

jbsq.org

The Role of Internal Controls on Employees' Engagement in Small Organizations

Santosh Mutnuru, PhD, Eastern Michigan University

Abstract

This study sought to understand employee's perspective on the level of influence that internal controls had on employee engagement. The relationship between the levels of implementation of internal controls with employee engagement has not been adequately explored. The study was conducted on employees 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 employees were targeted from COSO implemented small intensive information-technology organizations in southeastern Michigan. The influence that COSO Internal Controls have on the employee engagement was explored. The findings revealed that a significant positive relationship existed between the degree of implementation of internal controls and employee engagement in small organizations.

Keywords: Internal Controls, COSO, Employee Engagement

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.

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. Employee Engagement might be affected by the level of utilization of internal controls.

2. Literature Review

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 has his/her interests 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 one perceives the freedom to be authentic in the work role that they were assigned to. Finally, availability involves employee's 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 individual's 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" (Leiter & Maslach, 1998, p. 351). More recently, Macey et al. (2009) distinguished engagement in terms of employee engagement feelings which consist of urgency, intensity, focus, and enthusiasm and employee engagement behaviors which consist of persistence, role expansion, proactivity, and adaptability. Researchers have engaged with a wide variety of constructs to describe about 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, productivity, 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.

3. Theoretical Framework

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. But none of the studies have provided if

there is a relationship between COSO internal controls and Employee Engagement. Lack of proper prior literature regarding the impact of internal controls on employee engagement suggest the following question for research to address.

1. 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?

4. Sample

A cross-sectional survey approach was taken to this study and responses in this study were collected using convenience random sampling among employees in the information technology industry in small organizations in the mid-western region of the U.S. The survey used a seven-point, seven anchor Lickert scale which required respondents to respond according to their agreement with each item on the survey (1 –Very Strongly Disagree; 2 –Strongly Disagree; 3 –Disagree, 4 - Neither Agree or Disagree; 5 –Agree; 6 –Strongly Agree; 7 – Very Strongly Agree). 18 items on the survey related to the variables in this study and 6 related to the demographic profile of respondents to the survey.

5. Data Collection

Organizations of the employees who fall under the sample were contacted, and the researcher obtained approval to distribute a survey concerning employee engagement and internal controls. 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 employee engagement.

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. 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.

6. Demographic Profile of Survey Respondents

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 1

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	
		38	

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

7. 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 2. Table 2

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 3.

Table 3
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	Generation	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 4.

Table 4

Crosstab between Employee Engagement and Employee Gender

		Low EE	Medium EE	High EE	Total
	Male	22	16	25	63
GENDER	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 5. Table 5

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

8. Results

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. Table 6

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

				Employee Engagement			
					${f R}^2$	Beta	
COSO Internal Controls			.543	.749***			
*** p<.001	** p<.01	* p<.05	† <.1	(n = 120)	(one-tailed)		

10. 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 employee engagement. 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.

11. Limitations

This study has several limitations as described below:

- 1. This research only examined the COSO internal controls behavior from the employee's perceptive.
- 2. 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.
- 3. The ordering of the questions might have created a mindset for the respondents that expect the same questions throughout the survey.
- 4. Since the respondents could not be sorted by company, the generalizability may have been compromised.

12. 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.

References

- Ackerman, P. L. (1989). Within-task intercorrelations of skilled performance: Implications for predicting individual differences? (A comment on Henry & Hulin, 1987). *Journal of Applied Psychology*, 74, 360-364.
- Albrecht, W. S., Albrecht, C. C., & Albrecht, O. C. (2009). *Fraud examination and prevention*. UK, South-Western.
- American Institute of Certified Public Accountants (AICPA). (2002). *Internal fraud–COSO report and the deception process*.
- American Institute of Certified Public Accountants (AICPA). (2009). *The committee on auditing procedure.*
- Argyris, C. (1964). Integrating the individual and the organization. New York: Wiley
- Aryee, S., Budhwar, P. S., & Chen, Z. X. (2002). Trust as a mediator of the relationship between organizational justice and work outcomes: test of a social exchange model. J. Organiz. Behav., 23: 267–285. doi: 10.1002/job.138
- Association of Certified Fraud Examiners (ACFE). (2010). Fraud report.
- Ashbaugh-Skaife, H., Collins, D., Kinney, W., LaFond, R., 2006. The Effect of Internal Control Deficiencies on Firm Risk and Cost of Equity Capital, Working paper, University of Iowa.
- Barney, J. B. (1991). Firm resources and sustained competitive advantage. *Journal of Management 17*, 99-120.
- Bejtlich, R. (2006). The Tao of Network Security Monitoring: Beyond Intrusion Detection. Addison-Wesley.
- Blanchard, A. W. (2009). Followership Styles & Employee Attachment to the Organization. *The Psychologist-Manager Journal*, 12(2), 111-131.
- Blau, Peter M. (1964). Exchange and Power in Social Life. New York: Wiley.
- Boss, R. W. (1978). Trust and managerial problem solving revisited. *Group and Organizational Studies*, 3, 330-341.
- Burton, V. L., III. (Ed.) (2011). Productivity. In *Encyclopedia of Small Business* (pp. 1006 1008). Detroit, MI: Gale Cengage Learning.
- Calderón, J. L., Morales, L. S., Liu, H., & Hays, R. D. (2006). Variation in the readability of items within surveys. *American Journal of Medical Quality*, 21(1), 49-56.
- Cascio, W. F. (1992). Managing human resources: productivity, quality of work life, profits (3rd ed.). New York: McGraw-Hill Inc.
- Castanias, R. P., & Helfat, C. E. (2001). The managerial rents model: Theory and empirical analysis, *Journal of Management* 27, 661-678.
- Caves, R., & Ghemawat, P. (1992). Identifying mobility barriers. *Strategic Management Journal* 13 1–12.
- Cohen, D., & Prusak, L. (2001). In good company: How social capital makes organizations work. Harvard Business Press.
- Colquitt, J. A., Scott, B. A., & LePine, J. A. (2007). Trust, trustworthiness, and trust propensity: A meta-analytic test of their unique relationships with risk taking and job performance. *Journal of Applied Psychology*, 92: 909–927
- Cook, J., & Wall, T. (1980). New work attitude measures of trust, organizational commitment and personal need non-fulfillment. *Journal of Occupational Psychology*, 53: 39–52. doi: 10.1111/j.2044-8325.1980.tb00005.x
- COSO. (1994). Committee of Sponsoring Organization of Treadway Commission. Internalcontrol- Integrated framework. New York: AICPA.

- Covin, J. G., & Slevin, D. P. (1989). Strategic management of small firms in hostile and benign environments, *Strategic Management Journal 10*(11. 57-75.)
- Creed, D. and Miles, E. (1996), Trust in Organizations. A Conceptual Framework Linking Organizational Forms, Managerial Philosophies, and the Opportunity Costs of Control in R. M. Kramer and T. Tyler (Eds.), *Trust in organizations*. Frontiers of Theory and Research. Thousand Oaks: Sage Publications, London, pp. 16-38.
- Culbert, S., & McDonough, J. (1986). The politics of trust and organization empowerment. *Public Administration Quarterly*, 10(2), 171-188.
- Cushing, B. (1974). A mathematical approach to the analysis and design of internal control systems. *The Accounting Review*, January, pp. 24-41.
- De Avila, J. (2007, August 15). More firms base raises on performance; workers can expect 3.8% boost in '08, same as this year. *Wall Street Journal (Eastern Edition)*, p. D.5.
- Dell, R., Holleran, S., & Ramakrishnan, R. (2002). Sample size determination. *Institute for Laboratory Animal Research Journal*, 43(4), 207-213. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/12391396
- Dillman, D. A. (2000). Mail and Internet surveys: The tailored design method (2nd ed.). New York: John Wiley Co.
- Dillman, D. A. (2007). Mail and Internet surveys: The tailored design method. 2007 update with new internet, visual and mixed mode guide. Hoboken, NJ: JohnWiley and Sons.
- Dirks, K. T., & Ferrin, D. L. (2002). Trust in leadership: Meta-analytic findings and implications for research and practice. *Journal of Applied Psychology*, 87(4), 611–628
- Doyle, J., et al., Determinants of weaknesses in internal control over financial reporting. Journal of Accounting and Economics (2007), doi:10.1016/j.jacceco.2006.10.003
- Erickson, T. J. (2005). Testimony submitted before the U.S. Senate Committee on Health, Education, Labor and Pensions, May 26.
- Esmaeili, M. (2014). Assessment of Users' Information Security Behavior in Smartphone Networks
- Fleming, J.H., Coffman, C. & Harter, J.K. (2005). Manage your human sigma. Harvard Business Review. Vol 83, No 7. Pp 106–14.
- Garg, A., Curtis, J., & Halper, H. (2003). The Financial Impact of IT Security Breaches: What Do Investors Think? *Information Systems Security*, 12(1), 22-34.
- Gibson, T. J. (1998). Long-term UNIX file system activity and the efficacy of automatic file migration. Ph.D. dissertation, University of Maryland, Baltimore.
- Gill, Preetinder Singh, "An Investigation of Employee Engagement and Business Outcomes at an Engineering Services Firm" (2012). Master's Theses and Doctoral Dissertations. Paper 452.
- Goss, D. (1994). Principles of human resource management. London: Routledge Publishers.
- Griffin, K. (1967). The contribution of studies of source credibility to a theory of interpersonal trust in the communication process. *Psychological Bulletin*, 68, 104-120 Guide to size standards. Retrieved from http://www.sba.gov/content/guide-size-standards
- Harter, F. L., Schmidt, T. L., & Hayes. (2002). Business-unit-level relationship between employee satisfaction, employee engagement, and business outcomes: A meta-analysis. *Journal of Applied Psychology*, 87 (2002), pp. 268–279
- Heathfield, S. (2007). Performance appraisals don't work-what does? *The Journal for Quality and Participation*, 30(1), 6-9, 47. Retrieved November 14, 2007, from ABI/INFORM Global database.
- Hewitt Associates LLC. (2005). Employee engagement Retrieved April 29, 2005, from

- http://was4.hewitt.com/hewitt/services/talent/subtalent/ee_engagement.htm
- Higgins, K. J. (2013). Small Businesses Now Bigger Targets in Cyberattacks. Retrieved from http://www.darkreading.com/government-vertical/small-businesses-now-bigger-targets-in-c/240153043
- Jokipii, A. (2010). Determinants and consequences of internal control in firms: A contingency theory based analysis. *Journal of Management & Governance*, 14(2), 115-144.
- Kahn, W.A. (1990). Psychological conditions of personal engagement and disengagement at work. Academy of Management Journal, 33, 692-724.
- Kanawattanachi, P., & Yoo, Y. (2002). Dynamic nature of trust in virtual teams. *Journal of Strategic Information Systems*, 11(3-4), 187-213
- Kane, J. S. (2000). Accuracy and its determinants in distributional assessment. *Human Performance*, 13(1), 47-85.
- Kerner, S. (2013). Twitter, New York Times Hit in Latest Syrian Electronic Army Attack, eweek, August 27, 2013.Retrieved from http://www.eweek.com/security/twitter-new-york-times-hit-in-latest-syrian-electronic-army-attack.html
- Lawrence L. You, Kristal T. Pollack, Darrell D. E. Long, K. Gopinath. (July 2011). Transactions on Storage (TOS), *ACM* Volume 7 Issue 2 Kane, J.S. (2000). Accuracy and its determinants in distributional assessment, Human Performance, 13(1), 47-84.
- Leach, J. (2003). Improving user security behaviour. Computers & Security, 22(1), 685-692.
- Leedy, P. D., & Ormrod, J. E (2010). Practical Research: Planning and Design. Pearson Education, Inc., *Upper Saddle River*, NJ, 9th edition.
- Lyman, P., Varian, H. R., Searingen, K., Charles, P., Good, N., Jordan, L. L., & Pal, J. (2003). How much information? 2003.http://www.sims.berkeley.edu/research/projects/how-much-info-2003/.
- Macey et al. (2009). Employee engagement: Tools for analysis, practice, and competitive advantage. *Wiley-Blackwell*, Malden, WA (2009)
- Markos, S., & Sridevi, M. S., (2010). Employee engagement: The key to improving performance. *International Journal of Business and Management*, 5(12), 89-96.
- Mathew, J., Ogbonna, E., & Harris, L. C. (2011). Culture, employee work outcomes and performance: An empirical analysis of Indian software firms. Journal of World Business.
- Mathis, R. L., & Jackson, J. H. (2003). Human resource management (10th ed.). Mason, OH: South-Western.
- Matthai, J.M. 1989. Employee perception of trust, satisfaction, and commitment as predictors of turnover intentions in a mental health setting. *Dissertation Abstract International*.
- May, D.R. Gilson, R.L. and Harter, L.M. (2004) 'The psychological conditions of meaningfulness, safety and availability and the engagement of the human spirit at work', *Journal of Occupational and Organisational Psychology*, Vol 77, pp11-37.
- Miller, D. (1990). The Icarus Paradox. Harper Gollins, New York, NY.
- Miller, D., & Chen, M.-J. (1994). Sources and consequences of competitive inertia: A Study of the U.S. Airline Industry. *Administrative Science Quarterly* 39(1) 1–23.
- Morrison EW, Robinson SL. 1997. When employees feel betrayed: a model of how psychological contract violation develops. *Academy of Management Review 22*: 226-256.
- Ohlson, J. (1995). Earnings, Book Values and Dividends in Equity Valuation,

- Contemporary Accounting Research, 11(2): pp 661–687.
- Pathak, J. (2003). Internal audit and e-commerce controls. *Internal Auditing*, 18(2), 30-34.
- Pressly, T. R. (2009). Combining Strategic Management and Internal Control Processes: A Recipe for Entrepreneurial Competitive Advantage. *The Entrepreneurial Executive*, 14, 49-64.
- Sackett, P. R., Zedeck, S., & Fogli, L. *Journal of Applied Psychology*, Vol 73(3), Aug 1988, 482-486. doi: 10.1037/0021-9010.73.3.482
- Sanchez-Burks, J. (2005). Protestant relational ideology: The cognitive underpinnings and organizational implications of an American anomaly. In R. Kramer & B. M. Staw (Eds.), *Research in organizational behavior* (Vol. 26, pp. 265–305). New York: Elsevier.
- Savage, D. (1982). Trust as a productivity management tool. *Training and Development Journal*, 36(2), 54-57.
- Schaufeli et al. (2002). The measurement of engagement and burnout: A two sample confirmatory factor analytic approach. *Journal of Happiness Studies*, 3 (2002), pp. 71–92.
- Scott, C. L. (1980). Interpersonal trust: A comparison of attitudinal and situational factors. *Human Relations*, *33*, 805-812.
- Silowash, G., Cappelli, D., Moore, A., Trzeciak, R., Shimeall, T., & Flynn, L. (2012). Common Sense Guide to Mitigating Insider Threats, 4th Edition (CMU/SEI-2012-TR-012). Retrieved from Software Engineering Institute, Carnegie Mellon University website: http://www.sei.cmu.edu/library/abstracts/reports/12tr012.cfm
- Siponen, M. (2000). A Conceptual Foundation for Organizational Information Security Awareness. *Information Management & Computer Security*, 8(1), 31-41.
- Siponen, M. T. (2001). Five Dimensions of Information Security Awareness. *Computer and Society*, 31(2), 24-29.
- Stanton, M. J., Stam, M., Mastrangelo, K. R., & Jolton, P. (2005). An analysis of end user security behaviors. *Computers & Security*, 124-133.
- Thibodeau, P. (2006). Aging workers, automation portend IT hiring problems. Computerworld, 40(13), 16.
- Vaske, J. (2008). Survey Research and Analysis: Application in Parks, Recreation and Human Dimensions. State College, PA: Venture Publishing Inc.
- Verschoor, C. C., & Luizzo, A. J. (2002). eSAC: Electronic systems assurance and control. *Internal Auditing*, 17(4), 48.
- Wah, L. (1999b), "Making knowledge stick", Management Review, May, pp. 24-9.
- Weili Ge and Sarah McVay (2005) The Disclosure of Material Weaknesses in Internal Control after the Sarbanes-Oxley Act. *Accounting Horizons:* September 2005, Vol. 19, No. 3, pp. 137-158.
- Wiatrowski, W. J. (1994). Small businesses and their employees. Monthly Labor Review, 29.
- Witmer, D. F., Colman, R. W. & Katzman, S. L. (1999). From paper-and-pencil to screen-and keyboard. In S. Jones (Ed.), *Doing Internet research: Critical issues and methods for examining the Net* (pp. 145-161). Thousand Oaks, CA: Sage.