

## **An empirical analysis of the effects of internal control on deviation in small restaurants**

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### **ABSTRACT**

The purpose of this paper was to determine whether internal control systems influenced restaurant managers' perceptions of undesirable behaviors, also known as deviation, in restaurants. Deviation in this study was defined as fraud, waste, and errors. A random sample of restaurants doing business in Nassau County in the State of New York State was selected. The data was analyzed using multiple regression and descriptive statistics. The results from this study indicated that there was a statistically significant relationship between internal control and deviation (i.e., errors, fraud and waste). Participants also perceived their establishments' internal control activities quality to be lacking when compared to the Committee of Sponsoring Organizations of the Treadway Commission's (COSO) internal control integrated framework. The findings of this study have the prospect to support strategic objectives and best practices of restaurants.

**Keywords:** internal controls, deviations, waste, fraud, errors.

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## INTRODUCTION

To date, surprisingly, research on the effectiveness of internal controls on deviation in small companies is limited. A persuasive review of the literature indicates studies of internal control on financial statements and operations of companies (Curtis & Borthick, 1999; Doyle, et al, 2006; Hermanson, et al, 2011; Janvrin, 2003; Kiger & Rose, 2004; Samson, Flesher, & Previs, 2006). Related researches have pivoted to deficiencies; internal control documentation; operating activities (Frazer, 2012; Hunziker, 2017; Townsend, 2005); and the effect of substandard controls on the value of a company (Dow, Shea, & Waldrup, 2009; Kim, et al, 2013; Rice, et al, 2015; Rice & Weber 2012). This study is focused on internal control activities in small restaurant establishments. The Committee of Sponsoring Organizations' of The Treadway Commission internal control integrated framework was used to evaluate restaurants' operating activities and to determine if the activities were analogous with acceptable business practices (COSO, 1992, 2013).

The restaurant industry plays an important role in the U.S. economy, employing an estimated 14.7 million people. This constitutes 10% of the United States' workforce (National Restaurant Association [NRA], 2016)). The over 1,000,000 restaurants and food service establishments in the United States generate annual sales of more than \$799 billion (NRA, 2016). However, the restaurant industry faces significant challenges regarding profitability and survivability. According to Bell (2002) and the NRA Educational Foundation (2007), the restaurant business is considered very risky because of paltry profits and low success rates. Hume (2002) concluded that small restaurants are likely to be unsuccessful within the first three years of their operations.

Typical restaurant food costs, particularly cost of goods sold, which includes employee expenses, consume about 30% to 35% of revenue (Brown, 2006; Kotshevar & Withrow, 2008, NRA, 2008). The restaurant sector net income margin ranges from 3% to 7%. This small and inflexible profit margin is the trigger or one of the reasons for the high failure rates (Kotschevar & Withrow, 2008; NRA, 2008). Therefore, controlling costs is critical to the success of restaurants.

The hospitality industry is integral to the United States service oriented economic model. However, the failure rates of restaurants are very high within the beginning years of operations (English, 1996; Parsa, Self, Njite, & King, 2005). Obviously, there are various contributing internal and external factors to the high unsuccessful rates. Some of these factors are economic, social, competition, legal restrictions, government policies, planning, financial resources, locations and inadequate internal controls. Small restaurants success rates are lower than larger franchised restaurants. This has been attributed to better planning and internal control systems in the larger restaurants (Parsa, et al, 2005). Lee (2006) concluded that most newly formed restaurants fail because of poor planning and inadequate internal controls. Parsa et al underscored Lee conclusion asserting that if smaller restaurants are effectively managed, there may be an automatic improvement in the success rates.

Wilke, Josiam, Upchurch, and Willem (1996) identified ineffective financial control and poor marketing strategies as common causes of business failure. Boyle and Desai (1991) concluded that most of the businesses they studied failed because of internal variables effected by management's policies and applications. They also identified a direct relationship with the length of time a company is opened or in operation and the probability of it being successful.

They asserted that if a company does business for a reasonable period, it has addressed, reduced or resolved internal control problems.

The study of Doyle, Ge, and McVay (2005) underpinned Boyle and Desai's (1991) results. They posited that smaller and weaker companies are more exposed to material weaknesses than larger companies. They argued that material weaknesses can be reduced by internal control and appropriate regulations. All the aforementioned results have brought about the need for more research into restaurants' best practices and operational activities.

## **LITERATURE REVIEW**

The literature review encompasses COSO's (1992, 2013) internal control framework, an explanation of deviation theory, and definition of the variables of the regression model.

### **Internal Control**

This is a process effected by a company's management to encapsulate, encourage and foster policies and procedures that align with operational efficiency, safeguarding of assets, accurate financial reporting and compliance with laws. Pursuant to COSO (2013), financial reporting objectives relate to the reliability, timeliness, and transparency of financial and nonfinancial reporting for internal and external uses. Operational efficiency objectives relate to the effectiveness and efficiency of operations and incorporate the achievement of financial performance goals and the safeguarding of assets. Compliance objectives relate to complying with applicable laws and regulations

COSO created the internal control integrated framework in 1992 to develop efficacious control systems. The purpose of this integrated framework was to enhance effective business activities or internal control systems of all companies, big and small. It was envisaged that this framework would assist in reducing deviation in organizations and foster best practices which would lead to companies achieving their objectives. COSO comprise of five mutually related components, they are: control activities, control environment, information and communication, risk assessment and monitoring. In 2013, COSO's Board of Directors added 17 internal control principles to the five interrelated components because they were presumed very important in assessing the five components.

### **Control Environment**

The control environment is the foundation of internal control because it sets the organizational tone by influencing the control consciousness of the organizational workforce. It operates as the brain or the framework for the organizational structure and the fulcrum for planning, organizing, leading and controlling. Top managers are responsible to carry out these important functions to ensure that the system works and that policies flow throughout the entire being of the organization. According to COSO (2013), five basic principles are germane to the control environment of a company:

1. Demonstrates commitment to integrity and ethical values.
2. Board of directors demonstrates independence from management and exercises oversight responsibility of internal control.

3. Establishment of effective structure, including reporting lines, and appropriate authorities and responsibilities.
4. Commitment to attract, develop, and retain competent employees.
5. Holding employees responsible for internal control responsibilities.

### **Risk Assessment**

Risk assessment is the process of identifying, analyzing, and responding to risks from external and internal sources that threatened the achievement of organizational objectives. For companies to be successful, they all must assess and address risks from internal and external sources. Whether a business is big or small, it faces risks such as competition, customer changes, regulatory, economic and political changes. As such, managers should identify, analyze and assess the potential effects they might have on their companies and take preemptive steps to minimize their effects on the company. COSO (2013) identified five basic principles that companies should carry out when performing effective risk assessment.

1. Clearly specify objectives to facilitate the identification and assessment of risks related to organizational objectives.
2. Identify and analyze risks to the achievement of organizational objectives to determine how they might be managed.
3. Consider potential fraud related to the achievement of objectives.
4. Identify and assess changes that could impact internal control.

### **Control Activities**

Control activities are policies and procedures that help to mitigate the risk that organizational objectives will not be met. These policies and procedures ensure the ways that management directives will be carried out (Whittington & Delaney, 2016). This component encapsulates the following procedures: approval and authorization procedures, verification of transactions, reconciliations of accounting records, reviews of activities, preservation of assets, and segregation of duties. COSO (2013) identified three basic principles of control activities:

1. Select and develop general control activities that mitigate the risk of achieving organizational objectives to an acceptable level.
2. Select and develop general control activities over technology to support organizational objectives.
3. Deploy control activities through policies that establish what is expected and through procedures that put policies into action.

### **Information and Communication**

According to COSO (2013), information is needed at all levels of organizations to assist managers in achieving organizational objectives. Quality information must permeate the entire organizational structure in a timely and effective manner for it to be successful. Information systems are tools used to enhance the compliance, financial reporting and operational efficiency processes (COSO, 1992).

Information systems address internal and external generated data. Information from within and without companies enhance the business decision processes (COSO, 1992). Effective

communication flows down, up and across the various hierarchical structures in companies (COSO, 1992). Information communicated from top management must be unambiguous, authentic and garner inclusiveness and responsibility. This should include empowerment and delegation when practical. Not only is downward communication important, employees should have effective means to communicate information to the top. Successful and desirable communication should encapsulate external stakeholders. Pursuant to COSO (2013), the three basic principles of effective communication are as follows:

1. Obtaining and using relevant information to support the functioning of other internal control components.
2. Communicating internally the information necessary to support the functioning of other components of internal control.
3. Communicating with external parties regarding matters affecting the functioning of other components of internal control.

### **Monitoring**

Monitoring is the process of determining whether all components of internal control, including the principles in each component, are in place and are functioning as intended (COSO, 2013). Monitoring evaluates how well the internal control system is doing based on desirable organizational objectives. This is carried out by consistently evaluating and monitoring the company's performance (COSO, 1992). This can be accomplished by having an engaged management team that works cohesively with subordinates to address deficiencies in critical areas and to be preemptive in identifying possible deficiencies. Risk assessment is the premise or should be used to determine the scope and frequency of the evaluation and monitoring procedures (COSO, 1992). According to COSO (2013), the last two basic principles of the 17 involve (a) Selecting, developing, and performing ongoing and separate monitoring evaluations to determine that the components of internal control are present and functioning properly, and (b) evaluating and communicating internal control deficiencies in a timely manner to those responsible for taking corrective action, including senior management and the boards of directors and their audit committees.

### **Deviation in Organization**

Deviation in this study was defined as undesirable behaviors by employees that can lead to fraud, waste, and errors. Deviation refers to counterproductive work behaviors detrimental to accomplishing organizational objectives (Arwing, 2013; Gruys & Sacket, 2003; Robinson & Bennett, 1995; Skarlicki & Folder, 1997). Vardi and Weitz (2004) defined deviance as actions that are against the moral standards or norms of organizations or society. To implement effective internal control in organizations, it is imperative to understand the importance of the desired behaviors, defined as employees' actions that support organizational missions or goals (Bateman & Organ, 1983; Onumah, et al. (2012); Organ & Konovsky, 1989; Smith, Organ, & Near, 1983). According to Batema and Organ (1983) as well as Smith et al., there is a strong correlation between desired behaviors and job satisfaction. Both groups of researchers argued that job satisfaction is a cognitive process that affect driven measures, and both concluded that desired or deviant behaviors can be managed through organizational interactions. Podsakoff, Ahearne, and Mackenzie (1997) examined organization citizenship behaviors on blue collar workers

performance. They found that a helpful organization culture or organizational policies evoked favorable qualitative and quantitative results.

Maingot (1994) asserted that people (employees) apply the rational choice theory when they are assessing or pondering deviant acts. They evaluate the penalty and condemnation against the potential for reward and fulfillment of the deviant act. Their decisions depend on the calculation of the cost associated with the act or punishment versus reward of the deviant act. Daft (2007) maintained that although the rational model is not entirely applicable in this ever-changing ecosystem, there is still a need to analyze the system for problems and logical responses to the problems identified.

Noruzi & Rahimi (2010) posited that environments that evoke or germinate deviation have an impact on individuals' conduct through the operation of learning mechanisms. The general culture and structure of society, along with the particular communities, groups, and other contexts of social interaction, provide learning environments in which the norms define what is approved and disapproved, behavioral models are present, and the reactions of other people and the existence of other stimuli attach different reinforcing or punishing consequences to individuals' behaviors (Akers, 2009). Organizations are not exempt from these learned norms, so they play an important role in having effective internal controls to reeducate employees about accepted norms within the organizations.

Erickson (1975) argued that the amount of deviance has more to do with the community's capacity to handle it than with the inclinations of its members toward deviance. Social control agencies tend to regulate rather than to attempt to eliminate deviance. Stabilization seems to be preferred to elimination partly because the control agencies demand some predictability of employment and partly because the very definitions of the problem adjust to fit the community's calibration of its control machinery. As is in the case of society, organizations develop effective internal controls to garner tolerable levels of deviance necessary to accomplish their objectives.

Katz (1988) asserted that people are seduced into engaging in deviant behaviors. He argued that deviant acts have seductive appeal to the offenders because they allow them to give credence to societal and humanitarian needs and the constraints of conventional morality. He suggested that different types of crimes or deviant acts are attractive to different types of people. Katz further argued that crime cannot be understood merely in terms of the acquisition of material goods. Even though they realize that stealing is wrong, people continue to steal with the anticipation that they will not get caught. This is where having internal control is important because an effective internal control system, which requires segregation of the custody function, authorization function, and recording function, would act as a deterrent. This segregation of functions would require offenders to collude with others in the organizations, something that would decrease the likelihood of the deviant acts being successful.

Matza (1969) argued that the process of becoming deviant involves a fundamental conversion in consciousness. The individuals themselves must first decide that the deviant behaviors are realistic options for them. Matza termed this *the stage of being willing*. According to Matza, being willing does not guarantee that the individuals will commit the acts; this process is not deterministic. However, once the individuals engage in deviant acts, they confront new circumstances. They become distanced or aloof from their environments, and if this isolation extends beyond a certain point, the final stage of deviation is reached, and the individuals assume deviant identities. According to Matza, the individuals no longer simply commit deviant acts; rather, they become deviants, a process that entails a transformation of consciousness. The individuals change their identities and essentially become other people.



Robinson and Bennett (1995) employed multidimensional scaling to define and scale workplace deviance by using minor or serious behavior as a gravity of impact and target of the behavior which was organizational or interpersonal. They used four quadrants of workplace deviance: production deviance (wasting resources, taking frequent breaks); property deviance (sabotage & stealing); political deviance (favoritism); and personal aggression (sexual harassment and stealing). They concluded that organizational policies correlated with deviance in the workplace.

Skarlicki and Folder (1997) reported that deviant behaviors such as theft and sabotage were prevalent when multiple perceptions of injustice were high. According to Ambrose et al. (2002), perceptions of injustice resulted in the most sabotage. These findings theorized that organizational retaliatory behaviors such as fraud, waste, and errors; theft; and sabotage were more prevalent when perceptions of justice were low. Low perceptions of justice were related to perceived fairness of compensation, fairness of processes, interpersonal treatment, and organizational procedures (Adams, 1963; Bies & Moag, 1986; Thibaut & Walker, 1975).

Skarlicki and Folder (1997) purported that engagement in deviant behaviors such as fraud and stealing are predated by involvement in less overt behaviors. These are initial reactions of employees to internal controls. Therefore, less subtle undesirable behaviors to internal controls should also be monitored. Milder counterproductive behaviors such as bullying or other obnoxious behaviors should be assessed (Fox & Spector, 2005). Deviant or undesirable behaviors, overt or otherwise, are fueled by environmental factors that organizations can control or influence through effective internal controls. According to Sackett and DeVore (2001) as well as Vardi and Weitz (2004), organizational goals and controls are significant predictors of employees' behaviors.

## **METHODOLOGY**

The design of the study was to analyze the managers of restaurants perceptions of internal control systems and to determine whether a relationship existed between the dependent variable (DV), internal control and the independent variables (IVs), of fraud, waste, and errors. A survey was used to obtain the data, which were then statistically analyzed to determine the findings.

### **Sampling Procedure**

One hundred and seventeen restaurants were randomly selected from restaurants listed on the New York State Restaurant Association's database. To participate in the study, the participants had (a) to be small restaurant managers or owners, (b) employ a minimum of 10 workers, and (c) opened for business purposes for a minimum of 3 years. The restaurants that met the above criteria were assigned numeric values and were randomly selected using an Excel formula function.

### **Data Collection**

The random sample consisted of 117 small restaurants doing business in Nassau County in New York State up to July 2017. The researcher telephoned and introduced the study to the participants. An appointment was scheduled with the manager of each restaurant over 3 weeks in July 2017. The managers or owners of restaurants either completed the survey by mail,

telephone, or face to face. After the administration of the survey, follow-up telephone calls were made to the respondents weekly over that time. A web-based survey was considered but not used because of the propensity to a bias pool of respondents and a low response rate. This is because all restaurant managers or owners may not use the internet to do the survey and getting a sample frame that is representative of the population is quite difficult (Dillman, 2000).

### Data Analysis

The survey responses were entered into SPSS v.16.0 to conduct the linear regression analysis. The DV was the internal control systems (Y1). The three IVs were fraud (X1), waste (X2), and errors (X3). The COSO theoretical framework was integrated by a 5-point Likert scale. The 5-point Likert scale ranged from 5 (*Perception of highest control*) to 1 (*Perception of lowest control*) for the DV and 5 (*highest possible deviation*) to 1 (*lowest possible deviation*) for the IVs. Total scores were acquired for the IV questions. The total scores were averaged and used as a predictive construct validity measurement. For deviation, lower scores suggested low deviation factors, and high scores indicated high deviation factors.

The DV and the three IVs were averaged to ascertain the mean score. Adequate or inadequate internal controls among the respondents were ascertained by the DV mean score. For-profit standards are indicative of 4 (*likely*) or 5 (*very likely*) on the Likert scale, which was consistent with COSO's (1992, 2013) standards. To determine how well each survey item measured the IVs, the researcher conducted factor analysis. The important premise of factor analytic techniques are: (1) to *minimize* the variables and (2) to *identify structure* in the relationships between variables (Rea & Parker, 1992). Principle components analysis (PCA) is a technique frequently used to identify high dimension data patterns (Leedy & Ormond, 2005). Consequently, each of the IVs, on the survey instrument was evaluated with PCA to ascertain consistent measurement of factor or component

The research design and variables are summarized with the following logistic regression model:

$$ICTR = \beta_0 + \beta_1FRD + \beta_2WST + \beta_3ERR + \varepsilon$$

Deviation delineated by fraud, waste, and errors in restaurants were the IVs, and internal control was the DV. Pursuant to AICPA AU-C 240 (PCAOB 316), fraud is any intentional act that results in misstatements in a company's financial statements. Misstatements due to fraud can be caused by either fraudulent financial reporting or defalcation, or both. The AICPA defined errors as unintentional misstatements and or omissions that cause material misstatements in financial statements. Waste was defined as the careless misuse or abuse of organizational resources that is not aligned with accomplishing organizational objectives.

ICTR = 4 to 5 represents restaurants with adequate internal control procedures, and 1 to 3 represents inadequate internal control procedures based on COSO standard. Deviation (fraud, waste, and errors) = 1 to 2 for restaurants that have adequate procedures to protect assets and 3 to 5 below standards consistent with COSO standards.

### HYPOTHESES AND EMPIRICAL RESULTS

The researcher began by determining whether the restaurants were operating at levels deemed acceptable based on COSO standards. The existence of a linear relationship between the DV of internal controls and the individual IVs of fraud, waste, and errors were tested, after



which the existence of a linear relationship between Internal Control against the independent variable Deviation (D) consisting of the average of the above three, i.e.,  $D = (1/3)(F+E+W)$  was tested. D represented deviation, in that this new variable measures areas where a business can be improved upon, i.e., D is indicative, and a measure of, a level of deviation from effective business practices (This “many-to-one mapping” is justified both by a high level of correlation as well as by considerations from PCA).

For the DV of internal control (I), an increasing (linear) scale from 1 (lowest level) to 5 (highest level) that was consistent with COSO’s standards was used. A value 3 is considered a neutral response, values below 3 are considered unsatisfactory or low values, and a value of 4 or higher is considered an acceptable level. In the case of each of F, E, W, the scale is in the range from 1 to 5 as well, but it is a decreasing scale in that 1 is the lowest level of deviation and 5 is the highest, while the cutoff point for an accepted level of deviation is 1 to 2, 3 is a neutral level and everything above 3 is deemed unacceptable.

Research Question RQ1 asked whether the average level of the DV (internal control) was within the adequate range, that is, whether the majority of restaurants operated at a control level of  $n = 4$  or higher. RQ2 asked whether a linear relationship existed between DV and each of the three IVs of F, E, W. RQ3 asked whether there was a significant linear relationship between I and the new variable  $D = (F + W + E)/3$ . D was intended to measure a general level of deviation in a restaurant’s operations. RQ1 was evaluated and analyzed by using descriptive statistics. The mean score for the DV was 3.07 ( $SD = 1.007$ ; see Table 2). The mean scores for the IVs were as follows: fraud, 2.89 ( $SD = 1.018$ ); waste 2.70 ( $SD = 0.931$ ); and errors, 3.89 ( $SD = 1.005$ ). The DV mean score was below 4.0, which represented inadequate internal control, according to COSO’s (1992; 2013) standards. RQs 2, and 3 were assessed using regression analysis. The following hypotheses were used:

$H_{01}$ : The majority of restaurants do not operate at a satisfactory level of I.

$H_{a1}$ : The majority of restaurants operate at a satisfactory level of I.

$H_{02}$ : There is no linear relationship between the DV I and the IV F.

$H_{a2}$ : There is a linear relationship between the DV I and the IV F.

$H_{03}$ : There is no linear relationship between the DV I and the IV E.

$H_{a3}$ : There is a linear relationship between the DV I and the IV E.

$H_{04}$ : There is no linear relationship between the DV I and the IV W.

$H_{a4}$ : There is a linear relationship between the DV I and the IV W.

$H_{05}$ : There is no linear relationship between the DV I and the variable  $D = (F + E + W)/3$ .

$H_{a5}$ : There is a linear relationship between the DV I and the variable  $D = (F + E + W)/3$ .

$H_{01}$  was accepted at the 95% confidence interval, using a normal approximation to the binomial distribution (where  $N = 117$  was high enough to provide a good approximation). A one-sample binomial test for  $p = .5$  (with control level  $\geq 4$  as success or ones and control level  $< 4$  as fails or zeros) was used. The scores of the DV were separated into adequate and inadequate internal controls. Because a score of 4 (*likely*) or 5 (*very likely*) on the Likert scale indicated that effective internal controls was accomplished, the respondents with mean scores of 4.0 and above were considered as having adequate internal controls. The respondents with mean scores  $\geq 4.0$  were categorized as adequate, and scores  $< 4.0$  were considered inadequate (Frazer, 2012).

To determine whether the percent (also called proportions) were significantly different from 50%, a one-sample binomial test was conducted to evaluate if the proportion of occurrences for the variables were statistically substantially different from the hypothesized value. The purpose was to identify whether the proportions were significantly different from 50%. This

meant the percentage of respondents with adequate internal control was equal to those with inadequate internal control. The null hypotheses that the proportions were equal to 50% was rejected. Also, the  $p$ -values for DV and IVS were less than alpha of 0.05. The results of the one-sample binomial test were significant for the four variables, indicating that the proportions were statistically different from 50%. The respondents with adequate internal control systems were significantly less than 50%. Hence, respondents in this study perceived the internal control systems of their restaurants to be inadequate. Based on the result at the 95% confidence interval, it was concluded that most of the restaurants did not exhibit an acceptable level of internal control (Creswell, 2003).

$H_{02}$  was rejected and  $H_{a2}$  accepted based on the results of the linear regression of I by F: The  $R^2$  value was strong at .884 and a coefficient value of -0.81 within the 95% confidence interval (-0.87, -0.75), safely away from zero (see Table 1), suggesting that I had a strong explanatory power with respect to F, with F being inversely proportional to I. There were also statistically significant relationships with  $H_{03}$  and  $H_{04}$ . They were also rejected at the 95% confidence level.

**Table 1: Summary of Results of Linear Regression of I Versus each of F, E, W**

Variables	$R^2$	Coefficient	Interval
Fraud	0.884	-0.81	(-0.87, -0.75)
Error	0.8514	-1.07	(-1.16, -0.99)
Waste	.935	-1.05	(-1.1, -1)-

A standard linear regression was used to test the hypothesis at the 95% level. After conducting the regression, the value of  $R^2$  was high at .984 and the coefficient was significant at -1.05, within the 95% interval (-1.07, -1.02).  $H_{05}$  was also rejected to conclude that there was a linear relationship between I and the composite variable  $D = (F + E + W)/3$  at 95% confidence, with a high level of  $R^2$ .

**Table 2  
Mean and standard deviation**

	$M$	$SD$
Internal controls	3.07	1.009
Fraud	2.89	1.018
Error	3.89	1.005
Waste	2.70	0.931

Furthermore, the correlation coefficient ( $R$ ) was 0.992 (see Table 3), indicating a very strong correlation between the IVs and the DV. Additionally, the coefficient ( $R^2$ ) was 0.984, indicating 98.4% variability in the internal controls in the respondents was accounted for by the IVs of fraud, error, and waste. There was a negative relationship between the IVs and the DV.

**Table 3  
Coefficients for the Multiple Regression Analysis**

Coefficient	
$R$	.992
$R^2$	.984
Std. Error of the Estimate ( $\epsilon$ )	.15048

## CONCLUSION

This study contributes to the sparse internal control literature. It concluded that smaller, younger and financially weaker companies are more likely to have material weaknesses in internal controls. The results suggested that although the majority of the restaurants were operating with inadequate controls, there is an improvement in the percentage of restaurants operating with optimal control consistent with COSO standard than the results in 2012 (Frazer, 2012). This could mean that restaurant managers are using technology to improve operating activities and are better equipped to deal with the challenges of running these entities.

The results of this study, as seen in Table 1, showed a negative statistically significant relationship between fraud, error, waste and the composite variable deviation. Therefore, it could be concluded that the protection of assets was inadequate in the respondents surveyed. This inadequacy could have contributed to the high failure rates of restaurants. Cook (1980) and Simmon (1947) posited that employees in companies are knowledgeable of restrictions and opportunities and that they use this information to make either rational or irrational decisions. Cook and Simmon concluded that individuals who decide to carry out deviant act are usually attracted to targets with high payoffs that require little effort and have low risks of apprehension. Therefore, reducing opportunities (Downes & Rock, 2003) for fraud, waste, and errors increases the likeliness of assets being protected and restaurants being profitable.

The implementation of internal controls by management must be unique to the restaurants' operating environments, their sizes, structures and resources. Every internal control system has limitation (Brown, 2006), but the benefits of one far outweigh the costs. Hence, having one can only reduce operating costs and increase profitability of restaurants.

## LIMITATIONS

As with any study, limitation should be acknowledged that may represent opportunities for future research. A limitation of this study may result from the research method utilized. The binomial model used may fail to identify other potential problems. To date, there is no statistically reliable and comprehensive construct that captures efficiency with regards to internal control. One possible reason is the limited research in this area and the difficulty of capturing all the various factors in only one statistical model. As such, the population from which the research study was drawn could be a potentially limiting factor because of inherent limitations such as culture, operating style, and organizational structures.

The closed-ended questionnaire limits the amount of information that can be collected. In addition, closed-ended questionnaires limit the respondents' ability to elaborate. This may lead to misinterpretation, misrepresentation, and the inability to seek for clarifications. Restaurant managers may also want to present a better picture of their restaurants' operations, and they may not be knowledgeable of the questions asked. Confounding variables may exist, such as the size of the restaurant establishment and restaurant managers may not consider themselves as accountants.

This study was limited to small restaurant establishments located in Nassau County, NY. Restaurants managers may not be knowledgeable of internal control principles; therefore, methodology relying on standardization such as quantitative methodologies force the researcher to develop questions general enough to be minimally appropriate for all respondents. The validity of the study's findings is limited to the reliability of the instrument that was used.

**REFERENCES**

- Adams, J. S. (1963). Towards an understanding of inequality. *Journal of Abnormal and Social Psychology*, 67, 422-436.
- AU 240 (2012). *Consideration of fraud in financial statement audit*, AICPA
- Ambrose, M., Seabright, M., & Schminke, M. (2002). Sabotage in the workplace: The role of organizational injustice. *Organizational Behavior and Human Decision Process*, 89: 947-965
- Akers L, R. (2009). *Social learning and social structure: A general theory of crime and deviance*. New Brunswick, NJ: Transaction.
- Arwinge, O. (2013). *Internal control—a study of concepts and themes*. London: Springer
- Bateman, T. S., & Organ D. W. (1983). Job satisfaction and the good soldier: The relationship between affect and employee “citizenship.” *Academy of Management Journal*, 26 (4), 587-595.
- Bell, D. (2002). *Food & beverage cost control-course packet*. Las Vegas: University of Nevada, Las Vegas, Department of Reprographic Services.
- Bies, R. J., & Moag, S. J. (1986). Interactional justice: Communication criteria for fairness. In R. Lewicki, B. Sheppard, & M. H. Bazerman (Eds.), *Research on negotiation in organizations* (pp. 43-55). Greenwich, CT: JAI Press.
- Boyle, R., & Desai, H. (1991). Turnaround strategies for small firms. *Journal of Small Business Management*, 29, 33-42.
- Bradley, N. (1999). Sampling for internet surveys: An examination of respondent selection for internet research. *Journal of the Market Research Society*, 41(4), 387-395.
- Brown, D. (2003). *The restaurant manager's handbook: How to set up, operate, and manage a restaurant*. New York, NY: Atlantic.
- Brown, D. (2006). *The food service manager's guide to creative cost cutting*. Ocala, FL: Atlantic.
- Committee of Sponsoring Organizations of the Treadway Commission. (1987). *National commission on fraudulent financial reporting*. New York, NY: Author.
- Committee of Sponsoring Organizations of the Treadway Commission. (1992). *Internal control-integrated framework Vol. 2*. New York, NY: Author.
- Committee of Sponsoring Organizations of the Treadway Commission. (2013). *Internal control-integrated framework*. New York, NY.
- Cook, P. J. (1980). Research in criminal deterrence: Laying the groundwork for the second decade. *Crime and Justice: An Annual Review Research*, 2, 211-268.
- Cooper, A., Dunkelberg, W., & Woo, C. (1989). Survival and failure: A longitudinal study. *Journal of Business Ventures*, 8(3), 241-253.
- Creswell, J. W. (2003). *Research design: Qualitative, quantitative, and mixed method approaches* (2<sup>nd</sup> ed.). Thousand Oaks, CA: Sage.
- Curtis, M. B., & Borthick, A. F. (1999). Evaluation of internal control objective narrative. *Journal of Information System*, 13(1), 63-81.
- Daft, R. (2007). *Organizational theory and design* (10<sup>th</sup> ed.). Mason, OH: South Western Cengage Learning.
- Dillman, D. (2000). *Mail and Internet surveys: The tailored design method* (2<sup>nd</sup> ed.). New York, NY: John Wiley and Sons.

- Downes, D., & Rock, P. (2003). *Understanding deviance*. New York, NY: Oxford University Press.
- Dow, K., Shea, V., & Waldrup, B. (2009). Daytona dreams restaurant: linking accounting systems with business valuation. *Journal of Information Systems*, 23(1), 119-136.
- Doyle, J., Ge, W., & McVay, S. (2005). Accruals quality and internal control over financial reporting. *Accounting Review*, 82(5), 1141-1170.
- Doyle, J., Ge, W., & McVay, S. (2006). Determinant of weaknesses in internal control over financial reporting. *Journal of Accounting and Economics*, 44, 193-223.
- English, W. (1996). Restaurant attrition: a longitudinal analysis of restaurant failures. *Journal of Contemporary Hospitality Management*, 8(2), 17.
- Erickson, R. (1975). Social distance and reaction to criminality. *Criminal*, 17, 16-29.
- Fowler, F. J. (2002). *Survey research methods*. Thousand Oaks, CA: Sage.
- Fox, S., & Spector, E. P. (2005). *Counterproductive work behavior*. Washington, DC: American Psychological Association.
- Frazer, L. (2012). Effects of internal controls on restaurant operating activities. *Journal of Business and Economics*, 10(6).
- Gruys, M. L., & Sacket, P. R. (2003). Investigating the dimensionality of counterproductive work behavior. *International Journal of Selection and Assessment*, 11(1), 30-42.
- Hermanson, D. R., & Rittenberg, L. E. (2003). Internal audit and organizational governance. In A. Bailey, Gramling, & Ramamoorti (Eds.), *Research opportunities in internal auditing* (pp. 25-71). Altamonte Springs: IIA—The Institute of Internal Auditors
- Hunziker, S. (2017). Efficiency of internal control: Evidence from Swiss non financial companies, *Journal of Management & Governance* (pp. 401-433)
- Hume, S. (2002). Shape shifting: In a downbeat economy, top 400 companies focus on acquisitions, buyouts and bankruptcies. *Restaurants and Institutions*, 112(16), 42-100.
- Jackson, M. P. (2006). *Sarbanes-Oxley for small business leveraging compliance for maximum advantage*. Hoboken, NJ: John Wiley & Sons.
- Janvrin, D. J. (2003). St. Patrick Company: Using roleplay to examine internal control and fraud detection concepts. *Journal of Information Systems*, 17(2), 17-39.
- Katz, J. (1988). *The seduction of crime: Moral and sensual attractions in doing evils*. New York, NY: Basic Books.
- Kiger, J. E., & Rose, A. M. (2004). Internal control evaluation of a restaurant: A teaching case. *Issues in Accounting Education*, 19(2), 229-237.
- Kim, J. -B., Yeung, I., & Zhou, J. (2013). *Material weakness in internal control and stock price crash risk: Evidence from SOX Section 404 Disclosure*. City University of Hong Kong; Northwestern University; National University of Singapore.  
[http://saf.uwaterloo.ca/seminars/KYZ-ICW-Crash20130516-May20\\_2013.pdf](http://saf.uwaterloo.ca/seminars/KYZ-ICW-Crash20130516-May20_2013.pdf). Accessed June 1, 2018
- Kistler, D. (2008). *Examining the Protestant church's financial environment, internal controls, & financial integrity* (Doctoral dissertation, Northcentral University, Minneapolis, MN.
- Kotschevar, L., & Withrow, D. (2008). *Management by menu* (4<sup>th</sup> ed.). Hoboken NJ: John Wiley & Sons.
- Lee, R. (2006). *The everything guide to starting and running a restaurant*. Avon, MA: F+W.
- Leedy, P., & Ormrod, J. (2005). *Practical research: Planning and design* (8<sup>th</sup> ed.). Upper Saddle River, NJ: Pearson Education.
- Maingot, A. P. (1994). Confronting corruption in the hemisphere: A sociological perspective. *Journal of Interamerican Studies & World Affairs*, 94(3), 49-75.



- Matza, D. (1969). *Delinquency and drift*. New York, NY: Wiley
- McTavish, D., & Loether, H. (1999). *Social research*. New York, NY: Addison-Wesley.
- National Restaurant Association. (2008). *Restaurant performance index*. Washington, DC: Author.
- National Restaurant Association. (2016). *Restaurant performance index*. Washington, DC: Author.
- National Restaurant Association Educational Foundation. (2007). *Controlling foodservices costs*. Upper Saddle River NJ: Pearson Prentice Hall.
- New York State Restaurant Association of Long Island. (2009). Farmingdale, NY: Author
- Noruzi, M. R., & Rahimi, G. R. (2010). Multiple intelligences: A new look to organizational effectiveness. *Journal of Management Research*, 2(2), 1–15
- Organ, D. W., & Konovsky. (1989). Cognitive versus affective determinants of organizational citizenship behavior. *Journal of Applied Psychology*, 74(1), 157-164.
- Parsa, H., Self, J., Njite, D., & King, T. (2005). Why restaurants fail. *Cornell Hotel and Restaurant Administration Quarterly*, 43(3), 304-322.
- Pickett, S., & Pickett, J. (2005). *Auditing for managers: The ultimate risk management tool*. Chichester, West Sussex, England: John Wiley & Sons.
- Podsakoff, P. M., Ahearne, M., & Mackenzie, B. S. (1997). Organizational citizenship behavior and the quantity and quality of work group performance. *Journal of Applied Psychology*, 82(2), 262-270.
- Raab, C., Shoemaker, S., & Mayer, K. (2007). Activity-based costing: A more accurate way to estimate the costs for a restaurant menu. *International Journal of Hospitality & Tourism Administration*, Vol. 8(3)
- Rice, S. C., & Weber, D. P. (2012). How effective is internal control reporting under SOX 404? Determinants of the (non-)disclosure of existing material weaknesses. *Journal of Accounting Research*, 50(3), 811–843.
- Rice, S. C., Weber, D. P., & Wu, B. (2015). Does SOX 404 have teeth? Consequences of the failure to report existing internal control weaknesses. *The Accounting Review*, 90(3), 1169–1200
- Robinson, S. L., & Bennett, R. J. (1995). A typology of deviant workplace behaviors: A multidimensional scaling study. *Academy of Management Journal*, 38 (2), 555-572.
- Sackett, P. R., & DeVore, J. C. (2001). Counterproductive behaviors at work. In N. Anderson, D. S. Ones, H. K. Sinangil, & C. Viswesvaran (Eds.), *Handbook of industrial, work and organizational psychology* (Vol. 1, pp. 145-164). London, UK: Sage.
- Samson, W. D., Flesher, D. L., & Previs, G. J. (2006). Corporate governance and external and internal controls: The case of the Baltimore and Ohio Railroad, circa 1831. *Issues in Accounting Education*, 21(1), 45-62.
- Skarlicki, D. P., & Folder, R. (1997). Retaliation in the workplace: The role of distributive, procedural and interactional justice. *Journal of Applied Psychology*, 82(3), 434-443.
- Simmon, H. A. (1947). *Administrative behavior*. New York, NY: Macmillan
- Singleton, A. R., & Straits, C. B. (2005). *Approaches to social research* (4<sup>th</sup> ed.). Oxford, England: University Press.
- Smith, C. A., Organ, W. D., & Near, J. P. (1983). Organizational citizenship behavior: Its nature and antecedents. *Journal of Applied Psychology*, 68(4), 653-663.
- StatSoft. (2010). *Electronic statistics textbook*. Retrieved from <http://www.statsoft.com/>



- Thibaut, J. W., & Walker L. (1975). *Procedural justice: A psychological analysis*. New York, NY: Wiley.
- Townsend, L. (2005). *Internal control deficiency disclosure-Interim alert*. Interim Trend Alert, Glass, Lewis & Co.
- Vardi, Y., & Weitz, E. (2004). *Misbehavior in organizations: Theory, research and management*. Mahwah, NJ, Erlbaum.
- Whittington, R. O., & Delaney, R. D. (2016). *Wiley CPA exam review*. Hoboken, NJ: John Wiley & Sons.
- Wilke, E., Josiam, B., Upchurch, R., & Willems, J. (1996). Restaurant attrition: A longitudinal analysis of restaurant failures. *International Journal of Contemporary Hospitality Management*, 8(2), 17-20.

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