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Factors influencing the effectiveness of internal control in cement manufacturing companies

Tu Chuc Anh[a*], Lan Huong Tran Thi[b], Huy Pham Quang[c] and Thuy Truong Thi[a]

[a]*Academy of Finance, Hanoi, Vietnam*
[b]*Hong Duc University, Vietnam*
[c]*Ho Chi Minh Economics University, Vietnam*

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A B S T R A C T

This research approaches and used the 2013 Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) with a view to assessing the impact of the factors: (1) Control environment, (2) Risk assessment, (3) Information and communication, (4) Control activities and (5) Monitoring on the effectiveness of internal control at cement companies. The research was carried out through a survey of 210 managers and employees at Vietnamese cement companies with the support of SPSS software and assessed scale reliability through using the Cronbach`s Alpha coefficient and the method of exploratory factor analysis (EFA). The research results show that the factors above had positive relationship with the effectiveness of internal control. Also, on such basis, the author gave recommendations for maintaining and promoting the effectiveness of internal control to managers at cement companies.

1. Introduction

Internal control plays an important role in preventing and discovering risks, truly and fairly provides financial information, strengthening compliance and improving operational efficiency. Realizing such importance, cement companies have established and carried out internal controls in various forms. Internal control does not only control of an entity's department but also the process including procedures and regulations intended for all departments to ensure that corporate managers can perform functions of reporting, compliance and operation. However, establishing and efficiently carrying out internal controls is now a factor in which managers at cement companies take a great interest. Internal control is an extremely important function of corporate governance. For this reason, to improve governance efficiency, promoting the effectiveness of internal control is necessary (Suyono & Hariyanto, 2012). Internal control which is efficiently maintained will help entities achieve objectives in terms of not only report and compliance but also operation.

* Corresponding author. Tel.: +084-912 034 509
E-mail address: chucanhtu@hvtc.edu.vn (T. Chuc Anh)

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2. Literature review

Research on the factors affecting the effectiveness of internal control is basically based on 5 parts of the COSO's internal control in 1992 including: Control environment, risk assessment, control activities, information and communication systems, and monitoring. The scale of factors is summarized in Table 1, which is the summary of scale of factors affecting the effectiveness of internal control.

Table 1
The summary of the factors influencing on the effectiveness of internal control

Factors	Research	Measurement	Impact
Control Enviroment	Amudo & Inanga (2009), Ho (2016), Gamage et al. (2014), Nguyen (2018)	- Management and operating philosophy - Integrity and moral values - Commitment to competence - Organizational structure - Human resources policies	Possitive
Risk Assessment	Walker (1999), COSO, (2013), Amudo & Inanga (2009), Ho (2016),	- Determine the target - Identify risks - Risk assessment	Possitive
Control Activities	Walker (1999), COSO, (2013), Amudo & Inanga (2009), Ho (2016), Pham (2018)	- Assignment, assignment, authorization - Physical control activities - Control the information processing process - Control policies and procedures - Control technology	Possitive
Information and Communication	COSO, (2013), Amudo & Inanga (2009), Ho (2016), Pham (2018)	- Internal communication, external communication - Information provided accurately, appropriately and promptly - Accounting information system	Possitive
Monitoring	COSO, (2013), Amudo & Inanga (2009), Ho (2016) Nguyen (2018), Pham (2018)	- Regular monitoring - Periodic monitoring - Internal audit - Periodic monitoring with weaknesses of Internal control	Possitive
The effectiveness of Internal control	COSO, (2013), Amudo & Inanga (2009), Ho (2016),	- Report objectives - Compliance objectives - Operational objectives	

(Source: Results of the author's synthesis, 2019)

2.1. Control environment

"The control environment is the set of standards, processes, and structures that provide the basis for carrying out internal control across the organization. The board of directors and senior management establish the tone at the top regarding the importance of internal control and expected standards of conduct" (COSO 2013). Usually, control environment consists of the following factors: managers' integrity and ethical values, leadership philosophy and operating style; organizational structure; assignment of authority and responsibility; personnel policy; planning; management engagement; and some other factors. The role of control environment is to provide a key foundation for activities because organizational values cannot rise above the integrity and ethics of the people who create, administer and monitor them (Rae & Subramaniam, 2008). Efficient control environment has a great impact on the entire internal control system. The fact that internal control is carried out efficiently or inefficiently depends mainly on such foundation; therefore, this is the most important component for providing a solid foundation for the design and operation of an entity's internal control system.

2.2. Risk assessment

The IIA's International Standards define a risk as 'the possibility of an event occurring that will have an impact on the achievement of objectives'. Risks may be financial, operational, legal/regulatory, or strategic in nature. When risks happen, it is likely that an entity will not achieve the set objectives. *Risk management is a process designed to prevent or minimize risks (*Walker, 1999), and therefore it helps the entity avoids not achieving their main goals. Risk assessment is an important part in risk management (Pham, 2018). Risk assessment is the process of detecting, assessing and determining how to succeed these things (Gamage et al., 2014; Ratcliffe & Landes, 2009). Risk assessment helps an entity have the

best risk management measure. Thus, the establishment and implementation of risk assessment measures will have an impact on internal control efficiency.

2.3. Information and communication

The study of Gamage and Low Lock (2014), Ho (2016) and Nguyen (2018) have shown that information and communication is an important factor affecting the effectiveness of the Internal Control systems. All researchers have confirmed that the information and communication system well designed have a positive effect on the effectiveness of internal control in the enterprise. Information must be determined reliably from both inside and outside the enterprise, to be informed and handled by people with functions in a timely manner. "*Information is necessary for the entity to carry out internal control responsibilities in support of achievement of its objectives. Communication occurs both internally and externally and provides the organization with the information needed to carry out day - to - day internal control activities. Communication enables personnel to understand internal control responsibilities and their importance to the achievement of objectives*" COSO (2013). Therefore, If the communication and information system is well designed and operated, it will help employees understand and perform correctly their tasks, contributing to improve the internal control efficiency in the unit.

2.4. Control activities

According to COSO (2013), "*control activities are actions that are established by policies and procedures to ensure that management directives for reducing risks and achieving an entity's objectives have been being implemented".* Control activities are carried out at all levels of an entity, in various stages of the business process and in technology environment (Pham, 2018). They can include a series of manual and automatic activities such as authorizations, approvals, verifications, reconciliations and reviews of operating performance and can be designed to prevent or review the implementation of management directives. Therefore, if higher efficiency control activities achieve, more effective internal control is achieved.

2.5. Monitoring

Monitoring is one of the most important aspects of internal control in any organization. According to Nguyen (2018) and Pham (2018), monitoring the performance of the internal control system over time, made continuous or separate assessment. The purpose of the monitoring is to determine the internal control made properly, fully and efficiently as designed all five components. Monitoring activities include ongoing evaluations, separate evaluations, or some combination of the two. Ongoing evaluations are built into the routine operations and are performed on a real-time basis. A separate evaluation is conducted periodically by objective management personnel, internal audit, and external parties. The scope and frequency of separate evaluations is a matter of management judgment (COSO, 2013). Surrounding this point, monitoring is performed based on 2 principles: The organization selects, develops, and performs ongoing and/or separate evaluations to ascertain whether the components of internal control are present and functioning; Also, evaluates and communicates internal control deficiencies in a timely manner to those parties responsible for taking corrective action, including senior management and the board of directors, as appropriate. Hence, it helps internal control perform more effectively.

3. The proposed model

Based on results of previous researches carried out by other authors, the presented theoretical basis and the actual research at cement companies, the author proposed a research model for factors affecting the effectiveness of internal control at cement companies according to the 2013 Internal Control - Integrated Framework as Fig. 1.

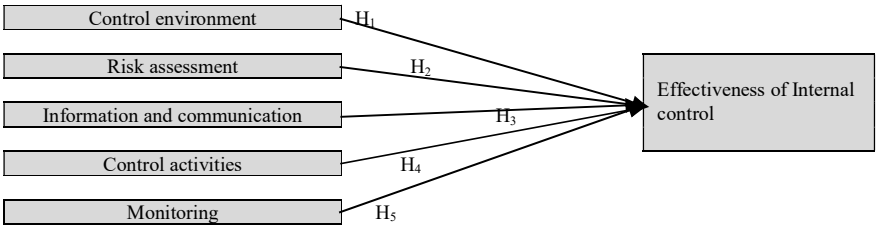

Fig. 1. The proposed model (Source: Results of the author's synthesis, 2019)

Research Model for factors affecting effectiveness of internal control at cement companies

Given objectives, scope and the research model for factors affecting the effectiveness of internal control at cement companies as well as the basic theory presented above, research hypotheses are posited as follows:

Hypothesis H_1: Control environment has a positive impact on the effectiveness of internal control at cement companies;

Hypothesis H_2: Risk assessment has a positive impact on the effectiveness of internal control at cement companies;

Hypothesis H_3: Information and communication has a positive impact on the effectiveness of internal control at cement companies;

Hypothesis H_4: Control activities have a positive impact on the effectiveness of internal control at cement companies;

Hypothesis H_5: Monitoring has a positive impact on the effectiveness of internal control at cement companies.

3.1. Research methodology

The authors use two research methods at the same time: Qualitative method and quantities method. Qualitative method is used to determine the groups of factors that affect the effectiveness of internal control at the cement companies. Quantities research method is primarily used in research as: Cronbach's Alpha reliability Testing, EFA discovery factor Analysis, KMO coefficient analysis based on primary data by survey questionnaire on 250 managers and staffs in cement companies. After 1 month, emitting 250 surveys which are designed following 5-level Likert Scale, from "Totally disagree" to "Totally agree". Survey method through stratified random sample (sex, age, division and position) from August 1st, 2018 to August 31st, 2018. Consequently, emitted 250 surveys, the authors gathered in 210 valid surveys to put into research using SPSS software. Table 2 show personal characteristics of the participants and Table 3 shows the questions of the survey.

Table 2
Personal characteristics of the participants

	Content	Number	Proportion (%)
Sex	Male	65	31.0
	Female	145	69.0
Age	From 30-40	25	11.9
	From 40-50	73	34.8
	From 50 and over	109	51.9
Division	Board of Management	61	22.4
	Board of Directors	47	29.0
	Controlling division	65	31.0
	Other division	37	17.6
Current position	Manager	96	45.7
	Staff	114	54.3

(Source: Analysis results from SPSS)

Table 3
Questionnaires

Measurement	Source
ENVIROMENT CONTROL	
Integrity and moral values	
1. Code of conduct or rules on ethical values are established and clearly communicated to managers, employees, departments through writing or actions.	
2. Code of conduct is established based on ethical standards, relevant legal provisions and business regulations	
Management and operating philosophy.	
1. The Board of Management / Board of Supervisors understands and monitors the implementation of responsibilities for stakeholders.	
2. The Board of Management approves and implements policies to support internal control activities.	
3. The management board / control board ensures independence in monitoring.	
Organization structure	
1. Functions, powers and responsibilities and coordination among departments are clearly defined in writing	Synthesizing and developing from Amudo & Inanga (2009), Ho (2016), Low and Lock (2014) Nguyen (2018)
2. Departments clearly understand the responsibilities in implementing internal control targets.	
3. Ensuring the control principles.	
Management philosophy and operating style	
1. Management perspective of enterprises is always to ensure compliance with the regulations of the State, industry and enterprises	
2. Administrators make every effort to ensure that all tasks are completed as planned and achieve the set objectives.	
3. The administrator strives to achieve the goal of financial reporting on time and reasonably honest.	
Commitment to competence and HR policies	
1. Policies and procedures for recruitment of personnel are clear and transparent.	
2. The key positions always meet the requirements of the job	
3. Human resources are trained and fostered to improve their qualifications in accordance with the changes from internal enterprises, environment, institutions, regulations ...	
4. Enterprises formulate appropriate standards and methods for evaluating work results, and results are communicated specifically to each individual.	
5. Policies on salary, bonus, welfare and discipline are clear and appropriate	
RISK ASSESSMENT	
Determine the targets	
1. Operational, compliance and reporting objectives are set clearly and appropriately.	
2. Identify goals that take into account the appropriate risk	
3. The objectives of enterprises are clearly and fully communicated to all employees	
4. Enterprises conduct periodic evaluations for the achievement of objectives	Synthesizing and developing from Walker (1999), COSO, (2013), Amudo & Inanga (2009), Ho (2016),
Risk Identification and Assessment	
1. Considering costs - profits in the process of identification and risk assessment.	
2. Risk identification is carried out at all levels, departments, functions and activities in enterprises	
3. Using appropriate methods to identify and assess risks	
4. Enterprises have appropriate strategies to deal with risks	
Change management	
1. Enterprises predict, identify and deal with changes in factors	
2. Regularly assess the impact of changes and make adjustments to internal control.	
CONTROL ACTIVITIES	
Control technology	
1. Control activities ensure that rights and content accessed is limited to authorized persons.	
2. Enterprises control data centers and network systems and computers	
3. Enterprises control applications and software	
Control policies and procedure	
1. Policies and control procedures consistent with the objectives of enterprises.	Synthesizing and developing from Walker (1999), COSO, (2013), Amudo & Inanga (2009), Ho (2016), Pham (2018)
2. Control policies and procedures are documented and clearly communicated to all employees.	
3. Policies and procedures specify the scope of application, roles and functions of the relevant departments.	
4. Control policies and procedures are developed in accordance with each activity, function, and job.	
5. Control activities are carried out by qualified individuals and departments at the right time.	
6. Businesses periodically carry out reevaluation of policies and procedures and make adjustments if necessary.	
Control Activities	
1. Physical control activities ensure that property is protected from access by unauthorized persons	
2. Control to ensure that all operations are verified with validity and legality before recording.	
3. Control ensures the transactions are fully recorded	
4. Control to ensure that transactions are recorded in the right order and ensure the control process.	
5. Control activities take place regularly, including in all activities	
COMMUNICATION AND INFORMATION SYSTEM	
Communication	
1. The communication channel of enterprises allows their subordinates to easily and promptly reflect related issues to functional superiors.	Synthesizing and developing from COSO (2013), Amudo & Inanga (2009), Ho (2016), Pham (2018)
2. Information about tasks, requests from superiors are clearly communicated, to the right people, at the right time.	
Information system	
1. Information system ensures information is provided promptly, fully and completely in accordance with information needs	
2. Information system ensures easy access to information, convenient to use.	
3. Information system ensures information is kept confidential and stored securely.	
4. Information is fully integrated into the reports and serves the manager in decision making	
5. Enterprises perform well in providing honest, relevant and timely information to external audiences.	
MONITORING	
Ongoing monitoring	
1. Enterprises monitor regularly for major activities to ensure results meet the set objectives.	Synthesizing and developing from COSO, (2013), Amudo & Inanga (2009), Ho (2016), Nguyen (2018), Pham (2018)
2. Monitoring activities in enterprises are carried out in accordance with the scope and nature of activities, risk levels and changes in the enterprise.	
3. The monitoring process is established in the processes, business activities, functions of the enterprise.	
Periodic monitoring	
1. Enterprises perform well self-assessment and cross-evaluation among departments and divisions.	
2. Periodic monitoring activities are performed well by objects inside or outside the enterprise	
Evaluating and fixing weaknesses of Internal Control	
1. Limitations of Internal control are detected by monitoring timely.	
2. Administrators respond promptly and in accordance with the limitations of internal control identified.	
EFFECTIVENESS OF INTERNAL CONTROL	
1. Reported Objectives	Amudo & Inanga (2009), COSO (2013), Ho (2016).
2. Compliance Objectives	
3. Operational Objectives	

(Source: Results of the author's synthesis, 2019)

4. The results

Preliminary assessment of the reliability of scale with Cronbach's Alpha coefficient, the verification result of five independent variables are the Control Environment (MTKS), Risk Assessment (DGRR), Information and Communication (ICT), Control Activities (HDKS) and Monitoring (GS) of components of the scale are all greater than 0.6, as Table 4 and considering Corrected Item-Total Correlation of observing variables have achieved a detection requirement greater than 0.3 (Hair & partner, 2006). For MTKS variable, the MTKS 5 variables have a Corrected Item–Total Correlation 0.245, less than 0.3 so that MTKS 5 variable was eliminated, the second running of Cornbrash's Alpha coefficient is 0.787. Similarly, for monitoring variable, G1 variable has a Corrected Item-Total Correlation 0.273 so that GS1 variable was eliminated, the result of the second running of Cronbach's Alpha coefficient is 0.816. After the data processing of Cornbrash's Alpha coefficient type 02 variables were MTKS 5 and GS 1, keeping 21 independent variables and 03 dependent variables for the analysis of EFA Discovery Factor.

Table 4
The results of the Cronbach Alpha coefficients

Variables	Influence Factors	Corrected Item-Total Correlation Coefficient	Cronbach`s Alpha If Item Deleted
Cronbach's Alpha Coefficient of Control Environment variable is 0.746			
MTKS - Control Environment, Angella & Eno L. Inanga (2009), Gamage & Kevin Low Lock & Fernando (2014)	Managers try to maintain a controlled environment on the basic of honesty, open- hearted, and respect for moral values	.463	.718
	All manage policies and procedures are set up and widely disseminate.	.641	.651
	Nowadays, the company has promulgated full legal documents on responsibilities and duties of each position and individual	.607	.662
	Among all of the parts, has guaranteed relative independence and cross-checking ability.	.616	.662
	The policies of recruitment, training, promotion, reward and discipline are open and fully meet the requirements of promoting the strength of human resources	.245	.787
Cronbach's Alpha Coefficient of Risk Assessment variable			
ĐGRR - Risk Assessment, Sultana & Haque (2011), Gamage & Kevin Low Lock & Fernando (2014)	Risk assessment activities are conducted continuously at three levels: short, medium and long term	.550	.667
	Risks are identified and properly evaluated	.535	.675
	Risks assessment methods are applied flexibly and effectively	.580	.648
	Capacity, qualification of the leadership team meets the requirements of risk identification and assessment	.456	.720
Cronbach's Alpha Coefficient of Control Activities variables is 0.85			
HĐKS - Control Activities, Gamage & Kevin Low Lock & Fernando (2014)	Control Activities is implemented by managers at all levels.	.596	.832
	The result of risk assessment is the basic of the establishment of control policies.	.635	.825
	Control policies are set up properly, appropriately and effectively implemented.	.546	.850
	All control policies and procedures are embodied by documents and implemented to each other.	.610	.830
	Continuous control activities are adjusted to improve control effectiveness.	.716	.814
	High quality human resources are essential to control activities has high efficiency.	.767	.800
Cronbach's Alpha Coefficient of Information and Communication variables is 0.818			
TTTT - Information and Communication, Gamage & Kevin Low Lock & Fernando (2014)	The information systems ensure that information is provided from the departments to the managers and from the managers to the departments in a timely manner.	.635	.773
	Synchronized computing is the strength of information and communication systems.	.717	.734
	Information security issues had guaranteed and hadn't ever made a mistake	.739	.723
	Business always ready prepares emergency response plans in case of the failure of an IT system.	.478	.841
Cronbach's Alpha Coefficient of Monitoring variables is 0.632			
GS -Monitoring, Sultana & Haque (2011) Gamage & Kevin Low Lock & Fernando (2014)	Monitoring and controlling activities are carried out regularly by managers and staff.	.073	.816
	Independent audit results are also considered as a monitoring channel for internal control	.540	.466
	Business set up a system to receive extensive monitoring information channel.	.634	.399
	Monitoring results are recorded and adjusted in a timely manner.	.540	.484
Cronbach's Alpha Coefficient of Effectiveness variables is 0.86			
HH –Effectiveness, Sultana & Haque (2011) Gamage & Kevin Low Lock & Fernando (2014)	The enterprise ensures reporting objectives	.498	.836
	The enterprise ensures operational objectives	.599	.770
	The enterprise ensures compliance objectives	.553	.805

After the step of evaluating the reliability of the scale through Cronbach's Alpha coefficient, the author used the remaining 21 independent variables and 03 dependent variables to analysis of EFA discovery factor. For the analysis of EFA discovery factor, the author used Principal Component extraction method to reduce data and decrease the collinearity among the factors for the next multiple regression analysis, Varimax rotation. The result of EFA initial analysis with the verification value of Bartlett's Test was significant (Sig rate <0.05), however TTT4 variable has maintained Factor loading < 0.5, therefore in Table 6 TTT4 variable was not loading for any independent variables. Thus, the author removed TTT4 variable and re-run the analysis of EFA discovery factor which result in KMO 0.0839 coefficient with verification value of Barletta's Test with a significant statistic (Sig rate < 0.05) as Table 5, differential extraction is reached 63,26% > 50%. Extraction Sum of Squared Loadings Coefficient = 1.265 satisfy > 1, as Table 5 satisfies verification requirement, Factor loading coefficient is greater than 0.5, indicating that the observed variables are correlated with Total Correlation.

Table 5
The results of KMO and Bartlett's Test of Sphericity

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.839
Bartlett's Test of Sphericity	Approx. Chi-Square	1734.249
	Df	190
	Sig.	.000

The analysis of EFA discovery factor for 03 dependent variables shows that the result of KMO=0.727 with Sig rate < 0.05 in Table 6, Factor loading coefficient is greater than 0.5, indicating that dependent variables are correlated with each other and Total Correlation (See Table 6). Results of EFA are given in Table 7.

Table 6
The results of EFA test

	Components				
	1	2	3	4	5
HDKS6	.832				
HDKS5	.795				
HDKS4	.734				
HDKS3	.713				
HDKS2	.656				
HDKS1	.648				
MTKS2		.782			
MTKS3		.767			
MTKS4		.707			
MTKS1		.603			
TTTT2			.819		
TTTT3			.809		
TTTT1			.797		
DGRR3				.775	
DGRR2				.742	
DGRR1				.724	
DGRR4				.665	
GS3					.863
GS4					.831
GS2					.818

(Source: Analysis results from SPSS)

Table 7
The results of KMO and Bartlett's Test of Sphericity

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.727
Bartlett's Test of Sphericity	Approx. Chi-Square	292.835
	Df	3
	Sig.	.000

(Source: Analysis results from SPSS

After processing, analyzing of EFA discovery factor, the remaining 20 independent variables are used for running of Pearson data to quantify the degree of linear relationship between two quantify variables, if Pearson coefficient > 0.3 it means that the two variables are correlated. In the Correlations Analysis between 05 independent variables and 01 dependent variable, Table 8 shows that the relationship between " Effectiveness" and 05 " Control Environment", "Risk Assessment", " Information and Communication Systems", "Control Activities" and "Monitoring" variables are significant. Between dependent and independent variables there is a linear correlation (See Table 8).

Table 8
The results of Pearson correlation test

		HH	MTKS	DGRR	TTTT	HDKS	GS
HH	Pearson Correlation	1	.561**	.355**	.664**	.508**	.386**
	Sig. (2-tailed)		.000	.000	.000	.000	.000
	N	210	210	210	210	210	210
MTKS	Pearson Correlation	.561**	1	.378**	.450**	.465**	.287**
	Sig. (2-tailed)	.000		.000	.000	.000	.000
	N	210	210	210	210	210	210
ĐGRR	Pearson Correlation	.355**	.378**	1	.239**	.266**	.149*
	Sig. (2-tailed)	.000	.000		.000	.000	.030
	N	210	210	210	210	210	210
TTTT	Pearson Correlation	.664**	.450**	.239**	1	.407**	.302**
	Sig. (2-tailed)	.000	.000	.000		.000	.000
	N	210	210	210	210	210	210
HDKS	Pearson Correlation	.508**	.465**	.266**	.407**	1	.168*
	Sig. (2-tailed)	.000	.000	.000	.000		.015
	N	210	210	210	210	210	210
GS	Pearson Correlation	.386**	.287**	.149*	.302**	.168*	1
	Sig. (2-tailed)	.000	.000	.030	.000	.015	
	N	210	210	210	210	210	210

(Source: Analysis results from SPSS)

Regression analysis

The method chosen for regression analyze is least square implemented in SPSS software. In Table 9, the value of *Adjusted R Square* is 79,2%, which shows the effect level of 05 independent factors in the topic to the effectiveness of Internal control at cement companies is 79.2%. The remaining 20.8% is due to the influence of other factors to the effectiveness of control. The Durbin-Watson coefficient is 1.589 in the range from 1 to 2 that satisfies the requirement of the test (See Table 9).

Table 9
The results of the statistical test for regression analysis

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.766[a]	.797	.792	.475	1.589

(Source: Analysis results from SPSS)

a. Predictors: (Constant), GS, DGRR, HDKS, TTTT, MTKS
b. Dependent Variable: HH

According to Table 10, analyzing F shows that we have Sig coefficient smaller than 0.05, which means that the research sample in the topic is meaningful to the whole.

Table 10
The results of ANOVA test

	Model	Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	65.205	5	13.041	57.892	.000[b]
	Residual	45.953	204	.225		
	Total	111.158	209			

(Source: Analysis results from SPSS)

b. Predictors: (Constant), GS, DGRR, HDKS, TTTT, MTKS
a. Dependent Variable: HH

Looking at the standardized coefficients beta given in Table 11, variable DGRR has the lowest number with 0.105 and the highest number belongs to TTTT with 0.427. In other words, dependent variable has the positive relationship and strongest with independent variable "Information and Communication", on the contrary, the variable has the weakest relationship with dependent variable which is "Risk assessment" and they are all meaningful when the level of significance is five percent.

Form of equation:

$$Y = \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5$$

Inside: X_i is an independent factor group

X_1: Group of Control environment factors
X_2: Group of Risk assessment factors
X_3: Group of Information and Communication system factors
X_4: Group of Control activity
X_5: Group of Monitoring factors
Y: The effectiveness of Internal control
Apply to the result of running model, we have:

$$Y = 0.197X_1 + 0.105X_2 + 0.427X_3 + 0.189X_4 + 0.154X_5$$

Equation of regression show that, the independent variable and dependent variable in the research model have positive relationships, inside, the most effective variable is "Information and Communication" with the coefficient $\beta_3 = 0.427$ followed by "Control environment" $\beta_1 = 0.197$, "Control activity" $\beta_4 = 0.189$, "Monitoring" $\beta_5 = 0.154$ and "Risk assessment" has the weakest effect to the effectiveness of internal control at cement companies with coefficient $\beta_2 = 0.105$

Table 11
The results of the regression analysis

	Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.817	.309		-2.644	.009
	HDKS	.231	.065	.189	3.579	.000
	MTKS	.247	.071	.197	3.491	.001
	TTTT	.434	.054	.427	8.030	.000
	DGRR	.123	.058	.105	2.137	.034
	GS	.162	.051	.154	3.200	.002

5. Conclusion

Research result has indicated that Hypotheses H_1, H_2, H_3, H_4, H_5 are accepted, which means that Control Environment, Risk assessment, Information and Communication system, Control and Monitoring activities have positive effects to the effectiveness of internal control. The determination and assessment of the influence of factors on the effectiveness of internal control at the cement companies in the current competitive conditions are important. It helps managers identify and accurately assess the factors that have a strong influence on the quality of control, thereby improving the efficiency and effectiveness of

governance in general and control in particular. Based on the research results, in order to maintain and promote the effectiveness of internal controls at the cement companies, it is necessary to establish closely and systematically the influencing factors including Control Environment, Risk Assessment, Information and Communication Systems, Control Activities as well as Monitoring.

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