the level of education was doctorate degree holders, whose response rate was 6.61%.

The experience level of the respondents was divided based on the following: 0 – 4 years (entry level), 5 – 9 years (midlevel), 10 – 14 years (senior level), and greater than 15 years (expert). Threats to external validity may have been minimized since all the experience levels are represented. The highest proportion of the level of experience is 49.3%, which belongs to those with 0 – 4 years' experience, and the lowest proportion of the level of experience is the respondents whose experience falls under 10 – 15 years and was 5.9%.

Table 4

Demographic Characteristics of the Sample

Characteristics	**Attribute**	**Frequencies**
Gender	Male	63
	Female	68
Age	Millennials (born 1981-2000)	22
	Generation X (born 1965-1980)	28
	Baby Boomers (born 1946-1964)	43
	Silent Generation (born 1922-1945)	15
Education	High School	35

	Some College	24
	Bachelor's Degree	38
	Master's Degree	30
	Doctorate (M.D., Ph.D.)	9
Experience	0 - 4 years	67
	5 - 9 years	33
	10 - 14 years	8
	15+ years	28

Descriptive Analysis of Scales

A descriptive analysis was performed on all scales of the instrument, and the results are provided in the following paragraphs.

A descriptive analysis has been conducted on every item in the category of trust. Skewness and kurtosis values were calculated to examine the data normality. Normally distributed data have a skewness and kurtosis range between -1 and +1.

The minimum score for all the items in trust is 1, and the maximum score for all the items is 7. The mean score of the items in trust falls in the range of -4.67 to 5.23. T1, the "My organization is treating me fairly" item, has the highest mean score of 5.23, where T2, "The level of trust between supervisors and workers in this organization is very high" item, has the lowest mean score of 4.67. Kurtosis fall under the normal range, which is between -1 and +1, so the data are normally distributed. All of the values of means, standard deviations, skewness, and kurtosis are presented in Table 5.

Table 5

Descriptive Analysis on the Items in Trust

	N	Mean	Std. Deviation	Skewness Statistic	Kurtosis
T1	136	5.238	1.40464	-0.924	0.208
T2	136	4.671	1.5812	-0.212	0.208
T3	136	5.076	1.37501	-0.505	0.208
T4	136	4.734	1.62781	-0.439	0.208
T5	136	4.857	1.45114	-0.455	0.208

Descriptive analysis has been conducted on every item in COSO internal control. The study has used skewness and kurtosis to examine the data normality. Normally distributed data have a skewness and kurtosis range between -1 and +1.

The minimum score for all the items in trust is 1, and the maximum score for all the items is 7. The mean score of the items in trust falls in the range of 3.95 to 5.14. The COSO7 item, "There are functioning or automated controls in my company's processes that immediately give a warning signal whenever something exceptional occurs," has the lowest mean score of 3.95, whereas the COSO2 item, "The employees demonstrate a commitment to honesty and the ethical values of the company through their conduct," has the highest mean score of 5.14. Kurtosis and skewness fall under the normal range, which is between -1 and +1, so the data are normally distributed. All the values of means, standard deviations, skewness, and kurtosis are presented in Table 6.

Table 6

Descriptive Analysis on the Items in COSO Internal Controls

	N	Mean	Std. Deviation	Skewness Statistic	Kurtosis
COSO1	136	4.962	1.4371	-0.556	0.208
COSO2	136	5.142	1.46132	-0.73	0.208
COSO3	136	4.634	1.55178	-0.394	0.208
COSO4	136	4.768	1.57251	-0.525	0.208
COSO5	136	4.582	1.48223	-0.578	0.208
COSO6	136	4.320	1.53768	-0.481	0.208
COSO7	136	3.954	1.6143	-0.151	0.208
COSO8	136	4.045	1.69907	-0.073	0.208
COSO9	136	4.462	1.57012	-0.209	0.208
COSO10	136	4.542	1.38247	-0.269	0.208
COSO11	136	4.6641	1.73964	-0.572	0.208

A descriptive analysis has been conducted on every item in the category of organization performance. The study has used skewness and kurtosis to examine the data normality. Normally distributed data have a skewness and kurtosis range between -1 and +1.

The minimum score for all of the items in organization performance is 1, and the maximum score for all the items is 7. The mean score of the items in trust falls in the range of 4.369 to 4.931. The OP4 item, “My company will often be the first to introduce new applications/products to the market,” had the lowest mean score of 4.36, whereas the OP3 item. “Relative to competition, the overall performance of my company last year was excellent,” had the highest mean score of 4.93. Kurtosis and skewness fall under the normal range, which is

between -1 and +1, so the data are normally distributed. All the values of means, standard deviations, skewness, and kurtosis are presented in Table 7.

Table 7

Descriptive Analysis on the Items in Organization Performance

	N	Mean	Std. Deviation	Skewness Statistic	Kurtosis
OP1	136	4.712	1.54695	-0.481	0.208
OP2	136	4.833	1.56426	-0.413	0.208
OP3	136	4.931	1.42044	-0.459	0.208
OP4	136	4.369	1.52091	-0.138	0.208
OP5	136	4.480	1.53165	-0.277	0.208

A descriptive analysis has been conducted on every item in the category of employee engagement. The study has used skewness and kurtosis to examine the data normality. Normally distributed data have a skewness and kurtosis range between -1 and +1.

The minimum score for all of the items in employee engagement is 1, and the maximum score for all the items is 7. The mean score of the items in employee engagement falls in the range of 4.77 to 5.34. The EE7 item, “my company gives me an opportunity to work and grow,” has the lowest mean score of 4.77, whereas the EE3 item, “My company gives me the opportunity to perform the tasks associated with my job,” has the highest mean score of 5.34. Kurtosis and skewness fall under the normal range, which is between -1 and +1, so the data are normally distributed. All of the values of means, standard deviations, skewness, and kurtosis are presented in Table 8.

Table 8

Descriptive Analysis on the Items in Employee Engagement

	N	Mean	Std. Deviation	Skewness Statistic	Kurtosis
EE1	136	5.1581	1.43929	-0.633	0.208
EE2	136	5.1742	1.40104	-0.58	0.208
EE3	136	5.3485	1.3877	-1.005	0.208
EE4	136	4.8409	1.67257	-0.601	0.208
EE5	136	4.9663	1.69698	-0.718	0.209
EE6	136	5.0534	1.48231	-0.689	0.208
EE7	136	4.7769	1.76075	-0.545	0.208

A descriptive analysis has been conducted on every item in employee performance. The study has used skewness and kurtosis to examine the data normality. Normally distributed data have a skewness and kurtosis range between -1 and +1.

The minimum score for all the items in employee engagement is 1, and the maximum score for all the items is 7. The mean score of the items in trust fall in the range of 4.41 to 5.25. The EP3 item, "My company provides excellent career development opportunities," has the lowest mean score of 4.41, whereas the EP1 item, "When compared to the previous year, my performance has improved," has the highest mean score of 5.25. Kurtosis and skewness fall under the normal range, which is between -1 and +1, so the data are normally distributed. All of the values of means, standards deviation, skewness, and kurtosis are presented in Table 9.

Table 9

Descriptive Analysis on the Items in Employee Performance

	N	Mean	Std. Deviation	Skewness Statistic	Kurtosis

EP1	136	5.2500	1.33888	-.738	.208
EP2	136	4.9462	1.59774	-.519	.208
EP3	136	4.4122	1.78417	-.374	.208
EP4	136	4.5076	1.79091	-.303	.208
EP5	136	5.1374	1.45431	-.596	.208

Crosstab Analysis

In order to perform crosstab analysis the researcher came out with the ratings of high, medium, and low for each of the construct. The researcher has divided the ratings of high, medium and low based on the means of each construct. Then the researcher has performed crosstab between construct and each of the demographic variables as explained below. Cross tabulation was utilized to determine the relationship between demographic variables and constructs.

Crosstab between Demographics and Employee Engagement

Crosstab has been performed between demographics and employee engagement. Demographics items, such as gender, employee's education, employee's age, and employee's experience, were individually involved in a crosstab operation with employee engagement.

A Crosstab was performed between employee education and employee engagement, and the results indicate that employees who have a master's degree tend to have a higher level of employee engagement than those with other levels of education. Also, employees who have a doctoral degree tend to have a medium level of employee engagement. Employees who have a high school degree tend to have either a low or high level of employee engagement. All of the values of employee engagement and employee education are presented in Table 10.

Table 10

Crosstab between Employee Engagement and Employee Education

		Low EE	Medium EE	High EE	Total
EDUCATION	High School	15	6	14	35
	Associate/Some College/Certificate	8	8	8	24
	Bachelor's	14	13	11	38
	Master's	8	6	16	30
	Doctorate	2	5	2	9
Total		47	38	51	136

A Crosstab was performed between employee age and employee engagement, and the results indicate that employees who were born before 1964 have a higher level of employee engagement than employees who were born after 1964. Employees who were born between 1964 and 1980 equally distributed between low level, medium level, and high level of employee engagement. All of the values of employee engagement and employee age are presented in Table 11.

Table 11

Crosstab between Employee Engagement and Employee Age

		Low EE	Medium EE	High EE	Total
GENCOHORT	Millennials	9	6	7	22
	Generation X	10	9	9	28
	Baby Boomers	12	10	21	43

	Silent Generation	4	4	7	15
Total		35	29	44	108

A Crosstab was performed between employee gender and employee engagement and the results indicate that gender didn't play much role with respect to employee engagement. Both males and females performed equally in terms of level of employee engagement. All the values of employee engagement and employee gender are presented in Table 12.

Table 12

Crosstab between Employee Engagement and Employee Gender

		Low EE	Medium EE	High EE	Total
GENDER	Male	22	16	25	63
	Female	23	22	23	68
Total		45	38	48	131

A Crosstab was performed between employee experience and employee engagement, and the results indicate that employees who have more than 10 years and less than 14 years of experience in their current company have a high level of employee engagement. Employees who have more than 15 years of experience do not have a high level of employee engagement. All of the values of the employee engagement and employee experience are presented in Table 13.

Table 13

Crosstab between Employee Engagement and Employee Experience

	Low EE	Medium EE	High EE	Total

Experience	0 – 4 years	22	16	29	67
	5 – 9 years	11	10	12	33
	10 – 14 years	2	1	5	8
	> 15 years	12	11	5	28
Total		47	38	51	136

Crosstab between Demographics and Employee Performance

A Crosstab was performed between demographics and employee performance. Demographics items such as gender, employee's education, employee's age, and employee's experience were individually involved in a crosstab operation with employee performance.

A Crosstab was performed between employee education and employee performance, and the results indicate that employees who have a master's or doctoral degree tend to have a higher level of employee performance than those with other levels of education. All of the values of employee performance and employee's education are presented in Table 14.

Table 14

Crosstab between Employee Performance and Employee Education

		Low EP	Medium EP	High EP	Total
EDUCATION	High School	13	10	12	35
	Associate/Some College/Certificate	6	8	10	24
	Bachelor's	13	14	11	38
	Master's	11	5	14	30
	Doctorate	1	4	4	9

Total		44	41	51	136

A Crosstab was performed between employee's age and employee performance and the results indicate that employees who were born after 1946 and before 1964 have a higher level of employee performance than employees born after 1964. Employees who were born after 1980 have a lower level of employee performance than those born before 1980. All of the values of employee performance and employee's age are presented in Table 15.

Table 15

Crosstab between Employee Performance and Employee's Age

		Low EP	Medium EP	High EP	Total
GENCOHORT	Millennials	10	6	6	22
	Generation X	10	9	9	28
	Baby Boomers	10	13	20	43
	Silent Generation	7	2	6	15
Total		37	30	41	108

A Crosstab was performed between employee gender and employee performance and the results indicate that gender didn't play much role with respect to employee performance. Both males and females performed equally in terms of level of employee performance. All of the values of employee performance and employee gender are presented in Table 16.

Table 16

Crosstab between Employee Performance and Employee's Gender

		Low EP	Medium EP	High EP	Total
GENDER	Male	20	18	25	63
	Female	23	22	23	68
Total		43	40	48	131

A Crosstab was performed between employee experience and employee performance, and the results indicate that employees who have fewer than 4 years of experience in the current company have a higher level of employee performance than those who have more than 4 years of experience. Employees who have more than 15 years of experience do not have a high level of employee performance. All of the values of the employee performance and employee's experience are presented in Table 17.

Table 17

Crosstab between Employee Performance and Employee Experience

		Low EP	Medium EP	High EP	Total
Experience	0 – 4 years	21	11	35	67
	5 – 9 years	10	12	11	33
	10 – 14 years	2	3	3	8
	> 15 years	11	15	2	28
Total		44	41	51	136

Crosstab between Demographics and Trust

A Crosstab was performed between demographics and employee trust in his/her employer. Demographics items such as gender, employee education, employee age, and employee experience were individually involved in a crosstab operation with trust of an employee in his/her employer.

A Crosstab was performed between employee education and trust, and the results indicate that education didn't play a significant role in identifying the level of trust an employee has in his/her employer. All the values of trust and employee education are presented in Table 18.

Table 18

Crosstab between Trust and Employee Education

		Low Trust	Medium Trust	High Trust	Total
EDUCATION	High School	12	11	12	35
	Associate/Some College/Certificate	8	9	7	24
	Bachelor's	10	16	12	38
	Master's	11	8	11	30
	Doctorate	2	5	2	9
Total		43	49	44	136

A Crosstab was performed between employee age and trust of an employee in his/her employer, and the results indicate that employees who were born after 1946 and before 1964 have a higher level of trust than employees who were born after 1964. All of the values of employee performance and employee age are presented in Table 19.

Table 19

Crosstab between Trust and Employee Age

		Low Trust	Medium Trust	High Trust	Total
GENCOHORT	Millennials	7	9	6	22
	Generation X	13	8	7	28
	Baby Boomers	9	15	19	43
	Silent Generation	4	5	6	15
Total		33	37	38	108

A Crosstab was performed between employee gender and trust, and the results indicate that gender didn't play much role with respect to an employee's trust in his/her employer. All of the values of trust and employee gender are presented in Table 20.

Table 20

Crosstab between Trust and Employee Gender

		Low Trust	Medium Trust	High Trust	Total
GENDER	Male	21	21	21	63
	Female	21	26	21	68
Total		43	40	48	131

A Crosstab was performed between employee experience and employee trust in his /her employer, and the results indicate that employees who have 10 – 14 years in the same company seem to have high level of trust. All of the values of the employee performance and experience are presented in Table 21.

Table 21

Crosstab between Trust and Employee Experience

		Low Trust	Medium Trust	High Trust	Total
Experience	0 – 4 years	20	23	24	67
	5 – 9 years	11	10	12	33
	10 – 14 years	1	5	2	8
	> 15 years	11	11	6	28
Total		43	49	44	136

Factor Analysis

Factor analysis is a methodology that could be used to group items together and form new constructs. This analysis can be used to examine the coherence of the items in each construct. In other words, factor analysis will ensure that underlying items are highly correlated with each other and might have been influenced by the measured construct. According to DeCoster (1988), measures that are highly correlated are likely influenced by the same factors, while those that are relatively uncorrelated are likely influenced by other factors.

The factor analysis could be classified into two main types: Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA). In exploratory factor analysis, the analysis would start with ungrouped items to identify groups of items and form new constructs. By comparison, confirmatory factor analysis starts with very few constructs and examines the link of the items with the underlying constructs that have been defined by researchers (Anderson & Gerbing, 1998).

According to Costello and Osboren (2005), factor loadings greater than 0.5 are significant and acceptable. As illustrated in Tables 22, 23, 24, and 25, all items having factor loadings greater than 0.5 are taken into account.

Factor loading has been conducted on every item in all of the scales. The study used a principle components factor analysis with a promax rotation to produce the factor loadings. Factor loadings have been divided into four factors, and each has several items that are grouped together from different scales based on the factor loading value. Table 22 shows the factor loadings for Factor 1.

Table 22

Factor Loading for Factor 1

Item	Question	Construct	Factor Loading
T2	The level of trust between supervisors and workers in this organization is very high.	Trust	0.959
T4	The level of trust that I have in the organization is very high.	Trust	0.833
T5	The degree to which we can depend on each other in this organization is very high.	Trust	0.725
EE1	The employees in my company know how to complete the tasks assigned.	Employee Engagement	0.806
EE2	The employees in my company know how to use the materials and equipment to finish the assigned tasks.	Employee Engagement	0.711

Table 23 shows the factor loadings for Factor 2.

Table 23

Factor Loading for Factor 2

Item	Question	Construct	Factor Loading
EP1	When compared to the previous year, my performance has improved.	Employee Performance	0.782
EP5	During the past year, I met my target performance goals and objectives.	Employee Performance	0.768

Table 24 shows the factor loadings for Factor 3.

Table 24

Factor Loading for Factor 3

Item	Question	Construct	Factor Loading
EP3	My Company provides excellent career development opportunities.	Employee Performance	0.876
EP4	My Company attempts to create an exciting work environment.	Employee Performance	0.696

Table 25 shows the factor loadings for Factor 4.

Table 25

Factor Loading for Factor 4

Item	Question	Construct	Factor Loading

OP3	Relative to competition, the overall performance of my company last year was excellent.	Organization Performance	0.693
OP4	My company will often be the first to introduce new applications/products to the market.	Organization Performance	0.522
OP5	The degree of product differentiation is high in my company.	Organization Performance	0.583

The results of the factor analysis suggest relatively strong construct validity for the scales with the exception of trust and employee engagement. There appears to be some overlap between several items that address trust and employee engagement

Results of Hypotheses Testing

Null Hypotheses were developed after a robust review of literature surrounding the subject matter discussed in this dissertation. Linear regression models were constructed to understand relationships between constructs and individual dimensions of constructs. Relationships were tested to determine significance.

1. There is no significant relationship between the level of implementation of a COSO framework and the level of trust that employees have in their employer.

The results indicate that the level of trust an employee has with his/her employer was significantly related to the level of implementation of COSO internal controls. Testing the relationship between COSO internal control and level of trust indicated that the model was significant (Beta = .489, F=113.941, $p < .001$), predicting 46 percent of variance in trust (Table 26). Based on the results, there is a significant relationship between the level of implementation of a COSO framework and the level of trust that employees have in their employer. Hence, this hypothesis was rejected.

Table 26

Summary of Linear Regression Analysis for Predicting the Level of Trust that an Employee has with his/her Employer by COSO Internal Controls

	Trust	
	R^2	**Beta**
COSO Internal Controls	.460	.489***

*** p<.001 ** p<.01 * p<.05 †<.1 (n = 120) (one-tailed)

2. There is no significant relationship between the level of implementation of a COSO framework and the performance of a small organization.

The results indicate that organization performance is significantly related to COSO internal controls. Testing the relationship between the level of implementation of COSO internal control and the level of organizational performance indicated that the model was significant (Beta = .529, F=218.188, p < .001), predicting 62 percent of variance in organization performance (Table 27). Based on the results, there is a significant relationship between the level of implementation of a COSO framework and the performance of a small organization. Hence this hypothesis was rejected.

Table 27

Summary of Linear Regression Analysis for Predicting the Organization Performance by COSO Internal Controls

	Organization Performance	
	R^2	**Beta**
COSO Internal Controls	.620	.529***

*** p<.001 ** p<.01 * p<.05 †<.1 (n = 120) (one-tailed)

3. There is no significant relationship between the level of implementation of a COSO framework and the level of employee performance in small organizations.

The results indicate that the level of employee performance was significantly related to level of implementation of COSO internal controls. Testing the relationship between COSO internal control and employee performance indicated that the model was significant (Beta = .490, F=130.963, p < .001), predicting 49.4 percent of variance in employee performance (Table 28). Based on the results, there is a significant relationship between the level of implementation of a COSO framework and the level of performance in a small organization. Hence, this hypothesis was rejected.

Table 28

Summary of Linear Regression Analysis for Predicting the Employee Performance by COSO Internal Controls

	Employee Performance	
	R^2	**Beta**
COSO Internal Controls	.494	.490***

*** p<.001 ** p<.01 * p<.05 †<.1 (n = 120) (one-tailed)

4. There is no significant relationship between the level of implementation of a COSO framework and the level of employee engagement in small organizations.

The results indicate that the level of employee engagement was significantly related to the level of implementation of COSO internal controls. Testing the relationship between COSO internal control and employee engagement indicated that the model was significant (Beta = .749, F=156.583, p < .001), predicting 54.3 percent of variance in employee engagement (Table 29). Based on the results, there is a significant relationship between the level of implementation of a

COSO framework and the level of employee engagement in small organizations. Hence, this hypothesis was rejected.

Table 29

Summary of Linear Regression Analysis for Predicting the Employee Engagement by COSO Internal Controls

	Employee Engagement	
	R^2	**Beta**
COSO Internal Controls	.543	.749***

*** p<.001 ** p<.01 * p<.05 †<.1 (n = 120) (one-tailed)

5. There is no significant relationship between level of trust in the employer reported by employees in small organizations and the level of performance of a small organization.

The results indicate that the level of trust that the employee has in the employer was significantly related to the level of organizational performance. Testing the relationship between organization performance and level of trust indicated that the model was significant (Beta = .823, F=190.016, p < .001), predicting 58.6 percent of variance in trust (Table 30). Based on the results, there is a significant relationship between level of trust in the employer reported by employees in small organizations and performance of a small organization. Hence, this hypothesis was rejected.

Table 30

Summary of Linear Regression Analysis for Predicting the Level of Trust that the Employee has for the Employer by Organization Performance

	Trust	
	R^2	**Beta**
Organization Performance	.586	.823***

*** p<.001 ** p<.01 * p<.05 †<.1 (n = 120) (one-tailed)

6. There is no significant relationship between the level of employee engagement and the level of performance of a small organization.

The results indicate that the level of employee engagement significantly was related to the level of organizational performance. Testing the relationship between organizational performance and level of employee engagement indicated that the model was significant (Beta = 1.201, F=219.036, p < .001), predicting 62.4 percent of variance in employee engagement (Table 31). Based on the results, there is a significant relationship between the level of employee engagement and performance of a small organization. Hence, this hypothesis was rejected.

Table 31

Summary of Linear Regression Analysis for Predicting the Level of Employee Engagement by Organization Performance

	Employee Engagement	
	R^2	**Beta**
Organization Performance	.624	1.201***

*** p<.001 ** p<.01 * p<.05 †<.1 (n = 120) (one-tailed)

7. There is no significant relationship between the level of employee performance and the level of performance of a small organization.

The results indicate that the level of employee performance was significantly related to the level of organizational performance. Testing the relationship between organization performance and level of employee performance indicated that the model was significant (Beta = .834, F=246.029, p < .001), predicting 64.7 percent of variance in employee performance (Table 32). Based on the results, there is a significant relationship between level of trust in the employer

reported by employees and performance of a small organization. Hence this hypothesis was rejected.

Table 32

Summary of Linear Regression Analysis for Predicting the Level of Employee Performance by Organization Performance

	Employee Performance	
	R^2	**Beta**
Organization Performance	.647	.834***

*** p<.001 ** p<.01 * p<.05 †<.1 (n = 120) (one-tailed)

8. There is no significant relationship between level of trust in the employer reported by employees and the level of employee engagement of a small organization.

The results indicate that the level of trust that an employee has with their employer was significantly related to the level of employee engagement. Testing the relationship between employee engagement and level of trust that an employee has with their employer indicated that the model was significant (Beta = .606, F=354.054, p < .001), predicting 72.8 percent of variance in trust of an employee on his/her employer (Table 33). Based on the results, there is a significant relationship between level of trust in the employer reported by employees and employee engagement of a small organization. Hence, this hypothesis was rejected.

Table 33

Summary of Linear Regression Analysis for Predicting the Level of Trust that an Employee has with his/her Employer by Employee Engagement

	Trust	
	R^2	**Beta**
Employee Engagement	.728	.606***

*** p<.001 ** p<.01 * p<.05 †<.1 (n = 120) (one-tailed)

9. There is no significant relationship between level of trust with the employer reported by employees and the level of employee performance of a small organization.

The results indicate that the level of trust an employee has with his/her employer was significantly related to the level of employee performance. Testing the relationship between trust of an employee on his/her and level of employee performance indicated that the model was significant (Beta = .828, F=237.063, p < .001), predicting 63.9 percent of variance in trust (Table 34). Based on the results, there is a significant relationship between level of trust with the employer reported by employees and the level of employee performance of a small organization. Hence, this hypothesis was rejected.

Table 34

Summary of Linear Regression Analysis for Predicting the Level of Trust that an Employee has in his/her Employer by Employee Performance

	Trust	
	R^2	**Beta**
Employee Performance	.639	.828***

*** p<.001 ** p<.01 * p<.05 †<.1 (n = 120) (one-tailed)

10. There is no significant relationship between the level of trust an employee has in his/her employer and the level of performance of a small organization.

The results indicate that the level of trust an employee has in his/her employer was significantly related to the level of organization performance. Testing the relationship between organization performance and level of trust indicated that the model was significant (Beta = 1.276, F=418.855, p < .001), predicting 76 percent of variance in trust (Table 35). Based on the results, there is a significant relationship between the level of trust an employee has in his/her

employer and the level of performance of a small organization. Hence, this hypothesis was rejected.

Table 35

Summary of Linear Regression Analysis for Predicting the Level of Employee Engagement by Employee Performance

	Employee Engagement	
	R^2	**Beta**
Employee Performance	.760	1.276 ***

*** p<.001 ** p<.01 * p<.05 †<.1 (n = 120) (one-tailed)

Summary

This chapter addressed the null hypotheses that were listed in the introduction and has rejected the entire list of null hypotheses. Also in this chapter a reliability analysis was presented, along with the descriptive statistics and crosstabs for the demographic variables. The chapter also provided an individual item analysis for each scale.

Chapter 5: Discussion, Conclusions, and Implications

This chapter is divided into the following sections: overview of the study, discussion of the findings; research conclusions; implications of the study's results; limitations of the research; and recommendations for future research.

Overview of the Study

This study attempted to assess the relationship between the levels of implementation of COSO internal controls on the level of trust an employee has for his/her employer, employee engagement, employee performance, and organization performance. A review of the literature identified appropriate theoretical models to identify and examine the variables that could possibly affect COSO internal control towards improving or diminishing the level of trust that an employee has for his/her employer, employee engagement, employee performance, and organization performance.

From all the factors that might affect internal controls, this study focused on the following factors: selected demographics, trust of an employee regarding his/her employer, employee engagement, employee performance, and organization performance. Based on the selected variables and the literature, this study formed a research model and utilized an investigator-developed survey questionnaire to examine the theoretically-based hypothesized paths. The study was conducted at carefully selected small organizations in southeastern Michigan. By posting the survey through the human resources departments to the employees within these organizations, a sample of 160 participants was obtained. Finally, this research utilized statistical analysis software including Microsoft Excel, and SPSS to perform statistical analyses.

Discussion

A number of interesting findings emerged from the analysis of linear regression models in this study. First, it was found that higher levels of implementation of COSO internal controls had a very significant and very positive relationship with organizational performance, with the level of trust that an employee has for his/her employer, with employee engagement, and with employee performance. This seems to indicate that organizations that have strong internal controls tend to have strong organization performance. Also, organizations that have strong internal controls tend to have a high level of employee trust regarding his/her employer. Organizations that have strong internal controls, as well, have a high level of employee engagement and employee performance.

The level of trust that an employee has regarding his/her employer was found to have strong relationships with employee engagement and employee performance. This seems to indicate that when an employee trusts his/her employer then the level of employee engagement is considerably more and also when an employee trusts his/her employer then the level of employee performance is greater.

Employee engagement in small organizations was found to have a strong relationship with employee performance. In small organizations, if employees tend to have a high level of employee engagement, then it directly results in a high level of employee performance.

Users who have earned a Master's degree tend to report a higher level of employee engagement when compared with other levels of education. Also, Users who have a doctorate degree tend to have a medium level of employee engagement. Users who have a high school degree tend to have either a low level of employee engagement or a high level of employee engagement. Users who were born before 1964 have a high level of employee engagement when

compared with Users who were born after 1964. Users who have greater than 15 years of experience do not have a high level of employee engagement. Although this appears to be a conflict if one assumes that users born before 1964 have more than 15 years of experience with the same company. It is clear that we cannot assume that this is the case. One factor affecting the outcome maybe that many of these small companies did not exist until a few years ago.

Users who have a master's degree and above tend to have a high level of employee performance when compared with other levels of education**.** Users who were born after 1946 and before 1964 reported a high level of employee performance when compared with users who were born after 1964. Users who have less than 4 years of experience in the current company reported a high level of employee performance when compared with employees who have more than 4 years of experience. Users who have greater than 15 years of experience do not have a high level of employee performance.

Users who were born after 1946 and before 1964 have a high level of trust when compared with employees who were born after 1964. Users who have 10 – 14 years in the same company seem to have a high level of trust when compared with other users in the organization.

The exploratory factor analysis revealed that some items within different constructs such as Trust that an employee has for his/her employer and Employee engagement can be grouped together. Factor analysis also revealed that items in the organization's performance construct are grouped well and they do not need to be changed. The results of the factor analysis shows that there was a construct validity. In the future research more time can be spent on scale development and the results from the factor analysis of this dissertation can be used such that Trust and Employee Engagement constructs avoid overlap.

Research Implications

COSO internal controls demonstrated a significant relationship with trust of an employee on his/her employer, employee engagement, and employee performance. Previous studies did not identify if there is a relationship between internal controls with that of employee engagement, employee performance, and organization performance. This research addressed this point and identified that COSO internal controls have a positive relationship with the level of trust an employee has for his/her employer, employee engagement, employee performance, and organization performance.

In summary, this study found that a relationship exists between the level of implementation of COSO internal controls and organization performance. When an organization has strong internal controls, then the organization tends to have a high level of organization performance. When an organization has weak internal controls, then the organizations tend to have a low level of organization performance. Also when an organization has strong COSO internal controls, then the organization tends to have a high level of employee engagement and employee performance, and additionally there is a high level of trust of an employee in his/her employer.

Limitations

This study has several limitations as described below:

1. This study has limitations that will not affect the integrity of the results but may limit the applicability. One such limitation is that only a few very specific constructs are measured and studied in this research. While quantitative research allows for greater generalizability, a drawback is that the investigator is not able to gain a robust understanding of the research setting or the subjects studied. Further, these few constructs

are measured by specific definitions. A number of authors have made strong arguments for how such constructs as trust, employee engagement, and employee performance should be understood and measured. The principal investigator in this study selected specific constructs based on such factors as relevance to the research setting and subjects studied and the general acceptance of a construct among literature.

2. This research only examined the COSO internal controls behavior from the employee's perceptive.
3. This study collected no information about the employees' ethnicity or their languages. It would have been beneficial and interesting to find out how ethnicity and language moderate the factors of internal controls on organizations' performance.
4. The ordering of the questions might have created a mindset for the respondents that expect the same questions throughout the survey.
5. Since the respondents could not be sorted by company, the generalizability may have been compromised.

Future Research

The research model could be tested in more diverse sample sizes with more diverse industries. Experimental studies could be conducted that examine the developed research model. By utilizing the developed research model, these future studies could examine the impact of internal controls on medium and large organizations. Future studies could focus on internal controls interrelated components such as Control Environment, Risk Assessment, Control Activities, Information and Communication and Monitoring and determine which interrelated component has more influence on the level of trust an employee has for his/her employer, employee engagement, employee performance, and organization performance. Future studies

could focus and identify other variables that COSO internal controls could possibly influence. Future researches could create a survey that presents the questions randomly to reduce bias in the anticipation of the questions. Future studies could partition participating user companies by SIC code to determine if certain classifications affect the level of implementation of the COSO internal controls framework more than others. Future research could also focus on the level of implementation of internal controls to determine any influence on the safety of information within small privately held organizations. Future studies could also focus on the level of employee engagement, level of trust, and level of employee performance to determine any relation to the number of successful internal and external attacks within small organizations.

Research Summary

This study sought to understand the influence that the level of implementation of COSO internal controls has on the level of trust that an employee has regarding his/her employer, level of the employee's engagement with the company, employee performance, and level of organization performance. This study determined that significant positive relationships exist between the level of implementation of COSO internal controls and the level of trust that an employee has regarding his/her employer. It was also found that there was a significant relationship between COSO internal controls and employee engagement, employee performance, and organization performance. Further, this research determined that there was a significant relationship between trust of an employee regarding his/her employer with employee engagement and employee performance. This research also revealed that there was a significant relationship between employee engagement and employee performance in the small organizations studied. This research found that the level of implementation of COSO internal controls has a strong relationship with a small organization's level of performance. Based on the findings it is evident that small privately held organizations that use COSO internal controls will help to boost employee's engagement, employee's performance, trust among its employees and organization's performance.

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APPENDIX A: SURVEY INSTRUMENT

Informed Consent

Project Title: THE IMPACT OF INTERNAL CONTROLS ON ORGANIZATIONAL PERFORMANCE IN SMALL BUSINESSES

Investigator: Santosh Mutnuru, M.S., Eastern Michigan University

Co-Investigator: Dr. John C. Dugger, Professor of Technology Studies

Purpose of the Study: The objective of this research is to determine the nature of relationships between internal control and organizational performance. Further, this study seeks to understand the significance of employee engagement, trust and worker performance as factors influencing this relationship.

Procedure: This survey will be conducted electronically. If any questions arise regarding this form or the survey which will follow, please use the contact information found below in the "Future Questions" section. After you read this form and agree to give consent to use data provided by you in this survey, you will be taken to the survey. You must be at least 18 years old to take part in this study.

You will be asked to complete questions regarding your demographic information, job history and education history. You will then be presented with a number of statements and asked to respond to these statements on a scale ranging from 1-7. You will be asked questions about your organizations internal controls, your ideas regarding trust with the organization, your perception of engagement in your organization, as well as your perception of your own personal performance and the performance of your team. The approximate length of time required to take this survey should be 10-15 minutes.

Confidentiality: You will not be asked to provide your name or any information that would make you individually identifiable. Information regarding your IP address or other personal terminal information will not be collected.

All data collected will be stored on a password-protected thumb drive and only accessed for the purpose of data analysis. This thumb drive will be destroyed at the conclusion of this study.

Expected Risks: There are no foreseeable risks to you by completing this survey, as all results will be kept completely confidential.

Expected Benefits: This survey could potentially give you a feeling of catharsis as this is an opportunity for you to let your voice be heard regarding your experience participating in this organization. The practice of internal controls can potentially benefit from your response as it will add to the literature surrounding internal control influence on performance.

Voluntary Participation: Participation in this study is voluntary. You may choose not to participate. If you do decide to participate, you can change your mind at any time and withdraw from the study without negative consequences.

Use of Research Results: Results will be presented in aggregate form only. No names or individually identifying information will be revealed. Results may be presented at research meetings and conferences, in scientific publications, and as part of a doctoral dissertation being conducted by the principal investigator.

Future Questions: If you have any questions concerning your participation in this study now or in the future, you can contact the principal investigator, Santosh Mutnuru, at (734-985-1476) or via e-mail (smutnuru@emich.edu). This research protocol and informed consent document has been reviewed and approved by the Eastern Michigan University Human Subjects Review Committee for use from _____ to _____ (date). If you have questions about

the approval process, please contact the Director of the Graduate School (734.487.0042, human.subjects@emich.edu).

Consent to Participate: I have read or had read to me all of the above information about this research study, including the research procedures, possible risks, side effects, and the likelihood of any benefit to me. The content and meaning of this information has been explained and I understand. All my questions, at this time, have been answered. I hereby consent and do voluntarily offer to follow the study requirements and take part in the study.

BY BEGINNING THIS SURVEY, YOU ARE GIVING YOUR CONSENT

INSTRUCTIONS

Dear Professional,

You are being asked to participate in a survey that can help improve the ways in which organizations are led. The objective of this effort is to examine the impacts of internal controls on organization's performance, employee trust, employee engagement, and employee performance.

Your participation in this study is completely voluntary. There are no foreseeable risks associated with this project. You may skip any question, which you feel uncomfortable answering, or you can withdraw from the survey at any point. Your responses will remain completely confidential and will only be used in aggregate with other survey responses. Your information will be coded and will remain confidential. Please allow 15 minutes to complete this questionnaire. As an incentive, once you submit your completed survey, you will be automatically entered in a lottery where the winner will receive $100. As a further incentive, at the end of the survey, you may request a copy of the overall results.

Instructions: Please provide a respond to each of the following by filling the blank or indicating the response that best matches your perceptions. If you have any questions, please contact me at _____.

Demographics:

Please provide a response to each of the following:

1. What is your gender?

- ☉ Male
- ☐ Female

2. What is your age in years?

_____

3. What is the highest level of education that you have completed?

- ☐ High school
- ☐ Associate Degree
- ☐ Bachelor's Degree
- ☐ Master'
- ☐ Ph.D.
- ☉ Other (please specify) _____

4. How many years have you worked for your current employer?

_____

5. What industry does your current organization service?

- ☐ Engineering
- ☐ Manufacturing
- ☐ Accounts & Finance
- ☐ Information Technology
- ☐ Other (please specify) _____

1	2	3	4	5	6	7
Very Strongly Disagree	**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**	**Very Strongly Agree**

	1	2	3	4	5	6	7
My organization is treating me fairly							
The level of trust between supervisors and workers in this organizations is very high							
The level of trust among the people I work with on regular basis is very high							
The level of trust that I have in the organization is very high							
The degree to which we can depend on each other in this organization is very high							
The personnel understand the content and responsibilities of their tasks							
The personnel have demonstrated commitment to honesty and the ethical values of the company through their conduct							
Management actively evaluated both internal and external risks likely to prevent the achievement of goals.							
Those in managerial functions were aware of the risks of their areas of responsibility and knew how risk management was implemented							
In my opinion the company's risk analysis and means of protection could have been more efficient							
In my opinion the internal control measures should have been stepped up still further?							
There were functioning controls in the company's processes which gave warning whenever something exceptional occurred?							
Our company's information and communications system was not quite up to date with respect to functions?							
The work was efficiently coordinated within the function and also with other functions?							
Line managers take excellent care of day-to-day control?							
We conducted analyses based (customer satisfaction, job satisfaction, efficiency) changes during the last year?							
The basic values of this business unit include learning as key to improvement							
The collective wisdom in this enterprise is that once we quit learning, we endanger our future							
Overall performance in your business unit last year was excellent:							

Relative to competition, overall performance in your business unit last year was excellent							
Your organization will always be the first to introduce new applications to market?							
Degree of product differentiation is high?							
The personnel know how to complete the task?							
The personnel used the required materials and equipment to finish the work							
My organization gives me the opportunity to do what I am supposed to do?							
My organization takes my opinion into count?							
The mission or purpose of my company makes me feel my job is important.							
My associates or fellow employees did quality work?							
My organization gave me an opportunity to work and grow?							
My previous year performance ranking has been significantly exceeded?							
I have been treated fairly with my performance ranking?							
My organization provides excellent career development opportunities							
The company tries to create an exciting work environment							
I met the current target performance goals and objectives.							