

Effect of Supervision and Control Process on Performance of Financial Market Intermediaries in Kenya

¹*Dennis Gachibu Chege

¹Jomo Kenyatta University of Agriculture and Technology

*Corresponding author's e-mail: dennisprocurement@gmail.com

How to cite this article: Chege, D.G. (2021). Effect of supervision and control process on performance of financial market intermediaries in Kenya. *Journal of Procurement & Supply Chain*, 1(1), 41-53.

Abstract

The purpose of the study was to investigate the effect of supervision and control process on performance of financial intermediaries in Kenya. The study reviewed existing literature related to the study objective. The study adopted a cross sectional approach, with study population being 218 employees in 109 financial market intermediary firms. The study used a census approach. The study employed primary data. Primary data was collected through questionnaire. A pilot study was conducted to measure the research instruments reliability and validity. Descriptive and inferential analysis was conducted to analyze the data while multiple and simple regression analysis were used to measure firms' performance as influenced by supply chain automation. The data was presented using tables, graphs and charts. The study findings of supervision and control and relationship management have positive and significant association with firm performance. It was established that supervision and control and performance of financial intermediaries were positively and significantly related ($r=0.221$, $p=0.000$). Based on the findings the study concluded that supervision and control processes influenced the performance of financial market intermediaries in Kenya. This can be explained by the regression results which showed that the influence was positive and also showed the magnitude by which supervision and control processes influenced the performance of financial market intermediaries. The study recommended that supervision and control systems of the financial intermediaries should be fully automated. This will lead to efficient supervision and control of firm's operations.

Keywords: *Supervision and Control Process, Performance, Financial Intermediaries*

1.0 Introduction

Financial intermediaries institutions that facilitate the channeling of funds between lenders and borrowers indirectly (Pierre, 2011) - need to automate their supply chain processes in order to increase operating efficiencies, improve profitability, and enhance overall performance. Halachimi (2012) defines performance in stock brokerage firms as being the achievement of business, financial, effectiveness, and organizational objectives. Armstrong (2011) adds that such performance is indicated by market share, sales growth, and development of new products while financial performance is indicated by profit margin, total assets and equity multiplier. Indicators of effectiveness include quality of service, degree of

social responsibility, positive work culture, and good image of the company and level of customer satisfaction.

Chavan (2009) argues that performance focuses not only on what people achieve, but also how they achieve it. Boatright (2012) adds that financial performance is a subjective measure of how well a firm can use assets from its primary mode of business and generate revenues. This term is also used as a general measure of a firm's overall financial health over a given period of time, and can be used to compare similar firms across the same industry or to compare industries or sectors in aggregation.

Chand (2015) noted that control is one of the primary functions of management, and it involves setting performance standards, measuring performance and taking corrective actions when necessary. Without enough control systems in place, confusion and chaos can overwhelm a supply chain system. Within the supply chain system, managers define goals for the department in specific, precise, operational terms, which includes standards of performance to compare with organizational activities (Viswanadham, 2002). Performance standards, against which actual performance will be compared, may be derived from past experience, statistical methods and benchmarking (based upon best industry practices). As far as possible, the standards are developed bilaterally rather than top management deciding unilaterally, keeping in view the organization's goals Hong-Minh *et al.* (2000).

Kehoe and Boughton (2001) posited that most organizations prepare formal reports of performance measurements both quantitative and qualitative (where quantification is not possible) that the managers review regularly. These measurements should be related to the standards set in the first step of the control process. For example, if sales growth is a target within the supply chain automation process, the organization should have a means of gathering and reporting sales data (English, 2001). Data can be collected through personal observation (through management by walking around the place where things are happening), statistical reports (made possible by computers), oral reporting (through conferencing, one-to-one meeting, or telephone calls), written reporting (comprehensive and concise, accounting information – normally a combination of all (Viswanadham, 2002).

English (2001) noted that comparing the system's performance with set standards can be accomplished by having supply chain managers read system reports, or by physically observing operations. In so doing, they identify whether actual performance meets, exceeds, or falls short of standards. Typically, performance reports simplify such comparison by placing the performance standards for the reporting period alongside the actual performance for the same period and by computing the variance—that is, the difference between each actual amount and the associated standard (Bailey & David, 2008). The manager must know of the standard permitted variation (both positive and negative). Management by exception is most appropriate and practical to keep insignificant deviations away. Timetable for the comparison depends upon many factors including importance and complexity attached with importance and complexity (Viswanadham, 2002).

Viswanadham (2002) postulated that the ultimate aim of supply chain supervision and control is to inform decisions necessary for the system managers to take corrective action, as well as to reinforce successes. When performance deviates from standards, managers must determine what changes, if any, are necessary and how to apply them. In the productivity and quality-centered environment, workers and managers are often empowered to evaluate their own work. After the evaluator determines the cause or causes of deviation, he or she can take the fourth step corrective action. The corrective action may be to maintain status quo (reinforcing

successes), correcting the deviation, or changing standards (Bailey & David, 2008). The most effective course may be prescribed by policies or may be best left up to employees' judgment and initiative. The corrective action may be immediate or basic (modifying the standards themselves). Next generation of supply chain suites will synchronize supplier planning, production planning, logistics planning, and demand planning. These solutions will provide a comprehensive view of all supply chain activities and enable upper management to make more informed tradeoff decisions (Bailey & David, 2008).

English (2001) pointed out the trend for modeling a supply chain is (supervisory) control of the supply chain operation. In other words, a set of requirements are assigned on the supply chain operation, and the control agent ensures that the process satisfies those requirements. In the literature, frameworks from control systems theory have been exploited to model the supply chain operation (Tuncel, & Alpan, 2010). For instance, a model-predictive control (MPC) framework is developed to dynamically manage inventories and meet customer requirements in a demand network such as supply chains. According to Braun (2003), MPC, as a control-oriented framework, can be tuned to provide acceptable performance in the presence of uncertainty, forecast error, and constraints. The hypothesis formulated for this study was that the supervision and control process has no significant effect on performance of financial market intermediaries in Kenya.

1.1 Research Problem

Despite several economic and cultural changes, the main goal of establishing a supply chain network has remained the same. These goals include; procurement of raw materials, transforming them into final products, and delivering them to the final customers at the specified time and place (Viswanadham, 2002). The effectiveness of these activities largely depends on the automation of the entire supply chain system. Supply chain automation is considered as one of the most important functions in an organization, as it is a key contributor to overall profitability (Une & Sangle, 2014).

The financial market intermediaries in Kenya have been experiencing performance problems, this is despite automation of their supply chain systems in 2006 (Nairobi Stock Exchange, 2014). The collapse of stockbrokerage firms has resulted to market decline as whole, investors lose money and cut back on their consumption leading to low economic development. Recessions witness the loss of jobs, and again a decline in consumption (Wangai & Ngugi, 2014). The rate at which the financial intermediaries have been performing poorly and collapsing is alarming and it begs the question whether automation had something to do with it. Over the past few years, brokerage firms such as Nyaga and Thuo Stockbrokers either collapsed or went under receivership, taking with them about Ksh3 billion of investors' money (Daily Nation, Oct 28, 2009). Much of this poor performance has been blamed on the macro environment such as the cyclical nature of the financial markets industry, with performance tied most closely to that of the stock market. This, in turn, is related to economic performance and the relationship between the stock market and economic cycle. The imperfections in the macro-economy lead to stock market downturns consequently leading to poor performance of brokerage firms (Kenneth, 2009). This study sought to determine the effect of supervision and control process on performance of financial market intermediaries in Kenya.

2.0 Theoretical Framework

This study was guided by the Supply Chain Management/Systems Theory. This theory has been widely used by scholars in trying to explain issues surrounding supply chains and the enhancing systems. Some scholars such as Sushil (2012) emphasized the need for a ‘flexible system theory’, relating to several systems based approaches and techniques as a means of effectively catering to problem situations. According to Siau (2010) new insights are gained by abstracting the view of the information systems field. In a similar vein, new and crucial insights may emerge out of the application of general systems theory to supply chains and supply chain management.

As suggested by Caddy (2010) the purpose of developing a Generic Supply Chain Model (GSCM) is to provide a deeper understanding of supply chains, in terms of their development, operation and management. A representative literature review of supply chain and supply chain management frameworks and models reveal that there is not an already developed and generally accepted comprehensive model of supply chain as revealed by (Helou, 2009). According to Moon (2009) models of supply chain seem to concentrate on only one particular aspect or dimension of the supply chain, viz. organization structure/strategy while negating on other aspects such as information technology and human factors as was proposed by (Calantone, 2010).

If views by Sushil (2012) are anything to go by, each of these dimensions should be considered crucial by their own, as each factor by itself does not provide a complete and comprehensive view of supply chains and their management. Combining the above mentioned three dimensions result in the development of a generic supply chain model, in which each of the dimensions provides a separate as well as a related conjoint contribution. The generic model shown below allows for the diversity of real world situations by incorporating into the model the interactions among the three dimensions. Different outcomes are generated given the nature of the type and level of interaction. In addition, the type and level of interactions it would be contingent upon organizational culture, the environment in which the organization operates, and the characteristics of the supply chains utilized in the exchanges that occur among organizations. The theory is significant and relevant to this study since it explains the relationship between supply chain processes such as supervision and control and systems’ enhancement.

2.1 Empirical Review

Chand (2015) noted that control is one of the primary functions of management, and it involves setting performance standards, measuring performance and taking corrective actions when necessary. Without enough control systems in place, confusion and chaos can overwhelm a supply chain system. Within the supply chain system, managers define goals for the department in specific, precise, operational terms, which includes standards of performance to compare with organizational activities (Viswanadham, 2002). Performance standards, against which actual performance will be compared, may be derived from past experience, statistical methods and benchmarking (based upon best industry practices). As far as possible, the standards are developed bilaterally rather than top management deciding unilaterally, keeping in view the organization’s goals Hong-Minh *et al.* (2000).

Kehoe and Boughton (2001) posited that most organizations prepare formal reports of performance measurements both quantitative and qualitative (where quantification is not possible) that the managers review regularly. These measurements should be related to the standards set in the first step of the control process. For example, if sales growth is a target

within the supply chain automation process, the organization should have a means of gathering and reporting sales data (English, 2001). Data can be collected through personal observation (through management by walking around the place where things are happening), statistical reports (made possible by computers), oral reporting (through conferencing, one-to-one meeting, or telephone calls), written reporting (comprehensive and concise, accounting information – normally a combination of all (Viswanadham, 2002).

English (2001) noted that comparing the system's performance with set standards can be accomplished by having supply chain managers read system reports, or by physically observing operations. In so doing, they identify whether actual performance meets, exceeds, or falls short of standards. Typically, performance reports simplify such comparison by placing the performance standards for the reporting period alongside the actual performance for the same period and by computing the variance—that is, the difference between each actual amount and the associated standard (Bailey & David, 2008). The manager must know of the standard permitted variation (both positive and negative). Management by exception is most appropriate and practical to keep insignificant deviations away. Timetable for the comparison depends upon many factors including importance and complexity attached with importance and complexity (Viswanadham, 2002).

3.0 Research Methodology

The study applied a cross-sectional approach where the target population was 218 financial market intermediary firms. The study used primary data that was collected using the self-administered questionnaire. Both qualitative and quantitative research approach were used. Descriptive and inferential statistics were used to analyze the data. Descriptive statistics include mean and standard deviation while inferential statistics entailed simple linear regression.

4.0 Results and Discussion

4.1 Descriptive Statistics Analysis

Descriptive statistics such as frequency, percentage, mean and standard deviation were jointly used to summarize the responses as presented in Table 1.

Table 1: Supervision and Control

Statement	Strongly disagree	Disagree	Moderately agree	Agree	Strongly agree	Mean	Std. Dev
we have control systems based on the data we receive	1.20%	0.00%	1.80%	85.30%	11.80%	4.06	0.49
Our reporting system to all stakeholders is very effective	0.00%	0.00%	1.20%	57.10%	41.80%	4.41	0.52
We have a sales data repository we use to determine our performance metrics	0.00%	1.20%	4.70%	55.30%	38.80%	4.32	0.62
We have online reporting and control systems for our firm	0.00%	0.00%	7.10%	75.90%	17.10%	4.1	0.48
We have demand planning systems	0.00%	0.00%	18.80%	68.80%	12.40%	3.94	0.56
Our forecasting strategies are based on online generated reports	5.30%	24.70%	14.0%	38.80%	17.10%	3.31	1.29
Our control systems allow for joint scheduling for orders with our partners in the supply chain	0.00%	3.50%	14.80%	68.20%	13.50%	3.81	0.96
Average						3.99	0.7

Majority of 97% (85.30+11.80) of the respondents agreed with the statement that we have control systems based on the data we receive, 1.8% moderately agreed while 1.2% disagreed. The mean of the responses was 4.06 which indicates that majority of the respondents agreed to the statement. The responses were however varied as indicated by a standard deviation of 0.49. Also, 98.8% agreed with the statement that our reporting system to all stakeholders is very effective while 1.2% moderately agreed. The mean of the responses was 4.41 which indicates that majority of the respondents agreed to the statement. The responses were however varied as indicated by a standard deviation of 0.52.

The results indicated that 94% of the respondents agreed that we have a sales data repository we use to determine our performance metrics, 4.7% moderately agreed while 1.2% disagreed. The mean of the responses was 4.32 which indicates that majority of the respondents agreed to the statement. The responses were however varied as indicated by a standard deviation of 0.62. The results also revealed that majority of the respondents who were 93% agreed that we have online reporting and control systems for our firm on technology based information systems while 7% moderately agreed. The mean of the responses was 4.10 which indicates that majority of the respondents agreed to the statement. The responses were however varied as indicated by a standard deviation of 0.48.

In addition, 81% of the respondents agreed that we have demand planning systems while 19% moderately agreed. The mean of the responses was 3.94 which indicates that majority of the respondents agreed to the statement. The responses were however varied as indicated by a standard deviation of 0.56. The results further indicated that 56% of the respondents agreed that our forecasting strategies are based on online generated reports, 30% disagreed while

14% moderately agreed. The mean of the responses was 3.31 which indicates that majority of the respondents agreed to the statement. The responses were however varied as indicated by a standard deviation of 1.29. Lastly, 82% of the respondents agreed that our control systems allow for joint scheduling for orders with our partners in the supply chain, 14% moderately agreed while 4% disagreed. The mean of the responses was 3.81 which indicates that majority of the respondents agreed to the statement. The responses were however varied as indicated by a standard deviation of 0.96.

The overall mean of the responses was 3.99 which indicates that majority of the respondents agreed to the statement of the questionnaire. Additionally, the standard deviation of 0.70 indicates that the responses were varied. The results herein imply that supervision and control influence financial market intermediaries performance. These findings concur with those of Kehoe and Boughton, (2001) and English (2001) who concluded that most organizations prepare formal reports of performance measurements both quantitative and qualitative (where quantification is not possible) that the managers review regularly). These measurements should be related to the standards set in the first step of the control process.

Descriptive results indicated that the overall mean of the responses was 3.99 which indicates that majority of the respondents agreed to the statement of the questionnaire. In addition, the standard deviation of 0.70 indicates that the responses were varied to a small extent. The results herein imply that supervision and control influence performance of financial market intermediaries in Kenya. These findings concur with those of Kehoe and Boughton, (2001) and English (2001) who concluded that most organizations prepare formal reports of performance measurements both quantitative and qualitative (where quantification is not possible) that the managers review regularly). These measurements should be related to the standards set in the first step of the control process. The respondents were asked to state whether supervision and control practices affect the firms overall performance and as shown in Figure 1.

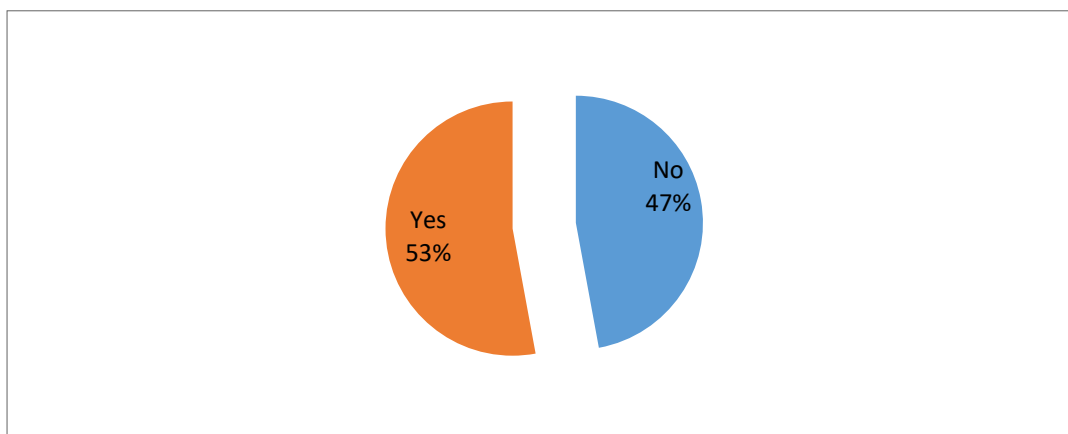


Figure 1: Influence of Supervision and Control on Performance

Results in figure 1 reveal that 53% of the respondents said yes while 47% said no. This implies that majority of the respondents believe that supervision and control practices affects firms overall performance. Further, the respondents who said yes explained why they felt that supervision and control influence their firm's performance. Majority of the respondents highlighted scheduling of online reporting as one of the main reasons why supervision and control influences the performance of financial market intermediaries. These findings concur with those of Kehoe and Boughton, (2001) and English (2001) who concluded that most

organizations prepare formal reports of performance measurements both quantitative and qualitative (where quantification is not possible) that the managers review regularly). These measurements should be related to the standards set in the first step of the control process. The respondents were asked to indicate whether automation affects the supervision and control processes in their firm as shown in figure 2.

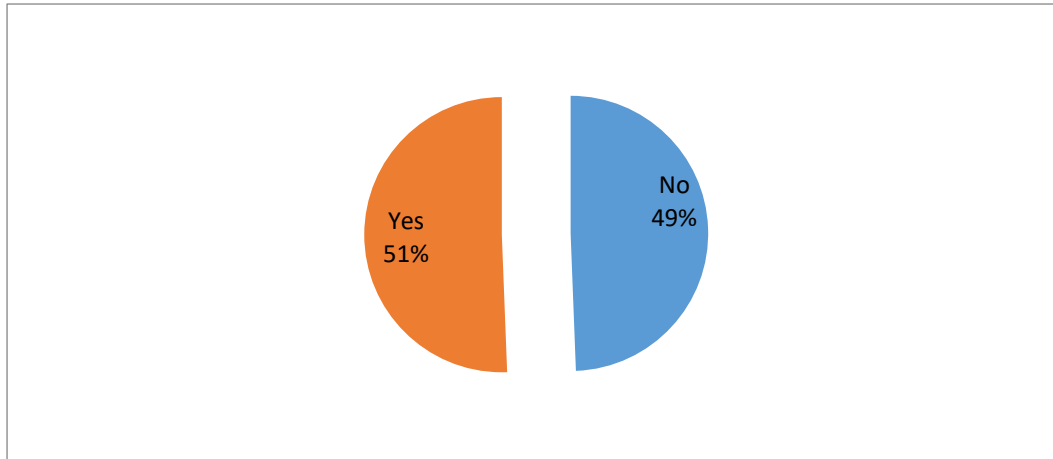


Figure 2: Influence of Automation on Supervision and Control Processes

Results in figure 2 reveal that 51% of the respondents indicated yes while 49% indicated no. This implies that majority of the respondents believe that automation influences the supervision and control systems in their organizations.

4.2 Cross Tabulation

When supervision and control processes was cross tabulated against financial performance, the results in table 2 revealed that supervision and control and financial performance are significantly associated ($\chi^2=16.329$, p value=0.014). This implies that the influence of supervision and control on the performance of financial intermediaries is statistically significant.

Table 2: Cross Tabulation

		Categorical Supervision			Chi (p value)
		Low supervision	High supervision	Total	
Categorical Performance	Low performance	2	7	9	16.329(0.014)
	High Performance	2	159	161	
Total		4	166	170	

4.3 Correlation Analysis

Results in table 3 indicate the correlation analysis between supervision and control processes and performance of financial intermediaries.

Table 3: Correlation Matrix

		Performance	Supervision and Control
Performance	Pearson Correlation	1.000	
	Sig. (2-tailed)		
Supervision and Control	Pearson Correlation	.497**	1.000
	Sig. (2-tailed)	0.000	

** Correlation is significant at the 0.01 level (2-tailed).

The correlation results revealed that there was a positive and a significant association between supervision and control and performance of financial intermediaries ($r=0.497$, $p=0.000$). This implies that supervision and control and performance of the financial intermediaries change in the same direction. However, the correlation coefficient ($r=0.497$) reveals a weak association between supervision and control and performance of financial intermediaries.

4.4 Relationship between Supervision and Control Constructs and Performance of Financial Market Intermediaries

Results in table 4 present the regression model used in explaining the relationship between supervision and control constructs and performance of financial market intermediaries.

Table 4: Regression Results

	Model 1 Data-based systems (X_{31})	Control	Model 2 Online reporting systems (X_{32})	control	Model 3 Demand systems (X_{33})	planning
(Constant)	2.679		2.971		1.934	
β_1	0.398		0.325		0.601	
R^2	0.129		0.080		0.380	
F-statistics	24.854		14.609		103.101	
P-value	0.000		0.000		0.000	

$$\text{Model 1: } Y = \beta_0 + \beta_1 X_1 + e$$

$$\text{Firm Performance} = 2.679 + 0.398X_1$$

$$\text{Model 2: } Y = \beta_0 + \beta_2 X_2 + e$$

$$\text{Firm Performance} = 2.971 + 0.325X_2$$

$$\text{Model 3: } Y = \beta_0 + \beta_3 X_3 + e$$

$$\text{Firm Performance} = 1.934 + 0.601 X_3$$

The regression results in table 4 indicate that Data-based Control systems (X_1) explained 13% of variations in performance of Financial Market Intermediaries in Kenya. Additionally, results showed that Online reporting control systems (X_2) explained 8% of the variations in performance of Financial Market Intermediaries in Kenya.

Lastly, results indicated that Demand planning systems (X_3) explained 38% of the variations in performance of Financial Market Intermediaries in Kenya. The findings are supported by a coefficient of determination (R^2) of 13%, 8% and 38% respectively.

Further, results indicate that the three models are statistically significant as supported by a p value of 0.000. This implies that Data-based Control system (X_1), Online reporting control systems (X_2) and Demand planning systems (X_3) are good predictors of performance. The results were supported by F statistics of 24.854 (X_1), 14.609 (X_2) and 103.101 (X_3).

Lastly, results indicate a positive and significant relationship between Data-based Control system (X_1) and performance of Financial Market Intermediaries in Kenya as supported by a p value of 0.000 and a beta coefficient of (0.398). Further, results reveal a positive and significant relationship between Online reporting control systems (X_2) and performance of Financial Market Intermediaries in Kenya as supported by a p value of 0.000 and a beta coefficient of (0.325). Finally, results show a positive and significant relationship between demand planning systems (X_3) and performance of Financial Market Intermediaries in Kenya as supported by a p value of 0.000 and a beta coefficient of (0.601).

Based on the beta coefficients, it is possible to rank the constructs as to which best explains the performance of Financial Market Intermediaries in Kenya. The findings indicate the coefficients of the three constructs as follows; Data-based Control system ($\beta_1=0.398$), Online reporting control systems ($\beta_1=0.325$), and demand planning systems ($\beta_1=0.601$). The results herein imply that (X_3) best explains performance, followed by (X_1) and then (X_2).

4.5 Relationship between Joint Supervision and Control Constructs and Performance of Financial Market Intermediaries

The results presented in table 5 present the fitness of model used of the regression model in explaining the study phenomena.

Table 5: Model of Fitness

Indicator	Coefficient
R	0.617
R Square	0.381
Adjusted R Square	0.370
Std. Error of the Estimate	0.42998

The findings revealed that jointly, Supervision and control constructs explained 38% of the performance of financial market intermediaries in Kenya. This is supported by coefficient of determination also known as the R square of 38%. This means that supervision and control

explain 38% of the total variations in the performance of financial market intermediaries in Kenya. Table 6 provides the results on the analysis of the variance (ANOVA).

Table 6: Analysis of Variance

Indicator	Sum of Squares	Df	Mean Square	F	Sig.
Regression	18.903	3	6.301	34.081	0.000
Residual	30.690	166	0.185		
Total	49.593	169			

The results indicate that the overall model was statistically significant as supported by a p value of 0.000. Further, results were supported by an F statistic of 34.081 and the reported p value (0.000) which was less than the conventional probability of 0.05 significance level. This implies that supervision and control is a good predictor of firm performance. Table 7 presents the regression of coefficients results.

Table 7: Regression of Coefficients

	B	Std. Error	t	Sig.
(Constant)	1.908	0.344	5.553	0.000
Supervision and Control Processes	0.221	0.058	3.730	0.000

The specific model;

$$Y = \beta_0 + \beta_1 X_1 + e$$

$$\text{Firm Performance} = 1.908 + 0.221 \text{ Supervision and Control Processes}$$

The findings show that there is a positive and significant relationship between supervision and control and performance of financial market intermediaries in Kenya as supported by a p value of 0.000 and a beta coefficient of (0.221). This implies that increase in supervision and control by 1 unit would increase the performance of financial market intermediaries by 0.221 units.

These findings agree with those of Bailey and David (2008) who concluded that the ultimate aim of supply chain supervision and control is to inform decisions necessary for the system managers to take corrective action, as well as to reinforce successes. When performance deviates from standards, managers must determine what changes, if any, are necessary and how to apply them.

In the productivity and quality-centered environment, workers and managers are often empowered to evaluate their own work. After the evaluator determines the cause or causes of deviation, he or she can take the fourth step—corrective action. The corrective action may be to maintain status quo (reinforcing successes), correcting the deviation, or changing standards.

The hypothesis was tested by using the ordinary least square regression. The acceptance/rejection criteria was that, if the p value is less than the conventional p value (0.05), the H_0 is rejected but if it more than 0.05, the H_0 fails to be rejected, The null hypothesis was that supervision and control has no significant effect on the performance of

financial market intermediaries in Kenya. Results in Table 7 above show that the p value was less than the conventional p value ($p=0.05$). This indicated that the null hypothesis was rejected hence supervision and control had a significant relationship with performance of financial market intermediaries. In other words, the role of supervision and control processes in determining the performance of financial market intermediaries cannot be ignored. These results imply that supervision and control processes play a significant role in the performance of financial market intermediaries in Kenya.

These findings agree with those of Bailey and David (2008) who concluded that the ultimate aim of supply chain supervision and control is to inform decisions necessary for the system managers to take corrective action, as well as to reinforce successes. When performance deviates from standards, managers must determine what changes, if any, are necessary and how to apply them. In the productivity and quality-centered environment, workers and managers are often empowered to evaluate their own work. After the evaluator determines the cause or causes of deviation, he or she can take the fourth step— corrective action. The corrective action may be to maintain status quo (reinforcing successes), correcting the deviation, or changing standards.

5.0 Conclusion

Based on the findings the study concluded that supervision and control processes influenced the performance of financial market intermediaries in Kenya. This can be explained by the regression results which showed that the influence was positive and also showed the magnitude by which supervision and control processes influenced the performance of financial market intermediaries. This shows that the individual influence of supervision and control processes on the performance of financial market intermediaries is less than the corporate influence (all the supply chain processes). This is an indication that the presence of other supply chain processes increases the influence of supervision and control processes.

6.0 Recommendations

The study recommended that supervision and control systems of the financial intermediaries should be fully automated. This will lead to efficient supervision and control of firm's operations. The move will also empower workers and managers to evaluate their own work. Also, the study recommended that firms should adopt various supervisions and control models. For instance, a model-predictive control (MPC) framework is developed to dynamically manage inventories and meet customer requirements in a demand network such as supply chains.

References

- Armstrong, J. S. (2011). Illusions in regression analysis. *Available at SSRN 1969740*.
- Bailey, D. (2008). "Automotive News calls Toyota world No 1 car maker". Reuters.com. Reuters.
- Chand, S. (2015) *Managerial Control Process: It's Characteristics, Importance, Techniques and other Details*, <http://www.yourarticlelibrary.com/management/managerial-control-process-its-characteristics-importance-techniques-and-other-details/5383>
- Chavan, M. (2009). The balanced scorecard: a new challenge. *Journal of management development*.

- Hong-Minh, S. M., Disney, S. M., & Naim, M. M. (2000). The dynamics of emergency transshipment supply chains. *International Journal of Physical Distribution & Logistics Management*.
- Kehoe, D.F., & Boughton, N.J. (2001). New paradigms in planning and control across manufacturing supply chains. *International Journal of Operations & Production Management*, Vol. 21, Iss. 5/6, pp. 582-593.
- Tuncel, G., & Alpan, G. (2010). Risk assessment and management for supply chain networks: A case study. *Computers in industry*, 61(3), 250-259.
- Viswanadham., N. (2002) *Just in Time to Enhance 21st-Century Industry, Material-Flow, Information-Flow, Supervision and Control, and Relationship Automation Are Reaching Maturity*, Digital Stock Corp.
- Wangai, T., & Ngugi, K. (2014). *Influence of Information Technology on Performance Of Stock Brokerage Firms in Kenya*, Sage Publishers.