

# QUALITY OF FIRMS'-SUPPLIERS' INTEGRATION AND ORGANIZATIONAL PERFORMANCE: PERCEPTION OF MANUFACTURING COMPANIES IN HAWASSA, ETHIOPIA

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## **ABSTRACT**

*This purpose of this study is to assess the effect of quality of suppliers'-firms' integration on organizational performance of manufacturing firms. The research type is descriptive which involved quantitative design. Primary data used was through the administering of questionnaires while secondary sources like past studies and archives was accessed from various databases like journals, business source premier in order to obtain some reliable literature and empirical findings that was applied in order to have a better understanding about the suppliers' integration practices and its impact on performance. Through using simple random sampling method questionnaires was distributed to the respondents. The sample sizes designed and distributed for the study under consideration was 342 employees but actually returned and the analyzed was 229. Quantitative analyses employed with the use of statistical tools (descriptive and inferential). The findings show that organizational performance has a positive and significant relationship with each of the suppliers integration practices i.e. the Strategic Supplier Partnership practices, Customer Relationship practices, Level of Information Sharing practices, Quality of Information Sharing practices and Post ponement practices. A quality of organizational customer relationship has the strongest unique contribution to organizational performance. The second is levels of information sharing practices of then strategic supplier partnership, postponement an d Qualities of information. Therefore, manufacturing companies around Hawassa city should give due attention to the suppliers' integration practices in order to achieve its intended objectives and goals.*

**Keywords:** Organizational performance, Strategic supplier partnership, Customer relationship, Levels of information, Qualities of information, Postponement.

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## 1. INTRODUCTION

Until recently supplier integration has had only a relatively modest impact on supply chain management practices research despite its importance in other disciplines and its rapid proliferation in organizational practice (Berry *et al.*, 1997; Dekker and Van Goor, 2000; Ramos, 2004). The efficacy of supplier integration management practices as part of the management process is faced with serious challenges in the era of globalization in which low costs, operating efficiency and customer satisfaction are the focus (Innes and Mitchell, 1995; Kaplan and Norton, 1996; Scapens, 1999; Burns and Vaivio, 2001; Gupta and Gunasekaran, 2005). Traditional performance and cost measures are no longer suitable for developing and managing enterprises in the so-called new environment. It appears that traditional supply chain management practices techniques are nowadays being used together with so-called 'advanced' accounting techniques such as activity-based costing (ABC), target costing, product life cycle costing, just-in-time (JIT) inventory, total quality management (TQM), value chain analysis, the balanced score-card approach to performance measures and others (Innes and Mitchell, 1995; Chenhall and Langfield-Smith, 1998a; Anderson and Lanen, 1999; Joshi, 2001; Luther and Longden, 2001; Waweruet *al.*, 2004; Islam and Kantor, 2005; Abdel-Kader and Luther, 2008).

Traditional supply chain management practices is said to fail to recognize the potential for exploiting linkages with the firm's suppliers and customers. It has been argued that traditional supply chain management practices systems do not readily support SIM perspectives. According to Seal *et al.* (1999), the implications of SIM initiatives for supply chain management practices and for management accountants both support that criticism and show how supply chain management practices is changing in response to the challenges. The contribution of supply chain management practices to SIM may depend on its ability to develop costing and performance measurement technologies that can be understood and respected by non-accountants who currently predominate in the field of supply chain (Seal *et al.*, 1999).

As producers, suppliers and assemblers become increasingly integrated, it remains to be considered how supply chain management practices is or can be designed and used to assist in the formulation, implementation and realization of strategies for achieving competitive advantage. Supply chain management practices techniques should demonstrate degrees of the following orientations: environmental (outward-looking) and long term (forward looking) and not internal and backward looking (Cadez and Guilding, 2008). Forward looking business organizations today are dynamic as they collaborate with suppliers, customers and even with competitors, and share information and knowledge with the aim of creating an integrated supply chain to compete in the industry (Kohet *al.*, 2007).

The objectives of Supplier integration are to optimize performance in meeting agreed customer service requirements and minimizing costs whilst optimizing the use of all resources throughout the entire supply chain. SIM has been defined to recognize explicitly the strategic nature of coordination between trading partners and to explain its dual purpose: to improve the performance of an individual organization and to improve the performance of the whole supply chain (Kohet *al.*, 2007; Fyneset *al.*, 2008). Supplier Integration Management (SIM)

has also been considered as the most popular operations strategy for improving firm competitiveness in this century (Wisner, 2003; Li *et al.*, 2006; Gunasekaran *et al.*, 2008).

SIM and related strategies are crucially important to the success of particularly manufacturing firms. This is because the cost and quality of goods and services sold are directly related the cost and quality of goods and services purchased. Components of SIM are also found to have considerable effects on firm performance (Chow *et al.*, 2008). Performance for supply chain firms is measured not only financially (using profitability measures), but also non-financially such as by customer satisfaction and product quality (Li *et al.*, 2006; Kohet *et al.*, 2007; Fynes *et al.*, 2008). Types of performance measures are identified as necessary components in any supply chain performance measurement system, including resources, output and flexibility (Beamon, 1999; Gunasekaran *et al.*, 2001; Wisner, 2003).

As firms adapt to environmental, technological and management developments, it is argued that firms must design a supply chain management practices system and adopt some of the sophisticated techniques. The appropriateness of using sophisticated techniques depends on the circumstances in which these techniques are being used. This gives rise to the need to adopt a contingency theory perspective (Gerdin, 2005; Tillema, 2005; AbdelKader and Luther, 2008). Although the role of supply chain management practices in SIM has received increasing attention in the last few years, these relationships are still far from being clearly determined.

With the advancement of information and communication technologies, supply chain integration has been considered a strategic tool for firms to improve their competitiveness. The supply chain integration within processes and between organizations has enhanced value creation. However, the fragmented nature of the business in developing country demonstrates a noticeable difficulty in terms of competitiveness and efficiency. Lack of a relevant literature on practical experience in supply chain integration in developing countries is one of the challenges. The preliminary findings of the study highlight that prevailing approach to supply chain integration is limited to ad hoc functional based boundaries within the firm. The SC integration enablers are also restricted to the traditional way of communications such as telephone, fax, and letters. Firms need to focus on those issues that require attention in pursuance of greater SC integration (Georgise *et al.* 2014) studied Integrating developing country manufacturing industries into global supply chain and their finding indicates that Ethiopia has a low level of supply chain relationship both in intra and inter organizational supply chain integration level among members. Accordingly, suggested that as such issues require much attention to facilitate a greater integration within the supply chains in the Ethiopian manufacturing industries. Therefore, the researcher main research questions (RQs) to be addressed by the study is as follows: To what extent do the Firms- Supplier Integration Practices impacted on the organizational performance of manufacturing firms around Hawassa City? Based on the discussion the researcher tested the following research hypothesis stating that; Each Supplier Integration Practices (Strategic Supplier Partnership, Customer Relationship, Level of Information Sharing, Quality of Information Sharing and Postponement) have significant and positive effect on organizational performance.

## 2. MATERIALS AND METHODS

### 2.1. Description of the study area

The research was conducted around Hawassa city, which is an active city of Ethiopia at the heart of the rift valley. It is the capital of the Southern Nations, Nationalities and Peoples Region. The city has been named after the lake that stands next to it. Hawassa city is attaining a continuous growth; and daily attracting tourists and has opened its doors wide to investors.

It is an attractive town that you can come in any of your interest and do what you wish. It is at a distance of 275km from Addis Ababa, founded on 1959. There are more than 52 fully operational manufacturing companies around Hawassa city; the study was carried out among the manufacturing companies around Hawassa city.

## 2.2. Study Subject

It is very vital to examine the extent to which firms have adopted supply chain management and investigating whether supply chain management practices enhance supply chain performance and overall firm performance, whether supply chain performance is associated with overall firm performance. To achieve the objectives, the study was carried out by using twenty two fully operational, medium and large scale manufacturing companies. These are printing press, flour factory, and food processing factories, drinking factories, textile factory, wood factory, plastic factory, metal factory and concrete pole.

## 2.3. Study design (Study type, Sample size and Sampling Procedure)

This part will outlines and discusses the methodology that was used in the research. It begins by describing the research philosophy, followed by the research approach. Then it may explain the research strategy and data collection methods to be employed, in particular, the pursuit of a triangulation data collection method, where a survey questionnaire was supplemented with semi-structured interviews. The organization of this portion was structured based on 'the research process onion' proposed by Saunders *et.al.* (2007) as shown below (see in Figure 1.1 below). Saunders *et al.* (2007) portray the research process as an 'onion' where assumptions must be made at each individual stage of the research approach, referred to as layers of the 'onion'. The layers of the research onion represent the following aspects: the philosophical paradigm, approach and strategy which highlight the influence of research method selection in this research. Based on this diagram, selection of research method should be based on the research philosophical paradigm, due to the fundamental nature of the research processes.

## 2.4. Research approach

This research will follow the deductive approach. Deductive research is a study in which a conceptual or theoretical structure is developed and then tested by empirical observation. The approach is also referred to as moving from the general to the particular. In the deductive approach, hypotheses can be developed from literature and previous research and then can be tested. The researcher then has to construct measurable and quantifiable variables that allow testing of the hypothesis. A common method for deductive research is the use of survey questionnaires (Collis and Hussey, 2003; Saunders *et al.*, 2007). The inductive approach, on the other hand, is a study in which theory is developed from the observation or empirical reality (Saunders *et al.*, 2007). The researcher tries to understand the research environment and objects and to extract theories from it.

## 2.5. Research strategy and data collection methods

This study may employ a survey strategy. The survey strategy is normally associated with the deductive approach and most frequently used to answer who, what, where, how much and how many questions (Saunders *et al.*, 2007). The survey is also a popular and common strategy in business and management research as it allows the collection of a large amount of data from a sizeable population in a highly economical way. The importance of the survey instrument as a data collection technique in the behavioral sciences is widely recognized (Bryman and Bell, 2007).

There are two types of survey that generally predominate in academic research; descriptive survey and analytical survey. The descriptive survey counts a representative sample and then makes inferences about the population as a whole based on the data collected so they are descriptive in orientation and therefore do not investigate the relationships between one variable and another (Oppenheim, 1992). An analytical survey, on the other hand, is designed to explore the relationships between variables of interest to the researcher to find associations and explanations and move towards prediction (created to explore specific hypotheses) and consequently was the most appropriate for this study. In this research, the survey questionnaire was employed in order to obtain a general picture of SIM practices, and firm performance.

However, the data collected by the survey strategy are unlikely to be as wide-ranging as those collected by other research strategies (Saunders *et al.*, 2007) (See Table 4 .3 below). For instance, with a survey, there is a limit to the number of questions that any questionnaire can contain; the ability to explore and understand the context is limited by the number of variables for which data can be collected. The data collection techniques to be employed may be various and are likely to be used in combination (Saunders *et al.*, 2007). Consequently, qualitative data collected using semi-structured interviews may be a valuable way of triangulating quantitative data collecting by survey questionnaire.

## 2.6. Research choice

A quantitative approach involves collecting and analyzing numerical data, and applying statistical tests. On the contrary, a qualitative approach is more subjective in nature and involves examining and reflecting on perceptions in order to gain an understanding of social and human activities. Qualitative researchers are greatly influenced by different intellectual traditions, whereas quantitative researchers are intensely influenced by a natural science approach to what should count as acceptable knowledge (Bryman and Bell, 2007). The two approaches are not mutually exclusive; it is possible to combine the two approaches and research can be enriched by doing so. A mixed methods approach can enable a richer and deeper investigation of the research problem (Creswell, 2009).

In this research, both methods was employed, known as mixed methods or methodological triangulation. Mixed method applies when both quantitative and qualitative data collection techniques and analysis procedures are used in a research design (Collis and Hussey, 2003; Saunders *et al.*, 2007; Creswell, 2009). It refers to the use of different research methods or techniques in the same study. This methodological triangulation can be used to overcome the potential bias and sterility of a single method approach (Collis and Husey, 2003; Manganet *al.*, 2004; Bryman and Bell, 2007). With research questions and objectives in mind, it seems clear to a certain degree that this research was positioned on a continuum towards the positivistic perspective.

## 2.7. Selection of Sample

Due to limited time and resources, it would not be possible to collect data from every individual population. However, maximum care was taken to ensure the representativeness of population as far as possible and to avoid any sort of irregularity thereby. Thus, the purpose of sampling in this research is to obtain the optimum results and the best possible estimates of the population parameters within the available time and resources. The study was carried out in manufacturing industry around Hawassa city. The researcher used multiple stage sampling method to stratify manufacturing industries in its sector. The researcher stratified the firms based on the homogeneity of their sectors operation. There are around seven stratums. These are 2 printing press having 120 employees, 7 flour factory having 535 employees, 3 food

processing factories having 340 employees, 2 drinking factories having 705 employees, 1 textile factory having 245 employees, 4 wood factory having 203 employees, 1 plastic factory having 120 employees 14, 1metal factory and 1concrete pole having 136 employees . From these the research used proportional stratified sampling for all firms selected totally 2404 employees.

The following Sampling formula will be used to determine the size for the study

$$n = \frac{N \dots N \dots N}{1 + N(e)^2} = \frac{2404}{(1 + 2404(0.05)^2)} = 342 \text{ employees}$$

Where: n = sample size; N = size of population; and e = precision level (Cochran, 1963)

### 2.8. Variables and their measurement

Scales must be developed that accurately measure the dynamic under investigation as quality research begins with quality measurement. Empirical research is generally concerned with establishing the relationships between variables and may be dichotomized as dependent or independent variables. The independent variables are the variables selected as predictors and potential explanatory variables of the dependent variables (Hair *et al.*, 2010) while the dependent variable measures the response to the effect of the independent variables. A third type of explanatory variable, known as a mediator variable, serves to clarify the nature of the relationship between the independent and dependent variables. A mediating model seeks to identify and explicate the mechanism that underlies an observed relationship between an independent variable and a dependent variable. In this study, the independent variables are the SIM practices (SIMPs); the dependent variables are the firm performance (OPERF).

**2.8. Data Analysis and Interpretation:** The descriptive analysis of SIM practices and firm performance mainly describes the data in terms of frequency, percentage, mean, standard deviation, multiple regressions and Pearson correlation was applied. The analyses in descriptive analysis and was mainly based on the Statistical Package for Social Science (SPSS) output. The researcher has distributed 342 research question papers (questionnaires) to the respondents and finally collected 229 respondents’ responses in this analysis.

### 3. RESULTS AND DISCUSSION

This part deals with presentation of data analysis results and discussion about the study.

**Table 3.6** description about the independent variables

	N	Mean	Std. Deviation
	Statistic	Statistic	Statistic
Strategic Supplier Partnership	229	3.24	.45
Customer Relationship	229	3.27	.68
Level of Information Sharing	229	3.39	.81
Quality of Information Sharing	229	3.90	.98
Postponement	229	2.65	.65

Source: own survey questionnaire of 2014/15

Table 3.8 indicates that predicting variables towards the mean of the study. Strategic Supplier Partnership, Customer Relationship, Level of Information Sharing Quality of Information Sharing and Postponement all mean score is above standard that is above three except Quality of Information Sharing Postponement which indicates that the respondents’ response is inclining to agree. Table 3.7 the relationship between supply chain performance practices and organizational performance.

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Independent Variables	Organizational Performance	
	Strategic Supplier Partnership,,	Pearson Correlation
Sig. (2-tailed)		.000
Customer Relationship	Pearson Correlation	.638**
	Sig. (2-tailed)	.000
Level of Information Sharing	Pearson Correlation	.549**
	Sig. (2-tailed)	.000
Quality of Information Sharing	Pearson Correlation	.710**
	Sig. (2-tailed)	.000
Postponement	Pearson Correlation	.522**
	Sig. (2-tailed)	.000

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

Source: own survey questionnaire of 2014/15

Table 3.7 shows that the between dependent variables (organizational performance) and independent variables (supply chain performance practices) have perfectly positive relationship because the Pearson correlation of all the dimensions are greater than 0.5. The organizations strategic supplier towards the performance of organization is correlated by 0.630, the organizations Partnership towards performance of organization is correlated with performance of organization i.e. 0.638, the organizations Customer Relationship towards performance of organization is correlated with 0.810, the organizations Level of Information Sharing towards performance of organization is correlated with 0.649, and the organizations Quality of Information Sharing Postponement towards performance of organization is correlated with 0.752. The above figures indicate that the independent variables all have positive relationship with the dependent variables. This show the performances of organization will increases when these dimensions increase and would decreases when these dimensions decrease. Among the dimensions Level of Information Sharing is highly correlated with organizational performance.

Table 3.7 Indicates the significantly and positively correlation between independent and dependent variables. Cohen (1988, pp. 79–81) suggests the following guidelines: small  $r=.10$  to  $.29$ , medium  $r=.30$  to  $.49$ , large  $r=.50$  to  $1.0$

Therefore, in this research case all independent variable and a dependent variable (organizational performance), correlation is between 0.50 to 1.0 this indicates in the above table, there is a large correlation between the two variables (above .5), suggesting quite a strong relationship.

Table 3.8 Regression Analysis

Model	Unstandardized Coefficients		Standardized Coefficients	Sig.
	B	Std. Error	Beta	
(Constant)	-.234	.191		.032
Strategic supplier partnership	.448	.066	.437	.000
Customer relationship	<b>.520</b>	.079	.511	.000
Levels of information	.516	.055	.428	.000
Qualities of information	.280	.024	.510	.000
Postponement	.311	.060	.224	.008

Table 3.10 indicates the R square of 0.547 or 54.7% of the predicting independent variables predict 60.7 %. There are other variables that may predict 45.3% of organizational performance that this research is not addressed.

$$Y = \partial + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 + \sum$$

Where Y= Organizational performance,  $\partial$ = alpha or constant term,  $b_1$ - $b_5$  = Beta (the coefficient impact of each variables X, X<sub>1</sub>= Strategic supplier partnership, X<sub>2</sub>= Customer relationship, X<sub>3</sub>= Levels of information, X<sub>4</sub>= Qualities of information, X<sub>5</sub>= Postponement,  $\sum$ = Error term)

$$Y = -0.377 + 0.448X_1 + 0.520X_2 + 0.516X_3 + 0.280X_4 + 0.311X_5 + \sum$$

To compare the independent variables impact on the independent variable, let take the standardized beta value from the table 3.11. The largest standardized beta coefficient is 0.520, which is for qualities of organizational Customer relationship. This means that this variable makes the strongest unique contribution to explaining the dependent variable called organizational performance, when the variance explained by all other variables in the model is controlled for. The second largest contributor to organizational performance is Levels of information of the organization having standardized beta coefficient of 0.516. The third largest contributor to organizational performance is Strategic supplier partnership of the organization having standardized beta coefficient of 0.448. The fourth is Post ponement having standardized beta coefficient of 0.221. The fifth is Qualities of information

#### 4. CONCLUSION AND SUGGESTION

Most of the respondents are aged above 31 years old. This indicates that most of the respondents are matured and experienced towards their organizational performance. Most of the respondents are above managerial employees in the organization. All of the independent variables responses of the respondents are inclining into agree level. Organizational performance has a great relationship with the Strategic Supplier Partnership, Customer Relationship, Level of Information Sharing Quality of Information Sharing and Postponement. Dependent variables (organizational performance) and independent variables (supply chain performance practices) have perfectly positive relationship because the Pearson correlation of all the dimensions are greater than 0.5. The organizations strategic supplier towards the performance of organization is correlated by 0.630, the organizations Partnership towards performance of organization is correlated with performance of organization i.e. 0.638. The organizations Customer Relationship towards performance of organization is correlated with 0.810, the organizations Level of Information Sharing towards performance of organization is correlated with 0.649, and The organizations Quality of Information Sharing Postponement towards performance of organization is correlated with 0.752.

The independent variables all have positive relationship with the dependent variables. This show the performances of organization will increases when these dimensions increase and would decreases when these dimensions decrease. Among the dimensions Level of Information Sharing is highly correlated with organizational performance.

Qualities of organizational Customer relationship makes the strongest unique contribution to explaining the dependent variable called organizational performance, the next levels of information, Strategic supplier partnership and Qualities of information

The suggestions forwarded to the respective bodies are the followings. Most of the respondents have work experience for more than 11 years in the organization and most of the respondents are team leader and above managerial employees in the organization which is the better opportunity to the organizations having such experienced workers. Therefore they have to keep and maintain these employees. All of the predicting variable i.e. Strategic Supplier Partnership, Customer Relationship, Level of Information Sharing, Quality of Information Sharing and Postponement; responses of the respondents are inclining into agree level. Still

the organizations is advised to go through these variables bring good change in its operations. And also the Organizational performance has a strong positive relationship with these variables. Therefore, the organization should give due consideration and awareness about it. Qualities of organizational Customer relationship makes the strongest unique contribution to explaining the dependent variable called organizational performance, the next two levels of information, Strategic supplier partnership and Qualities of information which needs better controlling and follow ups. These shows that manufacturing companies, specifically those operating in Hawaassa city, Ethiopia should give due attention to its supply chain management practices in modernized manner. The whole organizational managers as well as employees should give due attention to its operation system through better supplier integration functions. Since this study mainly focused on the suppliers integration by organizational perception, future researchers should give due attention from both suppliers as well as buyers point of view and the supplier-buyer opportunism conditions should be given place for future research. Supply chain management function as a department in organization should be formed to manage its activities in long run such a task leads to total quality management, continuous improvement and customer voice deployment in operation.

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