



## The Effect of supply chain Management Practices on companies' competitiveness: A case study of Mineral Water Factories in Dire Dawa City Administration

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### Abstract

Current Supply Chain Management brings valuable way of securing competitive advantage since the phase of competition is changed from company against company to supply chain against supply chain. The purpose of this study is to examine the supply chain management practices in mineral water factories. Specifically, the study investigated the effect of strategic supplier partnership, customer relationship management, quality of information sharing, and internal lean practice on companies' competitiveness. To address this study both descriptive and explanatory research design was employed. The current total population of the study is 2,225. To achieve the objective of the study, both primary and secondary data source was utilized. Primary data was collected through a closed-ended questionnaire from a sample of 200 employees of the companies. Data obtained through the questionnaire was analyzed by using both descriptive statistics (mean and standard deviation) and inferential statistics ((Pearson correlation and multiple linear regression were used to determine the significant effect of supply chain management practice on companies' competitiveness). The major findings of the study indicated that most of the supply chain management practices such as strategic supplier partnership, customer relationship management, and quality of information sharing have a significant effect on companies' competitiveness. Whereas internal lean practice has a positive and insignificant effect on companies' competitiveness. This study, therefore, recommends that factors related with supply chain management practice need to be considered by firms in their performance strategic plans as they have a significant effect on companies' competitiveness. And it's better if the company gives special consideration to internal lean practice to improve its competitiveness.

**Keywords:** Companies' Competitiveness, Customer Relationship Management, Internal Lean Practice, Quality of Information Sharing, Strategic Supplier Partnership

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## **1. Background of the Study**

The understanding and implementation of supply chain management (SCM) practices have a key role for an organization in staying competitive and for enhancing profitability in the increasingly competitive global market place Childhouse and Towill, (2003). Organizations are fronting different kinds of challenges in their effort of competing in today's dynamic global markets. To remain competitive, organizations must recognize the importance of effective supply chain practices that improve not only their organizational performance but also coordinate with their supply chain partners to improve their joint performance. Yet, despite the significant advances in research and practices, many organizations continue to struggle to understand the complex issues associated with the coordinated planning and supply activities amongst the members of their supply networks (Lori et al.,2011).

Supply chain management is the active management of supply chain activities to maximize customer value and achieve sustainable competitive advantage. It represents a conscious effort by supply chain firms to develop and track the supply chain in the most effective and efficient ways possible (Robert Handfield, 2011).In today's business world, things are constantly shifting; and to stay competitive within the industry, Organizations increasingly find that they must rely on effective supply chains, or networks, to compete in the global market and networked economy. In Peter Drucker's (1998) new management patterns, this concept of business relationships extends beyond traditional enterprise boundaries and seeks to organize entire business processes throughout a value chain of multiple companies.

In today's period of globalization where companies compete to offer the best quality products to the customers and satisfy all their demands, supply chain management plays a very important role. All the companies have highly depended on effective supply chain processes. A supply chain network refers to the steps taken to move and store products from the supplier stage to the customer stage. It occurs between every pair of stages overall profitability of a firm because it influences both the supply chain and customer experience directly (Chopra et al, 2007). Increased competition in today's international markets, the introduction of products with shorter life cycles, and the heightened expectations of customers have forced business enterprises to invest in, and focus attention on, their supply chains (Christopher &Towill, 2000).

Contemporary supply chains are very complex, with many equivalent physical and information flows taking place to guarantee that products are delivered in the right quantity, to the right place in a cost-effective manner. As a result, some authors have suggested that supply network may be a more accurate term than supply chain (Christopher et al, 1992). And it has been suggested that the drive toward more efficient supply chains during recent years has resulted in the supply chain becoming more open to disturbance and prone to challenges (Christopher and lee, 2004; Mcclivardy, 2000; engardio, 2001). The world is in the era of supply chain competition, where organization no longer acts in separation as an independent entity, but as a supply chain to create value delivery systems that are more responsive to fast-changing markets, more consistent, and reliable (Christopher, 2005, Pandey and Gaug, 2009).

Supply Chain Management practice in Ethiopia is still in the start stages, there are small numbers of manufacturing companies integrating it into their organizational system. In addition, some challenges in the industry resulted in falling the quality and demand of products manufactured locally. One of the problems is the poor supply chain management practice of organizations in the industry (Hailemichael, 2011).

In addition, if a manufacturer's operation is regularly affected by competitors 'actions, it may face a greater need to coordinate with supply chain partners. For example, a manufacturer that needs to modify the design of its product, because of market entry or new products launched by competitors, also needs to modify the design of upstream components that constitute the product; it may also need to rearrange downstream channels for new product distribution. These may bring considerable coordination. These and other issues now made it clear that management of the supply chain is crucial for business success (Linnet, 2015). Competitiveness is the degree to which an organization can create a defensible position over its competitors Porter (1985). It comprises abilities that allow an organization to differentiate itself from its competitors and is an outcome of critical management decisions (Tracey M, Vonderembse MA, 1999). The empirical literature has been quite consistent in identifying price/cost, quality, delivery dependability, flexibility, and time to market as important competitive capabilities.

Currently, competition is moving from organization against the organization to supply chain against supply chain. The existence of any business today is no longer exclusively dependent on its own ability to compete but rather on the ability to cooperate within the supply chain. To survive and thrive business organizations depend on their supply chains. Subsequently, over the past years, there has been an increasing emphasis on supply chain management as a vehicle through which companies can achieve a competitive advantage in the business environment.

Managers must understand that their businesses are only part of the supply chain that they participated and it is the supply chain that wins or loses the competition (Dawei Lu, 2011:8). Several studies show that supply chain management practice affects companies' competitiveness. For instance, Wijetunge, (2016) examined the role of supply chain management practices in achieving organizational performance through competitive advantage in Sri-Lankan SMEs by using variables such as a strategic partnership with suppliers, level of information sharing, quality of information sharing, customer relationships, internal lean process (postponement) and lean practices. concluding that the higher the supply chain management practices the higher the competitive advantage is.

Inda Sukati, Abu Bakar Abdul Hamid, Rohaizat Baharun, Mohd Norfian Alifiah, Melati Ahmad Anuar (2005), conducted a study on Competitive Advantage through Supply Chain Responsiveness and Supply Chain Integration shows that business competition is moving between organizations to between supply chains partners, organizations are increasingly adopting supply chain management practices, in the expectation of generating supply chain responsiveness and competitive advantage of the firm. The research assures practitioners that supply chain management is an effective way of competing, and the implementation of supply chain management practices does have a strong impact on supply chain responsiveness and the competitive advantage of the firm.

Omainet *al.* (2010) based on previous studies reasoned that the implementation set of supply chain management practices differs depending on the country and type of organization involve. This means different organizations and countries have a different set of practices in implementing supply chain management this is because of different managerial perceptions of how supply chain components are related to each other and the organization example different styles of management, different world views from a different country and cultural differences. Therefore, there is no clear set of supply chain practices suitable for all industries or countries.

Most of the studies conducted in the supply chain management practice were focused on developed countries. Even if there were supply chain management practices in Ethiopia, their implementation and integration system is at a beginning stage. The researchers had hardly found any prior studies which were specifically conducted to study the practical implementation of supply chain management practices as well as their impact on the companies' competitiveness in mineral water factories. Thus, the purpose of this study was to investigate the effect of supply chain management practice has on companies' competitiveness

in the case of mineral water factories, Dire Dawa city administration by considering the followings study variables as Strategic supplier partnership (SSP), customer relationship management (CRM), quality of information sharing (QIS) and internal lean practice (ILP).

## 2. Materials and Methods

In this study, both descriptive and explanatory research designs were used to describe the effect of supply chain management practices on companies' competitiveness. A causal research design can be carried out to identify the extent of a cause-and-effect relationship between variables to examine the effect of specific changes on existing standards and processes while offering a great level of validity due to the systematic selection of subjects. The population for this study is comprised of workers in all mineral water factory workers located in Dire Dawa City Administration. The current total populations of the case companies are 2,225. The researchers were taking 200 respondents by using the formula proposed by (Malhotra, & Birks, 2007).

Table 1. Sample selection based on a formula of Malhotra, & Birks, 2007

Population Size	Sample size		
	Low	Medium	High
51-90	5	13	20
91-150	8	20	32
151-280	13	32	50
281-500	20	50	80
501-1200	32	80	125
<b>1201-3200</b>	50	125	<b>200</b>
3021-10,000	80	200	315
10,001-35000	125	315	500
35001-150000	200	500	800

For the study achievement, the data was obtained from both primary and secondary sources. A self-administered questionnaire was distributed to the respondents of the companies based on the response of close-ended items questions were elicited on a 5-point Likert scale with 1=Strongly Disagree, 2= Disagree, 3=Moderate, 4=Agree, and 5= Strongly Agree.

In this study, data was analyzed through both descriptive (mean and standard deviation), and inferential statistics (Pearson correlation, and multiple linear regression) statistics. The data collected was processed through the use of a statistical package for social science software.

### 3. Data analysis and interpretation

#### a. Descriptive analysis

Table 2. Descriptive Statistics Supply Chain Management Practice and Companies Competitiveness

Variables	Mean	Standard Deviation
SSP	2.9744	.62857
CRM	3.3579	.71427
QIS	3.4297	.83044
ILP	3.5043	.62806
CC	3.2010	.71153

Source: Researchers Survey, (2021)

Table 2 presents the results showing the supply chain management practices and company competitiveness. Descriptive statistics the mean and standard deviation of the supply chain management practices were shown. It is clear from the results that the most common practiced of supply chain management were strategic supplier partnership (mean= 2.9744, SD= 0.62857), customer relationship management (mean= 3.3579, SD= 0.71427) quality of information sharing (mean 3.4297, SD= 0.83044), internal lean practice (mean= 3.5043, SD= 0.62806), and companies' competitiveness (mean= 3.2010, SD= 0.71153). From this analysis, it can be concluded that the perception of respondents toward supply chain management practices was good. Specifically, (strategic supplier partnership, customer relationship management, quality of information sharing, and internal lean practice) were relatively good practices in mineral water factories. This implies that the respondents have a better perception of supply chain management practices and thus practices have a significant effect on the company's competitiveness in mineral water factories.

#### b. Correlation analysis

Table 3 presents the summary of the Pearson correlation between supply chain management practices and companies' competitiveness. It can be observed that the supply chain management practices such as strategic supplier partnership, customer relationship management, quality of information sharing, and internal lean practice were independently and positively correlated with companies' competitiveness and also highly significant at 1% which means 0.01 levels.

Table 3. Correlation matrix for SCM Practice and companies' competitiveness

		SSP	CRM	QIS	ILP	CC
SSP	Pearson Correlation	1	.724**	.834**	.408**	.839**
	Sig. (2-tailed)		.000	.000	.000	.000
	N	195	195	195	195	195
CRM	Pearson Correlation	.724**	1	.771**	.478**	.779**
	Sig. (2-tailed)	.000		.000	.000	.000
	N	195	195	195	195	195
QIS	Pearson Correlation	.834**	.771**	1	.563**	.845**
	Sig. (2-tailed)	.000	.000		.000	.000
	N	195	195	195	195	195
ILP	Pearson Correlation	.408**	.478**	.563**	1	.488**
	Sig. (2-tailed)	.000	.000	.000		.000
	N	195	195	195	195	195
CC	Pearson Correlation	.839**	.779**	.845**	.488**	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	195	195	195	195	195

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

Source: Researchers Survey, (2021)

it is understandable that the maximum correlation ( $r= 0.845$ ,  $p< 0.01$ ) exists between quality of information sharing and companies' competitiveness followed by strategic supplier partnership ( $r= 0.839$ ,  $p< 0.01$ ), customer relationship management ( $r= 0.779$ ,  $p<0.01$ ) and ( $r= 0.488$ ,  $p<0.01$ ) internal lean practice respectively. This implies that there was a strong and positive relationship between supply chain management practices and companies' competitiveness.

### c. Regression analysis

Multiple regression analysis was carried out to determine the effect of independent variables on the dependent variable. Multiple regression was also used to determine the overall fit (variance explained) of the model and the relative contribution of each of the predictors to the total variance explained. According to Balance. L.D, (2004), the correct use of the multiple regression model requires that several critical assumptions can be satisfied to apply the model and establish validity. Inferences and generalizations about the theory are only valid if the assumptions in the analysis have been tested and fulfilled.

**d. Assumption tests of regression analysis**

**i. Normality tests**

Table 4. Normality test

	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	Df	Sig.
SSP	.093	195	.000	.965	195	.000
CRM	.108	195	.000	.968	195	.000
QIS	.175	195	.000	.920	195	.000
ILP	.135	195	.000	.950	195	.000

a. Lilliefors Significance Correction  
Source: Researchers Survey, (2021)

Table 4 displays the normality test distribution that all variables of the study were normally distributed at the value of significance ( $p < 0.05$ ) using Kolmogorov-Smirnov statistics.

**ii. Multi-Collinearity test**

Table 5. Multi-collinearity test of independent variables

Model	Collinearity Statistics	
	Tolerance	VIF
SSP	.281	3.561
CRM	.379	2.640
QIS	.212	4.708
ILP	.661	1.512

Source: Researchers Survey, (2021)

As shown in the above table, based on the coefficients of output (collinearity statistics), the obtained variance inflation factor (VIF) for all independent variables was found between 1 and 10, and tolerance is  $> 0.2$ , which implies that there were no multicollinearity problems in the study.

**iii. Linearity test**

Table 6. Linearity test

			Sum of Squares	df	Mean Square	F	Sig.
CC * SCMP	Between Groups	(Combined)	88.125	30	2.937	47.735	.000
		Linearity	77.022	1	77.022	1251.648	.000
		Deviation from Linearity	11.102	29	.383	6.221	.423
	Within Groups		10.092	164	.062		
	Total		98.217	194			

Source: Researchers Survey, (2021)

As displayed in the above table the sig. values of deviation from linearity of all variables are  $> 0.05$ . From this, it can be concluded that there is a linear relationship between independent variables and dependent variables. From the above ANOVA table, the sig. value of deviation

from linearity of each variable was above 0.05 which is 0.423. Therefore, each independent variable is linearly correlated with the dependent variable which is companies' competitiveness.

#### iv. Test of autocorrelation

The Durbin Watson (DW) statistic is a test for autocorrelation in the residuals from a statistical model or regression analysis. The Durbin-Watson statistic will always have a value ranging between 0 and 4. A value of 2.0 indicates there is no autocorrelation detected in the sample. Values from 0 to less than 2 points to positive autocorrelation and values from 2 to 4 mean negative autocorrelation. (Will Kenton, 2021)

As indicated in the above table the Durbin-Watson tests produce a test statistic value of 1.724. These values range from 0 to 2. This implies that there is positive autocorrelation in the sample.

#### e. Multiple linear regression

This regression analysis was conducted to know how much the independent variables explain the dependent variable which is companies' competitiveness. The results of the regression were presented in the tables as follows:

#### Model Fitting information

Table 8. Model summary

Model	R	R Square	Adjusted R Square	Std. The error in the Est.	Durbin-Watson
1	.892 <sup>a</sup>	.796	.792	.32448	1.724

a. Predictors: (Constant), ILP, SSP, CRM, QIS

Source: Researchers Survey, (2021)

As indicated in the above model summary table, The "R" column represents the value of R, the multiple correlation coefficient. The r-value of .892 indicates a very strong correlation between supply chain management practice and companies' competitiveness which shows a good level of prediction. The "R Square" column represents the  $R^2$  value (also called the coefficient of determination), which is the proportion of variance in the dependent variable that can be explained by the independent variables. The  $R^2$  value of .796 (79.6%) implies the relative contribution of supply chain management practice included in the model in interpreting the company's competitiveness, the remaining 20.4% of the changes can be attributed to other supply chain management practices.

**Regression model overall fit**

Table 9 ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	78.213	4	19.553	185.718	.000 <sup>b</sup>
	Residual	20.004	190	.105		
	Total	98.217	194			

a. Dependent Variable: CC

b. Predictors: (Constant), ILP, SSP, CRM, QIS

The regression model overall fit can be examined with the help of ANOVA. Accordingly, the above table shows that the value of R and R<sup>2</sup> found from the model summary is statistically Significant at (F=185.718), (P<0.001), which implies the regression model is a good fit for the data. From this, it can be concluded that if the sig value is less than 0.05, the combination of independent variables is a good predictor of the dependent variable.

**Regression Coefficients**

Table 10. Regression Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.021	.154		.135	.893
	SSP	.439	.070	.388	6.272	.000
	CRM	.233	.053	.234	4.401	.000
	QIS	.274	.061	.319	4.494	.000
	ILP	.044	.046	.039	.964	.336

a. Dependent Variable: CC

As shown in the above table the Sig. the value represents the confidence level (significance level). Accordingly, the Sig. value of strategic supplier partnership is .000, which is < 0.05. From this, it can be concluded that strategic supplier partnership has a positive and significant effect on companies' competitiveness at ( $\beta=.439$ ) and ( $p=.000$ ).

As indicated in the above table the Sig. value of customer relationship management is .000, which is less than 0.05. This implies customer relationship management has a positive and significant effect on companies' competitiveness at ( $\beta= .233$ ) and ( $P= .000$ ). Therefore, there is a positive and significant relationship between customer relationship management and companies' competitiveness.

As can be seen from the above regression table the Sig. value of quality of information sharing is .000, which is less than 0.05. This indicates that the quality of information sharing has a positive and significant effect on companies' competitiveness at ( $\beta= .274$ ) and ( $P= .000$ ). Therefore, there is a positive and significant relationship between the quality of information sharing and companies' competitiveness.

However, the P-value for internal lean practices is (0.336), which is greater than the alpha level of 0.05 and indicates internal lean practices are not statistically significant.

The value of  $\beta$  from the above regression table represents the slope of the regression line. Among the four variables that are identified as predictors, strategic supplier partnership is the largest contributor to companies' competitiveness with a beta coefficient of 0.439. i.e., it regresses companies' competitiveness more than the other variables. Quality of information sharing is the second (.274) and followed by customer relationship management and internal lean practice with a beta coefficient of .233, .044 respectively.

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \epsilon$$

$$Y = .021 + .439X_1 + .233X_2 + .274X_3 + .044X_4$$

The value of 'Y' is 0.021 which means the expected value of companies' competitiveness is 0.021 when all the four variables assume zero value. Among the four factors, four of them are found to be statistically significant supply chain management practices and significant predictors of the dependent variable (companies' competitiveness). These are strategic supplier partnership, customer relationship management, and quality of information sharing practices as evidenced by their P-values ( $P < 0.05$ ).

#### 4. Results and Discussion

From the descriptive statistics analysis shows that strategic supplier partnership (mean= 2.9744, SD= 0.62857), customer relationship management (mean= 3.3579, SD= 0.71427) quality of information sharing (mean 3.4297, SD= 0.83044), internal lean practice (mean= 3.5043, SD= 0.62806), and companies' competitiveness (mean= 3.2010, SD= 0.71153). From this analysis, it can be concluded that supply chain management practices (strategic supplier partnership, customer relationship management, quality of information sharing, and internal lean practice) were relatively good practices in mineral water factories. This implies that the practices of supply chain management have a significant effect on the company's competitiveness in mineral water factories.

The study established that quality of information sharing ( $r = 0.845$ ) exists between strategic supplier partnership ( $r = 0.839$ ), customer relationship management ( $r = 0.779$ ) and internal lean practice ( $r = 0.488$ ) respectively. This implies that there was a positive relationship between supply chain management practices and companies' competitiveness.

As the study showed that the beta coefficient of supply chains management practices such as strategic supplier partnership ( $\beta=.439$ ), customer relationship management ( $\beta= .233$ ), quality of information sharing ( $\beta= .274$ ), and internal lean practices (.044).

The hypotheses tests analysis shows that strategic supplier partnership, customer relationship management, and quality of information sharing have a positive and significant effect on companies' competitiveness whereas internal lean practice has a positive and insignificant effect on companies' competitiveness.

The first hypothesis proposed that strategic supplier partnership has a positive and significant effect on companies' competitiveness. This hypothesis was accepted because there was a positive and significant relationship ( $\beta=.439$  and  $p= 0.000$ ) between strategic supplier partnerships influencing companies' competitiveness. This result implies that the implementation of strategic supplier partnerships by mineral water factories predicts their competitiveness. This result is supported by Sadikoglu and Zehir (2010). Also stated is that in strategic supplier partnership, suppliers play a more direct role in an organization's quality performance. Strategically aligned organizations can work closely together and eliminate wasteful time and effort Balsmeier and Voisin (1996). An effective supplier partnership can be a critical component of a leading-edge supply chain (Noble, 1997). The main objective of strategic partnerships with suppliers is to increase the functional capability desired supplier (Rosenzweig, 2003). Therefore, a strategically managed long-term relationship with a supplier has a positive impact on a firm's supplier performance Cooper and Ellram (1993).

The second hypothesis proposed that customer relationship management has a positive and significant effect on companies' competitiveness.

This hypothesis was accepted because there were positive and significant relationships between customer relationship management has a positive and significant effect on companies' competitiveness as the result indicates ( $\beta=.233$  and  $p= 0.000$ ). This result is supported by the study conducted on Customer relationship management as an important component of Supply chain management practices. As pointed out by Day (2000), devoted relationships are the most sustainable advantage because of their essential barriers to competition. Focusing and maintaining the customer relationship will enable the organizations to be more responsive to customers' needs and will result in creating greater customer loyalty, repeat purchases, and willingness to pay premium prices for high-quality products Carr and Pearson (1999). Besides, the main goals of Supply chain management are customer satisfaction and loyalty as Stalk and

Hout (1990), customer relationship management is an important component of supply chain management practices (Noble, 1997).

The third hypothesis proposed that the quality of information sharing has a positive and significant effect on companies' competitiveness. This hypothesis was accepted because there was a positive and significant relationship between the quality of information sharing and companies' competitiveness as the result indicates ( $\beta=.274$  and  $p= 0.000$ ).

This result is in line with the work of Li et al., (2005), having close customer and supplier relations includes collaborating and assisting one another with vital, on time, and quality information. Information sharing is an important aspect of achieving perfect integration in a supply chain. Poor information sharing between partners in a supply chain will result in poor coordination that will lead to many serious problems such as high inventory levels, inaccurate forecasts, low resource utilization, and high production costs. Effective use of relevant and timely information by all the functional elements in the supply chain is considered a competitive factor and distinctive (Ahmadi, 2005). Failures can occur in case of information delays, shortages, or distortion across the supply chain (Power, 2005). Organizations need to view their information as a strategic asset and ensure that it flows with minimum delay and distortion (Li et.al, 2006).

The fourth hypothesis proposed that internal lean practice has a positive and significant effect on companies' competitiveness. The P-value for internal lean practice is ( $p=.336$ ) which is greater than Sig. level of 0.05 and which indicates statistically insignificant. Therefore, the effect of internal lean practice on companies' competitiveness is positive but insignificant. Consequently, the proposed hypothesis was ejected is rejected.

## 5. Conclusion and Recommendation

Based on previous theories and research have done in the areas of Supply Chain Management Practices and its major findings, this study could indicate strong links between supply chain management practice and companies' competitiveness, which helps to intensely understand the relationship and interaction among them. The findings support that Supply chain management practice constructs can increase companies' competitiveness. In this study, the effect of variables; (Strategic Supplier Partnership, Customer Relationship, quality of information Sharing, and Internal lean practices) on companies' competitiveness was investigated.

Based on the study result, it can conclude that Strategic Supplier Partnership, customer relationship, quality of information sharing, and companies' competitiveness of mineral water

factories are positively related and statistically significant. However, internal lean practice is not statistically significant to influence companies' competitiveness.

However, the general conclusion that emerged in this study was that supply chain management practices understanding and implementation in mineral water factories can have a direct, positive influence on the companies' competitiveness when effectively and efficiently implemented.

Therefore, to be competitive the Companies should give due attention to supply chain management practices and implement continuous improvement programs in every aspect of the business particularly in supply chain management functions to capture the possible competitive advantages in the industry.

As Supply Chain Management Practices variables listed in this research explain nearly the major portion of the company's competitiveness, therefore giving due attention to this variables might increase Company's competitiveness with the dimensions stated in this research. Better if the company's supply chain management practice needs to be considered by firms in their performance strategic plans as they have a significant impact on companies' performance.

The result of internal lean practice shows insignificant in the study, but it doesn't mean the variables have no contribution to companies' competitiveness. the researchers recommend the following important recommendation to utilize the benefit of internal lean practice better if the companies do the following to be competitive enough: -

- ✓ It's better if the companies implement manufacturing practices that focused on the reduction of waste.
- ✓ Its better if implement the companies focused on reducing non-value adding activities (those activities didn't have any value but consumed resources)
- ✓ Its better if the companies give training for the workers on how to apply the lean practice in the company.

To make strong supply chain management practices the Companies have to give special emphasis, particularly on Internal Lean practices.

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## Conflict of Interest

The authors declare that there is no conflict of interest regarding the publication of this article.

## References

- Ahmadi, H. (2005), —Supply Chain Managementl, Tehran, Iran Industrial Research Center
- Balance, L.D (2004). Assumptions in Multiple Regression. American Psychological Association.
- Balsmeier, P.W., and Voisin, W.J. (1996). Supply Chain Management: a time-based strategy. *Industrial Management*. 38, 24-27.
- Carr, A.S. and L. R. Smeltzer (1999). “The relationship among purchasing benchmarking, strategic purchasing, firm performance, and firm size.” *Journal of purchasing and supply chain management* 35(4): 51-60.
- Childhouse, P. and Towill, D. R. (2003), —Simplified Material Flow Holds the Key to Supply Chain Integrationl, OMEGA
- Christopher & Towill, (2000), *international journal of physical distribution and logistics management*, Vol. 31, No. 4.
- Christopher, M. (1992) *Logistics and supply chain management: strategies for reducing cost and improving service*, 2nd edition London: Financial Times-Pitman Publishing.
- Christopher and lee, 2004; Mcclivardy, 2000; engardio, 2001, *the international journal of logistics management*. Vol. 16, No.1.
- Christopher, M., (2005), “Logistics and Supply Chain Management- Creating Value-Adding Networks,” Prentice Hall/ Financial Times.
- Chopra, Mendl, and Kalra (2007) *Supply chain management, strategy, planning, and operation*. Third edition p.93.
- Dawei Lu (2011). *Fundamentals of Supply Chain Management*. Retrieved on May 19, 2018 from [www.bookboon.com](http://www.bookboon.com).
- Ellram, L.M. and Cooper, M.C. (1993) *Characteristics of Supply Chain Management and the Implication for Purchasing and Logistics Strategy*. *International Journal of Logistics Management*, 4, 13-24.
- Hailemickael Deres (2011), *Supply Chain Performance of selected leather Footwear firms in Addis Ababa*

- Inda Sukati, Abu Bakar Abdul Hamid, Rohaizat Baharun, Mohd Norfian. Alifiah, Melati Ahmad Anuar. Competitive Advantage through Supply.
- Li, S. Rao, S. & Ragu-Nathan, B. (2005) 'Development and Validation of measurement Instrument for Studying Supply Chain Management practices', *Journal of operation management*, 23 (6): 618-641.
- Li, S., Ragu-Nathan, B., Ragu-Nathan, T. S. and Rao, S.S. (2006). The impact of supply chain management practices on competitive advantage and organizational performance. *The International Journal of Management Science*, 34: 107-124.
- Linnet Moraa, Willy Muturi, Charles Munene(2015), —Effects of Supply Chain Management Practices on Organizational Performance: A Case of Kenya Wine Agencies Limited, Nairobi, *The International Journal of Business & Management (ISSN 2321 –8916)*, Vol 3 Issue 4.
- Lori S. Cook & Daniel R. Heiser, The moderating effect of supply chain role on the relationship between supply chain practices and performance, *International Journal of Physical Distribution & Logistics Management*, 41(2), 2011.
- Malhotra, N. K., & Birks, D. F. (2007). *Marketing Research: An Applied Approach*, Pearson Education Limited, England.
- Noble D. (1997), Purchasing and supplier management as a future competitive advantage edge, *Logistic Focus*, 5(5): 23-27. *Operations & Production Management*, 26: 697-702.
- Omain, S. Z., Abdul Hamid, A., Abdul Rahim, A. and MdSalleh, N. (2010). Supply chain management practices in Malaysia's palm oil industry. A paper presented at the 11th Asia Pacific Industrial Engineering and Management Systems Conference (APIEM), Melaka.
- Pallant, Julie (2010). *SPSS survival manual: A step-by-step guide to data analysis using SPSS*.
- Pandey, V.C and Garg S (2009), Analysis of interaction among the enablers of agility in the supply chain. *Journal of advances in management research*, 16:1, pp.99-114.
- Peter D., (1998), New Management Paradigms, *MIS Quart*, 10(2), pp.120- 158
- Porter, M. E. (1985) *Competitive Advantage: Creating and Sustaining Superior Performance*. New York: Free Press.

- Robert Hadfield, 2011, managing global supply chain relationships: operations, strategies, and practices.pp.1-15.
- Rosenzweig, E.D., Roth, A.V., 2003. Metrics for assessing operational competencies in the B2B arena: multi-item scale development and validation. Working Paper, Goizueta Business School, Emory University, Atlanta, GA.
- Stalk, G. and Hout, T.M. (1990) Competing against Time: How Time-Based Competition Is Reshaping Global Markets. Free Press, New York.
- Sadikoglu, Esin & Zehir, Cemal, 2010. "[Investigating the effects of innovation and employee performance on the relationship between total quality management practices and firm performance: An empirical study of Turkish firms](#)," [International Journal of Production Economics](#), Elsevier, vol. 127(1), pages 13-26, September.
- Tracey, M, Vonderembse, MA & Lim JS 1999. 'Manufacturing technology and strategy formulation: keys to enhancing competitiveness and improving performance', *Journal of Operations Management*, Vol. 17, no. 4, pp.411–28.
- Wijetunge.w.a.d.s.(2016), —The Role of Supply Chain Management Practices in Achieving Organizational Performance Through Competitive Advantage in Sri Lankan Smesll, Proceedings of 54th ISERD International Conference Singapore, 17th-



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