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THE EFFECT OF INTERNAL CONTROLS SYSTEMS ON HOTELS REVENUE. A CASE OF HOTELS IN BAHIR DAR AND GONDAR CITIES

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Abstract

A sound internal control process is critical to an entity's to reduce problems associated with lowering revenues and too able the entity to meet its established objective. The study designed to investigate the effect of internal control systems on revenue of hotels in Bahir Dar and Gondar Cities, Ethiopia.To do so, the study comprised 30 hotels from the two city to investigate the relationship and effect of control environment, risk assessment, controlling activity, information and communication systems, and monitoring activity on revenue of hotels via logistic regression model. The study found that not all internal control components have a positive significant effect for increasing of hotels revenue. However, the study foundthat control activity, information and communication and monitoring of internal control were predictors of hotels revenue.

Keywords: Internal Control Systems, Revenue, Hotels.

Introduction.

The hospitality industry has a long colorful history beginning with inns, and lodges, and growing into the hospitality industry as stated by Michael & Richard [1]. An incredible change in the industry of tourism in the world brought many changes in the field of hotel business. This means, the expansion and development of travel has contributed a lot for the development of hotel industry. On the contrary, businesses couldn't achieve their objective due to the fact their internal control systems are weak. These internal control problem are more obvious in particular business sectors, such as the hotels business from the hospitality industry, which is one of the most growing sectors worldwide as mentioned by politis etal. [2]. Further, globalization of economy, technological advancements, complexity of business, businesses failures and allegations of fraudulent financial reporting have recently sharpened the ever-increasing attention to internal controls karagiorgos etal [3].Because of, business without internal control is just a business not craft fashion shortly to achieve objectives, under no circumstances have a prospect to detect fraudulent activities, and demonstrate poor revenue as confirmed bykumar & sharma[4], Adeyemi etal.[5],Edogbany etal.[6].

Furthermore, Barry [7],Yayla [8], Papastathis [9] revealed that poor revenue performance is the outcomes of low level of service quality, absence of systems create a long term relationship with

customer, increase of misuse of revenue or errors in operation, and increase of abuses. But also, the outcomes of weak internal control systems of the company as Cited in Abdul & Mohd [10]. Likewise, Fengi etal [11] confirm that company disclose ineffective internal controls system have larger tendency of experiencing management errors in their operation than those firms that report effective internal controls system. Precisely, company disclose poor revenue performance when devour a poor collection and poor analysis of performance data, poor internal control, poor internal organizational arrangement for revenue generation, improper handling cash, theft or fraud, lack of incentive, errors made by inefficient and inexperienced personnel, quality of service, pricing and fees, and quality of service among others. Moreover,[11] add that company disclose ineffective internal controls system have larger tendency of experiencing management errors in their operation than those firms that report effective internal controls system. More specifically, company disclose poor revenue performance whenever have a poor collection and poor analysis of performance data, poor internal control, poor internal organizational arrangement for revenue generation, improper handling cash, theft or fraud, employee turnover due to lack of incentive, errors made by inefficient and inexperienced personnel, quality of service, pricing and fees, and quality of service among others as described by[10], Eze etal. [12].

Obviously, hotel revenue is not only obtained from a single source rather generates revenue through several activities such as :room division, food &beverages, function rooms, spa & fitness facilities, golf courses, casino and gambling facilities, and other additional servicesstanislav & Vladimir [13].Thus, there is also a need of management tool that can control and monitor income regularly from each hotels revenue sources due to the fact internal controls enable the hotels to maintain the quality of service, to get loyalty of customers and may enable the business to engage in more profitable activities that would be too risky for a competitor without those internal controls to generate more revenue as confirmed by kloot [14], chamber [15]. Moreover, effective internal controls provide an independent appraisal of the quality of managerial performance in carrying out assigned responsibilities for better revenue generation, reduce chance of loss of revenue, and it's also help in meeting its revenue target levelBeeler etal. [16],Ittner etal. [17], Fadzil etal. [18]. In these dynamic environment it is obvious that things will go wrong so it's better to make sufficient controls to limit the possibility of bad events occurring and to limit their damage when they occur Brewer & List [19]. Similarly, to minimize the potential losses that minimize customer satisfaction business need to establish the checks and balances of the organizational form a basis for the authority functions Saren & De beelde [20]. These check and balance are often called controls, and collectively, they make up the entity's internal control effective Aren etal. [21].

In Ethiopian following millennium in 2007 every sector of the country goes high particularly in hotel accommodations even if the hotels characterized by its less competitive comparing to other African country. Currently, many new hotels are opened and others were under construction, as stimulated by the initiative of Government of Ethiopia and the sharp rise in demand. Additionally, the revenue collected from this sector has also shown remarkable growth. But, with other African countries hotels, there are still have enormous service related problems and less competitive compared to other African countries hotel Ebisa & Andualem [22]. Since no company can expect to ensure its continuity without sufficient investment in its internal controls, hotels expected to have a better internal control system than their competitors and also have to competitive to generate greater revenue [15]. Apparently, hotels can generate high revenue

growth when competitors are experiencing weak sales Ernst & Young [23]. Thus, organization are constantly and extensively working to improve their internal control systems so as to increase revenue inflow, survive in the rapidly changing economic and competitive environments, and adapt to the shifting customer demands and priorities Kantoz & Chondraki [24].

Research conducted by different researchers in other business sectors and concludes that weak internal controls activities have encouraged loss of revenue, embezzlement and fraud of collected revenue; lead organization in to high financial loss due to wrong payment, fraud; poor revenue sourcing, improper revenue management which finally lead organization in loss Elijah etal. [25],Elekwa & Okechukwu [26], Gimba & Buka[27]. On the contrary, Oladimeji & Monisola[28], Ever etal. [29] stated that a meaningful and strong internal control produce or increase a meaningful revenue generation. Specially, Sheryl [30], and Theofanis etal. [31] revealed in their studies that internal control systems have effect on hotels revenue generation process. Despite these underlying finding in other country, however, no empirical research has yet been undertaken to directly examine the relationship and effect of the internal control system on hotel revenue that intended to shows the effects each internal control components on hotels revenue, especially in Ethiopia, even though the expansion and development of these hotel industries in the world, there has been increasingly expanded and developed in Ethiopia too. Due to this background the researchers was tried to fill the research gap by identifying the relationship and effect of internal control components on hotels revenue in Bahir Dar and Gander City by using all five key components of internal control evaluations techniques mentioned byCOSO [31].

Literature Review

Internal Controls

Internal control has different meanings. That is, it is difficult to give only one optimal definition to the internal control. This is because it can be explained and seen from different perspectives Cristina etal. [33]. The term was adopted by the Anglo-Saxons (“Internal Auditing”) and refers to the unit of Internal Control which aims at the evaluation of the sufficient functioning of the Internal Control System that is the secondary functions (Controls) and suggests that there is room for improvements in cases where weaknesses are being discovered. Consequently, Internal control, as defined from Hellenic institute of internal auditors [34] is an independent, objective, adequately designed and organized procedure, which through the technical and the scientific approaches, assess how adequately the system of internal control functions. From the above definitions, it is clear that the internal control is not just an one-sided tool for controlling the order and rightness of certain situations, but it is a method of detecting the value added up to a company, achieving the index of effectiveness and profitability of the company Nagy & Cenker [35]. Besides, the purpose of this control is the intentional, the programmed and focused effect of the company on the current situation, so as this situation to be reformed in the future and become the one that ought to exist Mcnamee & Mcnamee [36]. The deviation between the already achieved and the programmed situation can also become possible through controlling the parameter of correct handling of danger situations**.**

Internal control has been recognized in most organization as one of the most essential ingredients, necessary for the survival of the business enterprise and government agencies. Also, it prevents the entity from any financial or property loss, inaccurate decision making, fraud, loss of income and assets. The role of internal controls, therefore, provides support for management

in safeguarding company assets, elimination of any income and resource loss, making goal-oriented and accurate decisions, identifying and preventing fraud. Consequently, failure in reaching organizational goals may be as a result of lack of internal controls. Because of, internal controls are measures that organizations institute with the aim of ensuring that the objectives, goals, and mission of the organization are met Rezaee [37].
Finally, as mentioned by the [32] report, Internal control is defined as a process, effected by an entity's board of directors, management and other personnel, which designed to provide reasonable assurance regarding the achievement of objectives in the following categories: Effectiveness and efficiency of operations and Reliability of financial reporting and Compliance with applicable laws and regulations which indicates that internal control keeps an organization on course toward its objectives and the achievement of its mission, and minimizes surprises along the way.

Revenue Concept
Revenue refers is that monetary event of asset values increasing in the organization because of the physical event of production or sales of products or services of the organization Pandey [38]. Additionally, Rittenberg & Schwier [39] define revenue as the inflows or enhancements of assets of a firm or settlements of its liabilities during a period from delivery or producing goods, rendering service or other activities that constitutes the entity's ongoing major or central operations. In addition, revenue described as inflows of asset (almost always cash or accounts receivables) received for products or services provided to customers. Similarly, hotel generate its revenue through revenue centers from several activities such as: room division, food and beverage, function rooms, spa & fitness facilities, golf courses, casino and gambling facilities, and other additional services [13]. Actually, as other organization or business, hotels revenue performance also need to be measured in terms of amount of revenue change with in the operation period Hariandja [40].

The Field of Hotel Businesses in Ahmara Region
The year of 2007 has been a landmark in the field of the country, as looking forward to the Ethiopian millennium, important investment plans were completed. These plans not only upgraded the existing hotel infrastructure, but also created new hotel units with different in their standards**.** In Amhara region there are about around seventy eight hotels of different categories, out of total hotels Bahir Dar and Gondar city share the majority of the numbers of the hotels in the region as its major tourist attraction place. As pervious finding revealed that the actual number of hotel is more than double of the recorded; one can assume that the total number of available hotels irrespective of categories can be almost double or at least more than the available figure as at present if inventory were to be taken in other locations as well Ajala [41]. Bureau of culture and tourism of the Amhara region assert the above finding in the field work of the study. As such, the bureau also have no the recording of numbers of hotel in current period despite that the bureau has shown their cooperativeness by giving numbers of hotels on theirs records and information about the categories stars of hotels that have stars of one and above from in the two cities which is around 40 in figures. As far as the potentiality for allocation its stars categories of all these hotel units of the two city is concerned, even though hotels tried to post their categories on internet, most of them are 1st and 2ndcategory's hotels, whose number is 29 in the year of 2014/2015 (72.5% share of the total) and the remaining 11

hotels were found in 3rd and above stars categories as per Bureau of Culture and Tourism of Amhara region.

Internal Control systems in the Hotel Business

The service of internal control is considered to be the security belt of the business for avoiding either the involuntary or the intentional release of information concerning any form of useful first hand stock as well as the avoidance of loss of income/revenue from misuse or from any errors in operation [9]. Within this framework, a complete Internal Control System involves in hotels Mara [42]:

1. The verification of incomings and expenditure 'per field of operation'
2. The monitoring of expendable material from the market and their entrance in the hotel until the point of their final consumption
3. The control of monitoring the warehouse where expendable materials and non-expendable goods are stocked
4. The monitoring of the financial operation.
5. Other controls, according to the bureaucratic structure of the hotel business.

Internal Controls Components and Hypothesis Developments.

Since this researcher is tried to identify the relationship and effect of the internal control system on hotels revenue in Ethiopia.To do so**,** understanding the concept of internal control components is important for developing an understanding of its impact on revenue generation in an organization Jubb [43]. In these regard ,[32] provides the basic principles representing the fundamental concepts of effective internal control in five components of the framework.

Control environment: Is the major aspect of managing an organization this is because is a reflection of the attitude and the policies of management in regard with the importance of internal controls in the economic unit [31]. It has influence over organization goals achievement Aldridge & Colbert [44]. Also, Sudsomboon & Ussahawanitchakit [45] stated that control environment is the foundation for the other components of internal control and providing structure.Also ,control environment has an influence on both fraudulent behaviors and Counterproductive Workplace Behaviors which might result loss of revenue and similarly lead in to failure of organization objective Zauwiyah & Marinate [46]. Also, Amudo & Inanga [47] stated that control environmentits enable to reducing the level fraudulent activities within organizational operation.As well, enable to teach employees about the nature of fraud and system for responding meaningfully when control deficiencies are pointed out and allegations of fraud are raised Wood & Brathwaite [48]. Control environment it comprises of factors like; integrity and ethical values of personnel tasked with creating, administering, and monitoring the controls, commitment and competence of persons performing assigned duties, management philosophy and operating style, organizational structure, written policies and procedures to governing cash receipts/revenue collected ; code of ethics . Moreover, control environment also reflects the attitude and policies in regard to the importance of internal controls in revenue generation Whittington & Pany [49]. *We, therefore, argues that theirs is relationship between control environment and revenues. It can be hypothesize that: H1, Control environment have a positive significant effect on hotels revenue.*

Risk assessment*:* This is the identification and analysis of relevant risks associated with the achievement of the management objectives [31]. Similarly,[45] view risk assessment

as the process of identifying and analyzing management relevant risks to the preparation of financial statements that would be presented fairly in conformity with general accepted accounting principle. As well, Petteri [50] assert that risk assessment is very important internal control components that should be considered in revenue generation process of the company. The risk assessment consists of identifyingscenarios in which funds can be lost or stolen and determining ifexisting control procedures effectively manage the risk to an acceptable level Bronson etal. [51]. Moreover, risk assessment enable the organization to detect material misstatement of revenue International Standard on Auditing [52]. Similarly, Shaul [53] confirm that risk assessment is an important activities that enable the organization to assure its revenue generation process from different revenue leakages. *We, therefore, argues that theirs is relationship between risk assessment and revenues. It can be hypothesize that: H2, risk assessment have a positive significant effect on hotels revenue*.

Information and communication*:* refers to the process of identifying, capturing, and communicating of relevant information in an appropriate manner and within timeframe in order to accomplish the financial reporting objectives [44] . However, effective communications should occur in a wider sense with information within the various sections of the organization [31]. Most of the recent literature on internal control system frameworks gave concerned on information an d communication as one of the internal control system components, because of their importance in influencing the working relationship within the organization at all levels [47]. But also, effective information and communication systems enable the organization to collect more revenue [25]. *We, therefore, argues that theirs is relationship between information and communication and revenues. It can be hypothesize that: H3, information and communication have a positive significant effect on hotels revenue*.

Control activities**:** These are policies, procedures and mechanisms that ensure management's directives are properly carry out Aikins [54], Rezaee etal. [55]. Proper documentation of policies and procedural guidelines in these aspects help to determine not only how the control activities are to be executed but also provide adequate information for auditors examination of the overall adequacy of control design over financial management practices [54]. Incentives and rewards can be just used as controlling as threats and punishments Kohn [56]. Moreover, Manasseh [57] also noted that effective control activity reduces the risk of fraud and error and manipulation in the business thus increasing efficiency in the company's revenue collection performance and improving revenue performance. *We, therefore, argues that theirs is relationship between control activity and revenues. It can be hypothesize that: H4, control activity have a positive significant effect on hotels revenue*.

Monitoring activities**:** it is usually accepted that internal control systems need to be adequate monitored in order to assess the quality and the effectiveness of the system's performance over time. Monitoring provides assurance that the findings of audits and other reviews are promptly determined [31]. Also monitoring of operations ensures effective functioning of internal controls system [48]. Apparently, Continuous and effective monitoring in the context of the organization's mission and vision identifies the key opportunities to increase revenue and the risks of diversion revenue and as well as risk relevant to the organization Charles etal. [58]. *we, therefore, argues that theirs is relationship between monitoring activities and revenues. It can be hypothesize that: H5, monitoring activities have a positive significant effect on hotels revenue.*

Methodology

Research approach: research approach is selected by researcher(s) based on the research purpose, the nature of the research, the problem area, and research questions Alhamadni etal. [59]. In this regard, the research approach in this study is chosen based on the purpose and objective that stated in the research. Hence, *quantitative research approach* was used in order to answer research objective due to the fact that measure variables on a sample of subjects and express the relationship between variables using effect statistics and also it enable to test hypothesis that the researcher generates Creswell [60]. Additionally, the study adopted an *explanatory research design* that enable the study to specify the nature and direction of the relationships between or among variables being studied. Moreover, the research used *cross-sectional strategy*.

Sample Design: This studyselect a sample of 30 hotels from the total 50 numbers of hotels indicated by bureau of culture and tourism of Ahmara region as per (2014) record. As well, the sample size included is solely based on the evidence provided by Krisada & Lily [61]'s in the applications of logistic models when the sample size is small up to 30. Therefore, in order to determine the relationship and effect of internal control systems on hotel revenue, the study sample was selected stars category 30 hotels from the Bahir Dar city and Gondar city. Since, purposive sampling technique was used in the study that enables the researcher to use his or her judgments to select cases which could best enable him answer his research questions and meet his objectives Franchis & Samuel [62]. Therefore, researcher was used purposive sampling techniques in selecting key informant from each selected hotels which comprised of informed persons who could provide data that is comprehensive enough to gain better insight into the problem.

Measurements of Instruments*:* The types of instruments used to collect data are through questionnaire. Since, the appearance and layout of the questionnaire have a great importance in any survey where the questionnaires could completed by the respondent John etal. [63]. The layouts of the questionnaire was kept very easy, simple and prepared in two different version (Amharic and English) which help to encourage meaningful participation by the respondents. The questionnaire was designed to have 5 point likert scale measurement which is a measurement with five response categories ranging from "Strongly disagree" to "Strongly agree" which requires the respondents to indicate a degree of agreement or disagreement with each of a series of statement related to internal control activities. The 5 point Likert scale measurement questionnaire consists 5's section for internal control measurements and the last one section Yes or No questionnaire was used for assessing hotels revenue performance whether the 2007 revenue is decrease or increase comparing to 2006 revenue. More or less the questionnaire related to internal control was adopted from [48]. They were developed the questionnaire in the form of Yes/No questions, with some modification the questionnaire the researcher was converted it in to 5 point likert scale measurement.

Details of independent variables

	Variables	**Measurements**
X1	Control environment	By the level of integrity, ethical values, and policies and procedure used to administer and monitor the controls.
X2	Risk assessment	By level of risk carefully to be accepted and maintained determined levels.
X3	Control activities	By the number of effective policies, procedures, and mechanisms put in place to ensure directives of the management are properly carried out
X4	Information and communications	By how information is identified, captured, and communicated in the appropriate form
X5	Monitoring	By how frequent the quality and effectiveness of internal controls are assessed and reviewed over time.

Multivariable methods of statistical analysis: Multivariable methods of statistical analysis commonly appear in different literature Bagley etal. [64]. The terms "multivariate analysis" and "multivariable analysis" are often used interchangeably in the literature. In the strict sense, multivariate analysis refers to uses multiple variables to predicting multiple outcomes and / or a single outcome Katz [65]. The model serves two purposes: (1) it can predict the value of the dependent variable for new values of the independent variables, and (2) it can help describe the relative contribution of each independent variable to the dependent variable. The four main multivariable methods used in different study are linear regression, discriminant analysis, and proportional hazard regression, logistic regression. Among this four, the logistic regression is the most popular multivariable method used usually in a binary eventTetrault etal. [66]. Therefore, in this study logistic regression (LR) was used to analyzed the outcome variable.

Model Specification

Binary logistic regression analyses the relationship between multiple independent variables and a single dichotomous dependent variable. The binary logistic regression was used to calculate the probability of two possible outcomes. In this research the dependent variable, hotels annual revenue,has two possible outcomes .i.e. revenue increase and revenue not increase considered. Therefore, the choice of this model was based on the fact that the desired result "Hotels revenue" has two possible outcomes coded as 0 and 1. The response variable Y is a dichotomous variable with possible values of 0 and 1 thus:

Y=

1 = Revenue Increase …let assume (P(Y=1) =$\pi(X)$

0 = Not Increase…..P(Y=0) = 1- $\pi(X)$

Exposure

$$\text{logit}(\pi(X) = \frac{\pi(X)}{1-\pi(X)} = \beta_0+\beta_1x_1+ \beta_2x_2+ \beta_3x_3+ \beta_4x_4+ \beta_5x_5.$$

Assumptions of Logistic Regression

Logistic regression does not require many of the principle assumptions of linear regression models that are based on ordinary least squares method–particularly regarding *linearity* of relationship between the dependent and independent variables, &*normality* of the error distribution, *homoscedasticity* of the errors.Logistic regression require large sample size, but if small sample used for the study it desirable to use bootstrap methods as suggested by different scholars. In addition, logistic regression can handle *non-linear relationships* between the dependent and independent variables, because it applies a non-linear log transformation of the linear regression.

Evaluation of a Logistic Regression Model and Decision.

There are several parts involved in the evaluation of the logistic regression model. Among methods, the following is was used in the study.

- ✓ Global fit measures
  - Omnibus tests of model.
  - Cox& Snell.
  - Nagelkerke R square.
  - Hosmer & Lemeshaw and others.
- ✓ Individual parameter measures
  - Wald statistic
  - P value (significance)
  - Effect size (odds ratio)

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regression which is desirable methods where effective sampling is small. With regard to bootstrap techniques, Batmanz etal. [67] defined bootstrap as a computer-intensive statistical method where it treat data as a population and through selected samples from the population with replacement which can able easily estimates parameters of population and make inference about population. Among different bootstrapping's research methods in this study the random-x method of bootstrapping's which gives more precise and less complex model is used as indicated by Anwar & Ng [68]. Therefore, a bootstrapping was employed for this study by resampled the data for the logistic regression model to present, discuss the statistical test and the final conclusion results for the population.

Analysis and Discussion of finding

The Prediction Powers of the Baseline Model.

In this classification description the following table are enable to understand the prediction power of the null model which are made purely on whichever category occurred most often in our dataset. Accordingly table 3 and 4 show that the significance of the constant variable included in the model (0.014) and the overall statistics prediction power of null models 75% so it is better than a cut point (better than just guessing) respectively.

Significance of Predictors Not Included In Null Model.

Once the prediction power of null model and its significance level is identified, the next important thing to do is checking the significance of predictors that not included in null model. Thus, to do so it's better to look at table 3which shows the significance of each independent variable that is not included in the base line model is less than 0.05 (i.e. $p<0.05$) and table 4 the

omnibus tests of model which reports the chi square associated with each step in a stepwise model and it's used to indicate that new model with explanatory variable is an improvement over baseline model is significantly (p=0.000) and revealed that there is significant effect for combined predictors on outcomes. Therefore, it implies that the predictors do have a significant effect on the response variable better if it combined.

Evaluation of Prediction Power of Models with All Predictors

Once the above sections are clarified, it warrants a further scrutiny of prediction power of models with all predictors and percentage dependent variable explained by independents variable which used as indication of the model fitting information**.** So we need to look closely at thetable 6& 5 respectively. In this case table 5, Cox & Snell R Square and the Nagelkerke's R^2, they provide an indication of the amount of variation in the dependent variable. But, the Nagelkerke's R^2 modification that does range from 0 to 1 is a more reliable measure of the relationship with a better model displaying a value **closer** to **1** and provide an indication of the model fitting information. In our case it is shows that 86%, indicating a very good relationship between the predictors and the response variable. However, the Model Summary table 5 used only to show correlation measures do not really tell us an analyst much about the accuracy or errors associated with the model. A more useful measure to assess the utility of a binary logistic regression model was classification accuracy table. In this regard the study used the table that prediction power the model that includes all predictors (table 6) which revealed that the model is **90%** accurate**.**

Goodness of Fit of Model

The following two (7&8) table of Hosmer-Lemeshow test, which divides subjects into 10 ordered groups of subjects and then compares the number actually in each group (observed) to predicted probabilities of occurrence in subgroups of the model population. Each of these categories is further divided into two groups based on the actual observed outcome variable (revenue increase, revenue not increase). A probability (p) value is computed (comparing the observed frequencies with those expected) under the linear model from the chi-square distribution with 8 (number of groups -2) degrees of freedom to test the fit of the logistic model. Small values (with large p-value closer to 1) indicate a good fit to the data. Based on this, Hosmer-Lemeshow test suggesting that the model was fit to the data well at statistics χ^2, 3.251 & p value of .918 which is (p>.05) which mean that the data fit the model adequately.

Evaluating Usefulness of Binary Logistic Model.

Logistic regression models are frequently used to predict a dependent variable from a set of independent variables. An important question is whether results of the logistic regression analysis that includes all predictors is much better than the null models. This question is referred as model evaluation. In practice, this is done by comparing accuracy rates of the following table 2 null model 73.3% &6 model includes all predictors and constant 90%. The classification accuracy rate was 90% which was greater than the proportional by chance accuracy criteria of 73.3% in null model. Consequently, that the model was useful and adding one or more extra predictors significantly improves the fit of our model.

Parameters Estimates and Significance levels of Each Predictors in The Model.
Once all above section is described well, the last important thing to identify the coefficient of estimates and determining significance of each independents variable in the model. To do so, better to look at table 11 that has several important elements which included logistic coefficients β, Wald test, p value, and odd ratio. The 'β' values are the logistic coefficients that can be used to create a predictive equation (similar to the beta values in linear regression). **B**y applying all coefficients to the logistic regression model, we obtain the following predicted full model**:**

$$\text{logit}(\pi(X) = \frac{\pi(X)}{1-\pi(X)} = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4 + \beta_5 x_5$$
$$= \beta 0 + \mathbf{0.156}x1 - \mathbf{4.061}x2 + \mathbf{6.124}x3 + \mathbf{6.181}x4 + \mathbf{10.968}x5$$

The Wald statistics has a chi square distribution that provide an index of effect of the predictors on dependent variable in the equation which used to test whether all predictors coefficients are different from zero to show and to enable to understand that at least one predictors' has effect on outcomes. Additionally, the *P* value is simplest way to assess the significance of each predictors. In this case, if predictors *p* value is less than 0.05 (P<0.05); then each predictors have a significance effect on response/ dependent variable. Moreover, EXP(β) is namely called as odd ratio, it meant that it is the exponential of the logistic coefficients revealed relationship type between the predictors and the outcomes and also presents the *extent or influence level* to which raising the corresponding measure by one unit influences the odds ratio [65]. Consequently, if the EXP(β) value just below 1 indicate the event is less likely to happen in the comparison than in the base group, if the EXP(β) value just 1 indicate the event is exactly as likely to occur in the two groups and mean that there is no effect of that variable on the outcome at which result of the Wald statistic is near and became to zero and result of p-value is non-significant, if the EXP(β) value from just above 1 to infinity indicate the event is more likely to happen in the comparator than in the base group. For example, the EXP (β) value associated with **monitoring activity** is 57962.640. Hence, when **monitoring activity** is raised by one unit the odds ratio is 57962.640 time as large and therefore, Hotel revenue are 57962.640 time likely to increase. Moreover, in this study as revealed in *table 9* all except controlling environment, others explanatory variable coefficients is different from zero (0.725, 0.06, 0.627, and 1.612) that confirm the explanatory variable effect on the outcomes, the p value of each predictors, except ***Control environment p value of 0.095***, while other all predictors is less than 0.05(.i.e. 0.024, 0.024, 0.048 and 0.024) which confirm that the above each four explanatory variable (Risk assessment, Controlling Activity, Information and Communication, and Monitoring Activities) is significance in determining the outcome. But also, the odd ratio of each predictors that stated in the below *table 11*, except risk assessment, all others revealed that there is a positive relationship between predictors and the outcomes i.e. (1.171, 0.017, 456.583, 483.415, & 57962.640).

Statistical test of hypothesis
To achieve the objective of the study and to test the related hypotheses the logistic regression statistics computed in above table 9were considered and demonstrated by Wald test, the level of significance (p value) and odd ratio attained by each of the independent variables.
The result of logistic regression as shown in Table 9 indicates that the individual test figures of control environment by (Wald test = 0.00, p = .095, Exp(β)= 1.171). The result showed that

Control environment has no effects on hotels revenue performance as revealed by Wald test of 0.00 and the p value is also greater than significance level>0.05. The result clearly shows that control environment has no a positive significant effect in determining the outcomes. Accordingly, *H1* which stated that Control environment have a positive significant effect on hotels revenue, was not accepted at the 0.05 significance level.

On the other hand, the result of logistic regression as shown in Table 9 indicates that the individual test figures of risk assessment by Wald test = 0.725, p = .024, Exp(β)= 0.017). The result showed that risk assessment has effects on hotels revenue performance as revealed by Wald test of 0.725 and also significant in determining the outcome the p value (0.024) is less than significance level>0.05. But, the risk assessment has no positive relationship with the outcomes. Here is one way to show the relationship.i.e. Predict the odds ratio and check whether the relationship is positive or not. The odds prediction equation is **ODD RATIO =** $\mathbf{e^{\beta+\beta x1+\beta x2+\cdots.+\beta xn}}$. Given this equation each predictor's odd ratio are determined with all other explanatory variables held constant. In this regard,the odd ratio of risk assessment, when predictor changes by one unit=$e^{(-4.061x1)}$= **0.017**, the odd ratio of risk assessment, when predictor changes by two unit= $e^{(-4.061x2)}$=**0.0000297**. Therefore, based on this result, the odds of outcomes is decrease for each additional unit change in the risk assessment. The result clearly shows that risk assessment has no positive significant effect on hotels revenue. Accordingly, *H2* which stated that Risk assessment have a ***positive significant effect*** on hotels revenue, was not accepted at the 0.05 significance level.

Thirdly, the result of the analysis support the existence of a positive significant effect on relationship on hotels revenue as revealed by (Wald test= 0.059, p = .024, Exp(β)= 456.583). This result also showed that control activities, Wald test is different from zero, has effects and also there is strong relationship between control activities and hotels revenue as revealed the odd ratio of 456.583. Also, control activities is significant in determining the outcome as the p value (0.024) is less than significance level>0.05. This result clearly show that control activities, as one of internal controls components, has positive significant effect on hotels revenue. Accordingly, ***H3*** which stated that control activity have a positive significant effect on hotels revenue, was accepted at the 0.05 significance level. This result is consistent, to a considerable, extent, with that of [56] who's assert that controlling activity has a significance effect on revenue which enable the organization to use different mechanism that motivate their employee for better revenue growth by providing them different incentive and reward system.

Additionally, the result of logistic regression as shown in above Table 9 also support the existence of a positive significant effect on relationship on hotels revenue as revealed by (Wald test= 0.627, p = .048, Exp(β)= 483.415). This result also showed that information and communication have effects and also strong relationship, than control activity, on hotels revenue as revealed by Wald test of 0.627 and the odd ratio of 483.415 respectively. Also, information and communication is significant in determining the outcome as the p value (0.048) is less than significance level>0.05. This clearly revealed that information and communication, as one of internal controls components, has positively significant on hotels revenue. Accordingly, *H4* which stated that Information and communication have a positive significant effect on hotels revenue, was accepted at the 0.05 significance level. The result of this study is consistent with that of [25] which indicated that existence of effective information and communication systems is enable the organization to collect more revenue.

Finally, the result of the study also confirm the existence of a positive significant effect of monitoring activity on hotels revenue as showed by (Wald test= 1.612, p = .024, Exp(β)= 57962.640). More particularly, the result indicate that existence of positive strong relationship and effects of monitoring activities on hotels revenue as revealed by Wald test of 1.612 and the odd ratio of 57962.640 respectively. Moreover, monitoring activity is significant in determining the outcome as revealed by the p value (0.024) which is less than significance level>0.05. This suggests that monitoring activities, as one of internal controls components, has positively significant effect on hotels revenue. Thus, *H5* which stated that Monitoring activities have a positive significant effect on hotels revenue is accepted at 0.05 significant level. This result is consistent, to a considerable extent, with that of [58] which indicate thateffective monitoring all revenue agents is imperative which enable to sit up to their responsibilities and reduce the age old delay in assessment, collection and diversion of revenue of the organization.

Conclusion

In general speaking, measuring performance of internal control in every organization including hotels is very important because it can help the management to know whether the internal control contributes for the increasing of organization revenue and adds value to the organization. Internal controls systems effects measured by various methods. Logistic regression is one of the methods used to investigate multiple variable effects on the dependents. From logistic regression finding, the study concluded that not all internal control components have a positive significant effect for increasing of hotels revenue. Especially, the first two predictors of internal control systems: namely, control environment and risk assessment have no positive significant effect in determining the outcomes while others internal control components such as: controlling activity, information and communication and monitoring activity have positive and significant effect in determining the outcomes. Furthermore, monitoring activity has a greater influence on the outcomes than information communication and control activity. Therefore, the revenue of hotels in Bahir Dar city and Gondar city was predicted by risk assessment, control activity, information and communication, and monitoring of internal control system.

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Analysis Tables

Table 1 Variables in the Equation

		B	S.E.	Wald	Df	Sig.	Exp(β)
Step 0	Constant	1.012	.413	6.004	1	.014	2.750

Table 2 Classification Table

	Observed		Predicted		
			Hotel revenue		Percentage Correct
			Revenue not increase	Revenue increase	
Step 0	Hotel revenue	Revenue not increase	0	8	.0
		Revenue increase	0	22	100.0
	Overall Percentage				73.3

a. Constant is included in the model.

b. The cut value is .500

Table 3 Variables not in the Equation

			Score	Df	Sig.
Step 0	Variables	Control environment	7.413	1	.006
		Risk assessment	5.644	1	.018
		Controlling activity	5.135	1	.023
		Information communication	11.364	1	.001
		Monitoring activity	18.135	1	.000

Table 4 Omnibus Tests of Model Coefficients

		Chi-square	Df	Sig.
Step 1	Step	26.784	5	.000
	Block	26.784	5	.000
	Model	26.784	5	.000

Table 5 Model Summary

Step	Cox & Snell R Square	Nagelkerke R Square
1	.590	.860

Table 6 Classification Table

	Observed	Predicted		
		Hotel revenue		Percentage Correct
		Revenue not increase	Revenue increase	

Step 1	Hotel revenue	Revenue not increase	6	2	75.0
		Revenue increase	1	21	95.5
	Overall Percentage				90.0

a. The cut value is .500

Table 7 Hosmer and Lemeshow Test

Step	Chi-square	df	Sig.
1	3.251	8	.918

Table 8 Contingency Table for Hosmer and Lemeshow Test

	Hotel revenue = revenue not increase		Hotel revenue = revenue increase	
	Observed	Expected	Observed	Expected
2	2	2.632	1	.368
3	2	.976	1	2.024
4	0	.273	3	2.727
5	0	.097	3	2.903
6	0	.015	3	2.985
7	0	.005	3	2.995
8	0	.000	3	3.000
9	0	.000	3	3.000
10	0	.000	2	2.000

Table 9: Bootstrap for Variables in the Equation

		β	S.E.	Wald	Df	Sig.	Exp(β)
Step 1[a]	Control environment	0.158	25.071	0.000	1	.095	1.171
	Risk assessment	4.061	0.770	0.725	1	.024	0.017
	Controlling activity	6.124	25.144	0.059	1	.024	456.583
	Information communication	6181	7.808	0.627	1	.048	483.415
	monitoring activity	10.968	8.638	1.612	1	.024	57962.640
	Constant	-57.540	42.774	1.181	1	.048	0.000