ADDIS ABABA UNIVERSITY

SCHOOL OF COMMERCE

DEPARTMENT OF LOGISTICS AND SUPPLY CHAIN MANAGEMENT

Assessment of Employees Perception on Supply Chain Integration association with Competitive Advantage and Strategy Performance at Repi Soap & Detergent SC.

A THESIS SUBMITTED TO THE SCHOOL OF COMMERCE PRESENTED IN PARTIAL FULFILLMENT OF THE REQUIRMENTS FOR THE DEGREE OF MASTERS OF ARTS IN LOGISTICS AND SUPPLY CHAIN MANAGEMENT.

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June, 2017.

ADDIS ABABA, ETHIOPIA.

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Chair of Department or Graduate Committee

Declaration

I, Tasew Ayele Kebede, announce this research paper entitled “Assessment of Employees Perception on Supply Chain Integration association with Competitive Advantage and Strategy Performance at Repi Soap & Detergent SC.” is my own and I dare to say original research work that has not been produced by others in any other universities for any other requirements in any form. To this end, I acknowledged all sources of information that I used to produce the study appropriately and I would say perfectly.

Candidate Researcher	Signature	Date
Tasew Ayele	_____	_____

Letter of Certification

This to certify that Tasew Ayele has carried out his thesis work on the topic entitled “Assessment of Employees Perception on Supply Chain Integration association with Competitive Advantage and Strategy Performance at Repi Soap & Detergent SC.” under my guidance and supervision. Accordingly, I here assure that his work is appropriate and standard enough to be submitted for the award of Master of Arts in Logistics and Supply Chain Management.

Research Advisor	Signature	Date
Delessa Daba (PhD)	_____	_____

Acknowledgments

First, I would like to extend my sincere gratitude to my advisor Delessa Daba (PhD) for the valuable comments and unreserved guidance he extended during the research work. I would like also to appreciate Mr. Ian Maccan, GM of Repi Wilmar soap and detergent SC and my collogues for sharing their thoughts, expertise and support in my studies. I would also like to extend my deepest appreciation to all my families, my Wife W/O Beletu Bogale and child Leul Tasew for their continuous support love and care during my study. Finally, I like to thank all of my interviewees and respondents for their cooperation.

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ACRONYMS

CSA – Central Statistics Authority

AACCSA - Addis Ababa Chamber of Commerce and Sectorial Association

GDP – gross Domestic product

MOFED – Minister of Finance & Economic development

GTP – Growth & Transformation Plan

FDI – Foreign Direct Investment

SCM - Supply Chain Management

SCI – Supply Chain Integration

EDI – Electronic data Interchange

SPSS - Statistical Package for Social Science

R & D – Research & Development

M - Mean

SD – Standard Deviation

JV – Joint venture

Abstract

This thesis paper makes an investigation primarily on the level of integration which is reflected at REPI soap and detergent Share Company which is taken as a case for the sector. Further on, a thorough assessment on the association of supply chain integration factors (internal, external and customer integration) on the facility's implemented Supply Chain enhancing strategy and competitive advantage. In addition, the paper aims to describe existence of relationship between the application of portfolio procurement supply strategy at REPI and the competitive advantage. The study is motivated to show the implementation of Kraljic matrix as portfolio supply strategy at REPI which was implemented before six months where the relation and relationships are observed from selected respondents who are employee of the factory and tries to promote the output usefulness and its applicability on manufacturing industry in Ethiopia. A case study with descriptive type research design was employed with a sample of 63 employees through stratified sampling. A questionnaire was used as a research tool for collecting data. Baseline data were captured from key informant, secondary data and from own observation. The collected data was analyzed using descriptive statistics mean , standard deviation and correlation. Main findings of the study depicts that, there is moderate integration along the supply chain as the mean values of the three supply chain dimension (internal integration, external integration and customer integration) were above the minimum requirement (i.e. greater than the mean value of 2.5).Moreover, External integration and customer integration dimensions of supply chain integration had a significant relation on competitive advantage while Internal integration dimension had failed to signify the relation associated and needs to include other supply chain variables. Where us a strong correlation was captures between the strategy implementation relations on the competitive advantage of the company. Finally, the results on the conclusion entails us that the three research questions developed in this study were considerably moderate by the employees with indicated improvement areas by employees. And also, the study recommends a task to enhance the internal integration especially on marketing, training and sales functions communication, while giving a hint for the procurement function to work more inclusive planning method while strengthening the implemented portfolio supply strategy.

Keywords: internal integration, External integration, Customer integration, competitive advantage, Kraljic matrix, Supply Chain integration

Chapter 1: Introduction

I was inspired to conduct this study which focuses on supply chain integration because I believe much of the issues related to being competitive and failure in implementing strategies by Ethiopian Manufacturing sector arise from lack of understanding and assessing the possible relationship there exists on the constructs mentioned. In fact, witnessing implementing one of the very mature procurement supply strategy at REPI is also a factor to be mentioned as a further motivation where the relation of its implementation on competitive advantage as observed by the facilities employee is a truly good opportunity where the results can indicate a highlight on the findings for other manufacturers in Ethiopia.

1.1. Background of the study

Ethiopia, being one of the fastest growing non-oil economies in the world, has been embraced with a strong Government ambition to ascertain the continuity of the development in its two 5 year bound Growth and development plans. It can be easily observed that the plans aimed mainly in getting the country industrialized taking primarily focusing the manufacturing sector improvement in mind.

According to the Central Statistics Agency 2014 publication, it was revealed that the total Industry sector accounts for 14.3% of GDP contribution where 21.2% of employment opportunities which is about 173,000. (CSA, 2015). According a survey by the Addis Ababa Chamber of Commerce and Sectorial Association (AACCSA, 2015) conducted in 2015,The sector had about 2,610 manufacturing establishments in the same year. This facilities are further sub divided into eight broad subsectors namely food and beverage products, textile and apparel products, leather and leather products, wood and pulp products, chemical and chemical products, rubber and plastic products, other non-metallic minerals products and metal and engineering products industries. This will narrow the scope of the study to concentrate on the fifth sub group namely the chemical and chemical products sub sector which hosts the soap industry sector as one of the active actors. This sub sector hosts 153 industries employing 9801 employees while there are about 16 factories with a total capacity of 447,991 Metric Tons annual production capacity indicating how the industry is at its infant state. (AACCSA, 2015)

In fact, it was seen that the growth and expected result which is eagerly expected from the ambitious government plans to get industrialize the country never happens clearly observed of declining trend in its efficiency and performance. The industrial base of the country has remained low contributing only 12-14% to GDP of which the medium and large factories as well

as the light and small manufacturing shared respectively 4% and 1.2% throughout the past decade (Tesfaye, 2014), while the aim of getting the industry sector as % of the GDP got a line share of contributing 27% by 2025, and also increasing the share of the manufacturing sector as % of the GDP from the current 4% to 17% by the year 2025.(FDRE Ministry of Industry).

Reviewed Citing which addresses the challenges facing and expected to affect the manufacturing sector suggested those related to the supply chain process integration and supply chain strategy implementation to be notable points which needs through and immediate intervention to curb the risk. The survey by AACCSA indicated many points as challenges of manufacturing industries in Ethiopia where among the list, Low productivity of plants and machineries, Low capacity utilization, Quality problem in finished products, High cost of importing raw materials from foreign market, Limited supply of raw material in domestic market, High logistics and transportations costs, Lengthy bureaucratic procedures in customs clearance and limited inter-industry and industrial-sectorial-institutes level linkages can be directly linked to the issues persisting in the supply chain integration concepts and how tools of strategies in supply chain theories can be introduced to address them.

In the meantime, it is the noted fact that countries and companies do spend most of their budgets on purchasing and sourcing activities. Purchases of outside goods and services has always played an important role in the corporate cost structure, reaching as high as 80 percent or more of the total cost of goods sold in some industries. (Matthew G. Anderson, 1998). Many manufacturing companies spend more than half of their sales turnover on purchased parts and services. Reduced purchasing expenditures can therefore result in substantial improvements of the profit margin. In the last decades researchers have seen the potential of how purchasing improvements can contribute to a company's competitive advantage. A number of articles have been written and industrial and trading companies have been in the center of interest, because of the high purchasing share of cost of goods sold (approximately 60 percent of the production value for industrial companies). The trend of shift from an industrial society to a more service based society has however enhanced the interest of improved purchasing in service-based companies. With the increased interest and the enhanced understanding of the purchasing function, the process of responsibility has developed from buying, via procurement to supply management. This development has meant an increased importance of the purchasing activities within the purchasing organization. (Carl, 2008)

This in relation will have a direct impact on the total profitability of the companies and success on the development ambition of the country as a whole if and only if those strategic tools

specialized in supply Chain particularly purchasing are been well understood and implemented. Hence, applying a supply chain bound purchasing strategic tool developed by (Kraljic, 1983) where a comprehensive portfolio approach which is considered to be one of the major breakthroughs in this area is believed to be a proven solution. He categorized products in a 2x2 matrix, which enabled guidelines for designing commodity strategies and managing the supplier relationships in a differentiated way. This model has a specific focus on commodities categorized as strategically important to a firm and the general idea is to minimize supply risk and make the most of buying power. As such, this particular strategy was implemented at the study firm six months before leveling the ground to associate with the study objective.

Realizing the daunting challenge the country faces as described above, there is a strong drive to address this study to the mentioned challenges so that the findings and recommendations outputted can contribute in alleviating the issues in certain manner. Hence the main rationale of the study is to get an assessment of how integrated the supply chain is in a sample firm which is member of the manufacturing industry of Ethiopia while addressing implementation of specific strategy tools which is expected to address challenges above which addresses the competitive advantage gained by it while testing the level of supply chain integration with possible existence of association..

Finally, the study is strongly believed to have paved a way to show how the implementation of the selected strategic tools can improve the competitive advantage of a firm while supply chain integration level have relation on the implementation strategy attempts while similar industries can have a note and encouraged to apply them as stated.

1.2. Statement of the problem

The ever increasing need to maintain a sustainable development in the manufacturing sector in Ethiopia where a proven opportunity coupled by a huge human resource availability triggers studying the challenges which hinder the achievement. As observed, manufacturing sector has contributed 14% on GDP while a much higher aim of achieving 27% being the target (MOFED, 2014) The last five first GTP I years were seen to be challenged with a number of issues which are both triggered by internal and external factors.

Being at its infant stage, the development of Supply Chain Management Concept is still a work under progress where most of the industries are not either well aware of the philosophy or being unable to implement the theory because of structural hindrances and shortage of knowledge. Besides, the traditional concept of operating in silo functional processes focusing own operation

at functional level hinders the benefit of Supply Chain as competitive advantage. On top of the narratives so far, the nature of the purchasing function to be directly responsible in managing 60-80 % of the total budget of a firm or country makes it a priority to address the existing problem of how to handle in a cost effective way while using different strategies emerged from the supply chain management learning's.

However, it is also noted that even though there is no such high level of structured Supply Chain structure is set, different levels of integration among the process chains of manufacturing industry do exist. Then getting the best notion of how much the supply chain is integrated is the key question to be examined to start the study and get a recommendation how to use the strategic tools useful to our issues of development, cost minimization and customer satisfaction. In this regard, the study will look deeply in clarifying those variables and indicators which assist to show the level of integration of the supply chain at different stages of the mapped supply chain at external, internal and customer based integration which consists different indicators like communication, collaboration in planning, inventory information sharing, Partnership and integrated process among the three supply chain dimensional independent constructs assessed and a possible relationship is developed towards a dependent variables in the sense of competitive advantage where a portfolio purchasing strategy is part of strengthening and defining it.

Taking into account the different efforts of assessing the supply chain integration relating with different variables being encouraging, it is believed that there is a gap in studying the integration variables relating to getting a real competitive advantage from purchasing strategy implementation. As stated above, with the purchasing function being a platform where about 70-80% of the budget is spent, where a slight performance enhancement having a direct relation on profitability in a huge scale, is expected to be studied to get the studied relationship to be scaled up to be adopted to manufacturing firms in Ethiopia.

As the benefits of getting competitive advantage through implementing purchasing strategy is better to be unhide with a real time classic exercise on existing firm, the thesis wishes to examine the relation of purchasing strategy implementation be taken as a case at Repi soap and detergent S.C. where the primarily integration level is studied to get an understanding of how the factors are inter related to the competitive advantage gained by the implementation of the strategy.

Hence, this research is aimed to give a hint and better understanding on the question of how much is the Supply Chain at REPI Soap and detergent SC integrated. Further, it assesses the existing relation of the independent variables of the supply chain integration three factors on the two dependent variables defined as the competitive advantage and strategy implementation. Finally, the study intended to examine the association of the Implemented portfolio procurement supply strategy at REPI on the competitive advantage gained. It also tries to summarize any improvement opportunity that is captured in the study duration which is outlined as finding of the research.

1.3. Research Question

The purpose of this study is to examine the level of Supply chain integration at Repi soap and detergent S.C. by assessing independent variables indicating the scope and relationship with competitive advantage to be gained by implementing a purchasing strategy.

Therefore, the following research questions were developed to be answered as a result of the study:

- *What is the level of Supply Chain Integration at Repi Soap and Detergent Share Company?*
- *How Supply Chain Integration (internal, external and customer integration) is associated with competitive advantage and implemented strategy performance?*
- *How strategy performance is associated with competitive advantage?*

1.4. Research Objective

The general objective of this study is to analysis the supply chain integration level at Repi Soap and detergent share company and investigates the relation it has on competitive advantage gained by implementing a specific purchasing strategy. Besides, the study aims to know the relationship existing between the actual implementation of the portfolio purchasing strategy on the competitive advantage which the company is assessed to acquire.

Furthermore, the research targeted to achieve the following specific objectives:

i. To investigate the SC integration level at Repi Soap & Detrgent S.C..

ii. To assess whether competitive advantage as well as implementation of purchasing strategy has association with Supply chain integration and

iii. To test the effect of implemented purchasing strategy implementation on Competitive advantage.

1.5. Significance of the study

The manufacturing sector in Ethiopia is been considered as one of the potential and innovative endeavor to get the country sustain the two digit growth aiming to be a middle income developing country in a number of decades. As such, managing the supply chain integration have direct relation in the endeavors where addressing applying purchasing strategies to enhance competitive advantage gained in the procurement function is a must where almost 80% of GDP is spent.

The existing problems of inefficient and ineffecive purchasing activities done by most firms which is seen to have no attempt in categorization the vendors and items to be purchased based on supply risk and expenditure level. This is seen as a problem in most Ethiopian manufacturing firms while they notably are disadvantaged by increased cost of ownership and administration, weak relationship existing with strategic suppliers, frequent inventory management issues and manufacturing under capacity. Hence, as the first justification, the study will address the issue in better detail.

Furthermore, as most firms doesn't asses the level of integration existing in the supply chain, this intern will give a wrong decision by the management to concentrate on a corporate strategy and business plan which will eventually fail. Hence, the study is justified to show case the way how to assess the level of integration and the relation it has on the two variables in the study that is the competitive advantage and strategy implementation.

As a third justification point, the issue existing in most of manufacturing firms in relation to identifying the unique capability of the firm adding to its competitive advantage is a task tried to be shown in the study as the study is dealing with already implemented purchasing strategy and assessing its relation on the different variables will get a better understanding on the relationships discussed.

Based on the study, the top management will identify areas of weakness in the implementation of procurement strategy and take necessary steps to address the problem. The findings and

recommendations of the study will aid the organization in Managerial practice and decision making to enhance productivity through Integrated Supply chain as a competitive advantage. It will help the stakeholder participation, ownership, accountability and decision making in the implementation of best practices in procurement strategy.

The findings of this study also is believed to contribute to the existing knowledge of understanding levels of supply chain integration and how each dimension is uniquely associated the other with somewhat different perspective which difference from existing understanding. It will help fill existing information gaps towards on implementation of specifically Kraljic portfolio procurement strategy and its challenges in manufacturing companies in Ethiopia. The findings will further provide information to future scholars who might need to research on the challenges to procurement strategy implementation in similar firms in Ethiopia.

1.6. Scope of the Study

The study is limited to the REPI's operations in Addis Ababa manufacturing Facility and procurement related operation. Though the supply chain integration concept have a vast variables to be used for study, the study will address the internal, external and customer integration has been assessed by its staff respondents. The study also will deal with procurement related data needed for the study which is less than 5 years old. Any FDI and projects considered and being done by the Share Company as JV is not included and the scope is limited to the manufacturing of Soap and detergent only.

1.7. Limitation of the study

As a limitation, the being case based can be seen to be not effective methods to describe the status of manufacturing sector in Ethiopia where the upstream and downstream supply chain integration was assessed by the perspective of the faculties staffs. Besides, the Firm under question being a manufacturing company established 40 years ago, considering it to be a perfect representation of manufacturing firms might limit the study as different manufacturing firms might have different SC mapping which might have different SC integration strategy. Besides, getting a compiled relevant long ranged data is expected to be hindrance which weakens the findings.

1.8. Organization of the Study

The study is explanatory case based study where it is mean to gather as much possible information as possible which will assist in getting the study reach at sort of conclusion which in

one way or another prove the theoretical based citing's from different articles have revealed. Starting the topic, on the first chapter, On the article itself, the study tries in its first sections to familiarize the back ground of the firm in question in particular along with a bird eye view description of the SC integration status in Ethiopian Manufacturing industry in particular. This chapter also describing the research question and clarifying the general and specific objective of the study along the scope and limitation expected.

On the second chapter, describing in detail different cited and reviewed literatures will be presented. It is in this section that all the concepts and theories geared towards the three research questions are presented from different articles with their significance mentioned clearly. A theoretical frame work designed brought out of the reviewed literature is expressed in graphical form. The theoretical framework will be a visual guide and flow chart as to how the Research questions are approached to be analyzed with specific constructs mentioned as factors to be dealt in describing their relationship.

Methodology section, on third Chapter, continues describing the data source and instruments used to collect them with possible source of data. Besides, the way how the data analysis will be done is indicated.

The fourth chapter will present the data analyses and the possible discussion and findings based on the three research problems stated on chapter two. This section also discusses the hypothesis which tests the assumptions on the association existing among the tested variables.

The fifth chapter will summarize the findings to lead to conclusion and a recommendation provided by the study. Points for further researches are also depicted at the end.

Finally, the draft instrument as annex describing the semi structured interview is presented followed by the cited reference list described as Harvard type.

Chapter 2 : Literature Review

2.1. Introduction

These days, competitive global market place has high association on business activities whether they are local or international on their own. Apparently, supply chains as the key part of global business are needed to be considered in particular. In supply chain management, it is necessary for industries to develop and organize networks of activities involved in procurement, production, delivery of production and delivery of products globally. Since its introduction in the early 1980s, supply chain management (SCM) has become one of the most popular concepts within management in general and within logistics in particular (Baharanchi, 2009). Most of definitions of SCM are related to integration: “the entire concept of SCM is really predicated on integration” (Carter, 2009).

The literature review is the recognition of the fact that previous works have broken the ground in the particular subject and that new knowledge can be accumulated by recognizing and building on the same. Research in this view is aimed at making new contributions to body of knowledge by adding on to the existing theories developed and building on what has been developed. In this chapter, a discussion of the previous works on basic theories providing definition and explanation about supply chain management, supply chain integration, Competitive advantage, purchasing strategy, implementation issues of strategy, kraljic portfolio matrix coupled related works which present different scholar point of view with regard to the relation of supply chain integration and finally the conceptual framework of the study which is constructed based on the theoretical framework.

What is Supply Chain Management (SCM)?

Supply Chain Management (SCM) aims at the efficient use and operations of supply chain assets, products, information and cash flows (Sunil, 1998). According to (Lummus, 1998), the (Supply Chain Council ,1997) defines supply chain management as a system that “encompasses every effort involved in producing and delivering a final product, from the supplier's supplier to the customer's customer”. In general, supply chain management includes managing supply and demand, sourcing raw materials and parts, manufacturing and assembly, warehousing and inventory tracking, order entry and order management, distribution across all channels, and delivery to the customers.

Supply chain management is becoming strategic tools for improving firm's performance and their competitiveness position. Companies versus companies have replaced with supply chain versus supply chain competitiveness strategy. However, the number of companies that have truly integrated their supply chains to take advantages of this opportunity is still small (S. M. Hosseini, 2012); (Özdemir, 2011).

As competition in the 1990s intensified and markets became global, so did the challenges associated with getting a product and service to the right place at the right time at the lowest cost. Organizations began to realize that it is not enough to improve efficiencies within an organization, but their whole supply chain has to be made competitive. (Suhong Li, 2006). The understanding and practicing of supply chain management (SCM) has become an essential prerequisite for staying competitive in the global race and for enhancing profitably (Childhouse P, 2003). SCM has been defined to explicitly recognize the strategic nature of coordination between trading partners and to explain the dual purpose of SCM: to improve the performance of an individual organization and to improve the performance of the whole supply chain. The goal of SCM is to integrate both information and material flows seamlessly across the supply chain as an effective competitive weapon (Tan KC, 2002).

The concept of SCM has been involved from two separate paths: purchasing and supply management, and transportation and logistics management. According to purchasing and supply management perspective, SCM is synonymous with the integration of supply base that evolved from the traditional purchasing and materials functions (Banfield E., 1999); (Lamming, 1993). In the perspective of transportation and logistics management, SCM is synonymous with integrated logistics systems, and hence focus on inventory reduction both within and across organizations in the supply chain (Van Hoek, 1998); (Alvarado UY, 2001)Eventually, these two perspectives evolved into an integrated SCM that integrates all the activities along the whole supply chain.

Supply Chain Integration

The purpose of supply chain management is described by (Kaufman, 2000)as to being to remove communication barriers and eliminate redundancies" through coordinating, monitoring and controlling processes. The main drivers of integration are listed by (Handfield, 1993) as: the information revolution; increased levels of global competition creating a more demanding customer and demand driven markets; and the emergence of new types of inter-organizational relationships.

They describe the three principal elements of an integrated supply chain model as being information systems (management of information and financial flows), inventory management (management of product and material flows), and supply chain relationships (management of relationships between trading partners).

There is realization that the basic concept of supply chain management is to integrate production and information flow across the supply chain processes (Lambert, 1998). In the supply chain context, integration is defined as the extent to which all activities within an organization, and the activities of its suppliers, customers, and other supply chain members, are integrated together (Narasimhan R. a., 1998).An integrated supply chain is linked organizationally and coordinated with information flow, from raw materials to the on-time delivery of finished products to customers. The entire supply chain is linked by information about anticipated and actual demand. (Frohlich, 2001) identify two interrelated forms of integration that manufacturers regularly employ. The first type of integration involves integrating the forward physical flow of delivery between suppliers, manufacturers and customers. The second type of integration involves the backward integration of information technologies and the flow of data from customers to suppliers. According to (Stevens, 1989) classifies supply chain integration into three levels, from functional integration to internal integration and to external integration. However, this study focuses only on internal and external integration, because functional integration is claimed as a basic requirement for all firms to implement and achieve.

Internal Integration

To support customer requirements at the lowest total system cost, internal integration represents the integration of all internal functions, from material management to production, sale and distribution. At this stage, the firm focuses on the internal flow of goods into the organization and also on the way out to the customer. Moreover, internal integration is characterized by full system visibility from distribution to purchasing, and required integration across functions under the control of the firm to achieve customer satisfaction. In practice, it means that special attention must be given to the interface between functional areas such as procurement, production, logistics, marketing, sales and distribution (Stevens, 1989).

Supplier (External) Integration

For supply integration, integration back down to the suppliers represents a change in attitude away from conflict to cooperation, starting from product development, the supply of high quality

products, process and specification change information, technology exchange and design support. Some researchers have investigated supply-side integration in different dimensions. (Handfield, 1993) defines supply integration as obtaining frequent deliveries in small lots, using single or dual sources of supply, evaluating alternative sources on the basis of quality and delivery instead of price, and establishing long-term contracts with suppliers. In terms of logistics communication, this concept could view supply integration as effective alignment, information sharing and supplier participation between suppliers and manufacturers.

Customer Integration

In terms of customer integration, the firm will penetrate deep into the customer organization to understand the product, culture, market and organization, so that it can respond rapidly to the customer's needs and requirements. The important concept of demand integration is based on the improvement of demand planning and visibility in supply chains. Without information sharing from one end of the supply chain to the other, tremendous inefficiencies can occur in customer service.

Supply Chain Practices

SCM practices have been defined as a set of activities undertaken in an organization to promote effective management of its supply chain. (Donlon, 1996) describes the latest evolution of SCM practices, which include supplier partnership, outsourcing, cycle time compression, continuous process flow, and information technology sharing. (Chen IJ, 2004) use supplier base reduction, long-term relationship, communication, cross-functional teams and supplier involvement to measure buyer–supplier relationships. (Min S, 2004) identify the concept SCM as including agreed vision and goals, information sharing, risk and award sharing, cooperation, process integration, long-term relationship and agreed supply chain leadership. Thus the literature portrays SCM practices from a variety of different perspectives with a common goal of ultimately improving organizational performance.

In reviewing and consolidating the literature, five distinctive dimensions, including strategic supplier partnership, customer relationship, level of information sharing, quality of information sharing and postponement, are selected for measuring SCM practice. The five constructs cover upstream (strategic supplier partnership) and downstream (customer relationship) sides of a supply chain, information flow across a supply chain (level of information sharing and quality of information sharing), and internal supply chain process (postponement). It should be pointed out

that even though the above dimensions capture the major aspects of SCM practice, they cannot be considered complete. Other factors, such as geographical proximity, JIT/lean capability (Tan KC, 2002), cross-functional teams, logistics integration (Chen IJ, 2004),agreed vision and goals, and agreed supply chain leadership (Min S, 2004) are also identified in the literature. Though these factors are of great interest, they are not included due to the concerns regarding the length of the survey and the parsimony of measurement instruments.

Competitive Advantage

Competitive advantage is the extent to which an organization is able to create a defensible position over its competitors (McGinnis MA, 1999). It comprises capabilities that allow an organization to differentiate itself from its competitors and is an outcome of critical management decisions (Tracey M, 1999). It comprises capabilities that allow an organization to differentiate itself from its competitors and is an outcome of critical management decisions. The empirical literature has been quite consistent in identifying price/cost, quality, delivery, and flexibility as important competitive capabilities. In addition, recent studies have included time-based competition as an important competitive priority.

There are three sources of competitive advantage: (1) Cost efficiencies that make more efficient use of the firm's assets and supplier inputs or that lower supplier cost; (2) Product differentiation to raise customer benefits; and (3) Transaction innovations that lower the costs of transactions or that create new combinations of customers and suppliers. The three types of competitive advantage are called cost advantage, differentiation advantage, and transaction advantage. Alternative purchasing strategies for creating value are associated with each of these alternatives. (Porter, 1985) has defined the above three strategies to lead to a distinguished market position. As such, further citing on purchasing strategies based on the porter's definition lead to the next literature review where at first reviewed the concept of strategy implementation to follow describing specifically purchasing strategies are defined and explained.

Strategy Implementation

Strategy implementation is the translation of chosen strategy into organizational action so as to achieve strategic goals and objectives. It is the manner in which an organization should develop, utilize, and amalgamate organizational structure, control systems, and culture to follow strategies that lead to competitive advantage and a better performance. Successful strategy implementation depends on a *good internal organization* and *competent personnel*.

Matching structure to strategy requires making strategy-critical activities and organizational units the main building blocks in the organization structure. It was started way back 1950's. (Chandler, 1962) found that changes in an organization's strategy bring about administration problems, which in turn require a new or a refashioned structure for the new strategy to be successfully implemented.

(Thompson, 2003) describe various steps leading to strategy implementation in organizational setting as Staffing the organization with the needed skills and expertise, consciously building and strengthening strategy supportive competencies and competitive capabilities, and organizing the work effort, befitting a company culture and work climate conducive to successful strategy implementation and execution. (Wheelen, 1995) see it as the process of developing budgets that steer ample resources into those activities critical to strategic success by ensuring that policies and operating procedures facilitate rather than impede effective execution and use the best-known practices to perform core business activities and push for continuous improvement. A good strategy execution exerts the internal leadership needed to drive implementation forward and keep improving on how the strategy is being executed.

According to (Lynch, 2000) and (Pearce, 2003), strategy implementation is usually carried out at functional level, where decisions are made to implement the overall strategy formulated at the corporate and business levels. Consolidation of the functional requirements is necessary for corporate and business strategies, and also the constitution of depositories of the ultimate capabilities needed to develop the unique competencies of the firm (Majluf, 1996). Resultant strategies focus on: Research and Development, Technology and Engineering, Supply chain management (Procurement), Manufacturing, Marketing, Promotion and Distribution, Human Resources, and Financial strategies among others. Researchers (Alexander, 1991); (Giles, 1991); (Koske, 2003) have revealed a number of challenges in strategy implementation. These include weak management roles, lack of communication, lacking commitment to strategy, and unawareness or misunderstanding of the strategy. Other problems are unaligned systems, structures, and resources; poor coordination and sharing of responsibilities, inadequate capabilities, competing activities and uncontrollable factors in the external environment. Strategy may not take off swiftly if inappropriate executives are involved.

Purchasing Strategies

According to (Soellner, 1999), Procurement strategy can be distinguished along three key objectives of achieving total cost leadership, positioning the organization favorably in the value

chain and creating growth opportunities so as to achieve value for money from spend analysis. (Hess, 2009) identifies four areas that describe procurement strategy: Sourcing concepts, portfolio approaches, process approaches and task-focused approaches. These have helped organizations to craft a realizable sourcing strategy for goods and services at right price, the time, the right source, the right quality and quantity for enhancement of business growth.

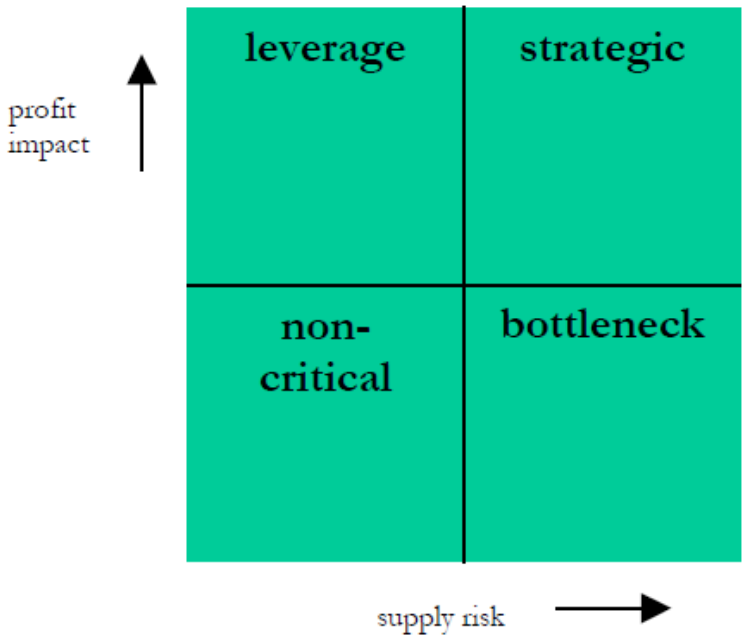
Procurement Strategy sets out to identify the effective means of procuring goods and services to achieve the required standards through: developing a procurement plan, ensuring that procurement supports delivery of the organization's vision, enabling creative approaches to procurement by placing outcomes at the center. The plans should be adhered to from time to time for realization and realignment to corporate goals. Proper spend analysis is critical to evaluate the nature of goods and services procured, sources of supply, the lead time and ultimate expenditure of the procured goods and services. This will help the organization adopt lean procurement as and when need arises. The objective is to ensure that quality and measurable outcomes can be achieved for goods and services procured for an organization. In implementing this procurement strategy, an organization is expected to realize various benefits like improved value for money, more efficient and effective procurement, effective partnership with suppliers, benefit and development of the local economy, effective collaboration between service providers, better risk analysis and management, better planning and savings based on economy of scale and qualitative, Consistent and a managed approach to Procurement (Caldwell, 2007).

The Kraljic portfolio matrix

(Kraljic, 1983) advised managers to guard their firms against damaging supply interruptions and to deal with continuous technological change and economics growth. In his seminal paper he called attention to the need for companies to attain more effective supply management. He proclaimed that ‘‘purchasing must become supply management (Kraljic, 1983). In his article he presents a figure in matrix format. As can be seen from figure 1, the matrix classifies products as strategic, bottleneck, leverage and non-critical. The dimensions used for the classification are profit impact and supply risk. In the article where Kraljic presented the matrix, a working method with four phases should be followed – classification, plotting bargain power between the buyer and the different suppliers, strategic positioning of products identified in the classification phase and finally setting up long-term action plans. Classification of a company's different

commodities, based on the dimensions profit impact and supply risk, is the first phase in Kraljic's working method. The classification in the four categories requires a distinctive approach and the complexity of the supply market (supply risk) is in proportion to the strategic implications. In the strategic quadrant analytic techniques are needed to support supply decisions.

Figure 1. The Kralijic Martrix



Source : Kralijic P.,(1983)

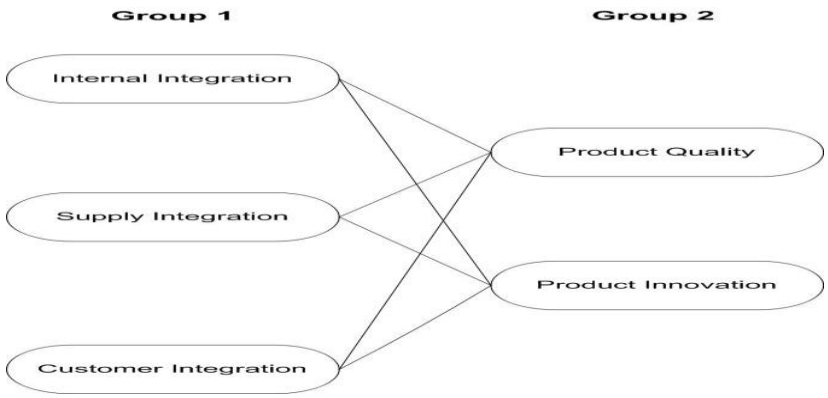
In the second part of his article (Kraljic, 1983) proposes a four-stage approach as a framework for developing supply strategies for single products or product groups. In the first stage, a company classifies all its purchased products in terms of profit impact and supply risk. Subsequently, the company weighs the bargaining power of its suppliers against its own power. Then, the company positions the products that were identified in the first stage as strategic (high profit impact and high supply risk) in a portfolio matrix. Finally, it develops purchasing strategies and action plans for these strategic products, depending on its own strength and the strength of the supply market. A recent study by (Van Weele, 2000) paid attention to the experience of purchasing professionals with the use of the portfolio matrix in practice. On the basis of three in-depth case studies they found that practitioners distinguish between several separate purchasing strategies within each portfolio quadrant. Some of these strategies focused on keeping the current position in the quadrant, while other strategies were directed towards moving to another position. While (Van Weele, 2000) showed that several strategies per

quadrant occur in practice, the conditions determining the choice for a specific purchasing strategy remained an issue for further research. In the literature on buyer–supplier relationships it is generally acknowledged that power and interdependence issues are fundamental to the way in which buyers and suppliers interact. Therefore, it is reasonable to assume that power and dependence issues will also underpin the choice for a specific purchasing strategy. Each purchasing strategy identified by (Van Weele, 2000) gives rise to hypotheses on the importance of power and dependence

1. .Theoretical Framework and Research Model

In order to formulate a Research framework, the author would like to summarize the analyzed works of previous researchers which will assist to arrive in logical synthesized theoretical framework assisting a successful research of the study. Hence, there are two researches which are being considered as a foundation. The first is a research by (Baharanchi, 2009),"*Investigation of the Impact of supply Chain Integration on Product innovation and Quality"* where his hypothesis describe emphatically the relationship of Supply chain Integration (internal, External and Customer) on product quality and innovation. Fig 2 shows the research hypothesis for reference. In this study, the product innovation variable is replaced with purchasing strategy implementation as a competitive advantage and take the whole package of the variable which the competitive advantage have common with the purchasing strategy implementation to be taken as independent variable for the study. The modified frame work is seen on Fig 4.

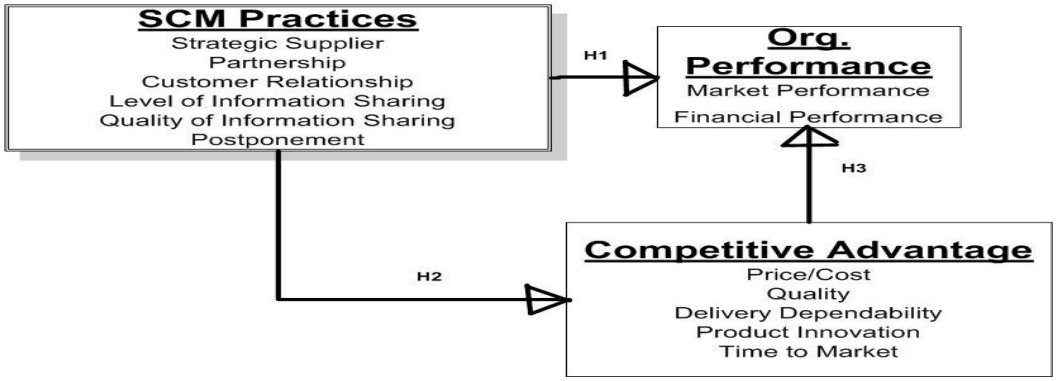
Figure 2 – Frame work for testing SCI with product quality and innovation



Source - Baharanchi (2009)

The second one is resulted from a critical review reveals that a research by (Suhong Li, 2006),"*The impact of supply chain management practices on Competitive advantage and organizational performance*" where in their study proved the impact of Supply chain practices on organizational performance directly and on competitive advantage indirectly. The conceptual frame work is depicted below at Fig 3. While the Author make a slight modification to take supply chain integration as major Supply chain practice as reviewed on the literatures cited and took the three variables i.e., internal, external and customer integration part of the studied to servers independent variable.

Figure 3 - Frame work testing SCM practices with Organizational performance & competitive advantage.

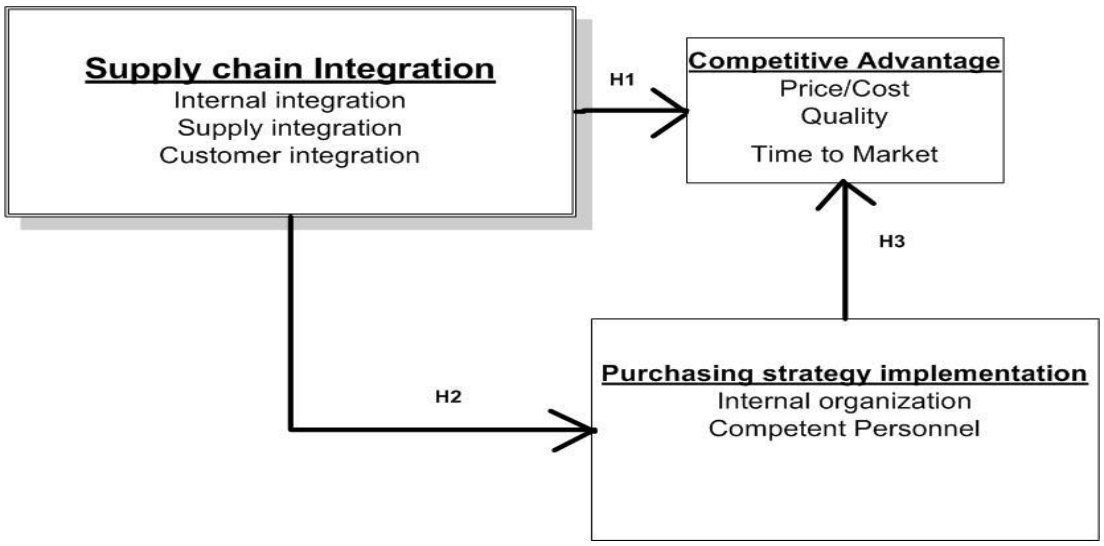


Source - Suhong Li (2006)

2.3. Conceptual Framework and Research Model

After understanding the variables and the interconnected proven hypothesis on the above studies, the author proposed the theoretical frame work as seen on Fig 4 for the research.

Figure 4 - Research framework



2.4. Hypothesis

Using literature support, the expected relationships among SCI (Internal, External and customer integration) and Repi soap and detergent SC's implemented purchasing strategy and competitive advantage are discussed and hypotheses relating these variables are developed.

Accordingly, this study investigates the Purchasing strategy implementation through Competitive Advantage and supply chain integration. Based on the figure 4, supply chain integration encompasses internal integration; External integration and Customer integration are significantly related to Competitive Advantage.

Hence, the following hypotheses will be tested:

H1 : Supply chain integration is positively related to Competitive Advantage.

H1a : Internal integration is positively related to Competitive Advantage

H1b : Supply integration is positively related to Competitive Advantage

H1c : Customer Integration is positively related to Competitive Advantage

This research also examines the supply chain integration that encompasses internal integration; supply integration and customer integration are positively related to strategy implementation.

Hence, the following hypotheses will be tested:

H2 : Supply chain integration is positively related to strategy implementation.

H2a : Internal integration is positively related to strategy implementation

H2b : Supply integration is positively related to strategy implementation

H2c : Customer Integration is positively related to strategy implementation

The author proposed that strategy implementation that consists of internal organization setup and Competent personnel are positive related to competitive advantage.

Hence the following hypotheses also will be tested:

H3 : Strategy Implementation is positively related to competitive advantage.

Chapter 3: Research Methodology

3.1. Description Of study area

The study meant to get a hand on opportunity study focusing on the supply chain processes at REPI soap and detergent share company. As the company is pioneer elapsing a couple of decades in its establishment, the author expects to be the best way of exploring to get a real fact finding on the questions the study tries to answer. The selected Firm is typical manufacturing industry where the Supply Chain can be mapped to incorporate all the processes where the SC is targeting. Accordingly, the four flows in Supply Chain i.e., material flow, fund flow, information flow and knowledge flow are simulated to represent the similar manufacturing industries in Ethiopia whereas the findings and recommendations are expected to be easily scaled up and customized.

3.2. Research Design and Approach

Research design is the blueprint for fulfilling research objectives and answering research questions (John A.H. et al., 2007:20-84). In other words, it is a master plan specifying the methods and procedures for collecting and analyzing the needed information. It ensures that the study will be relevant to the problem and that it uses economical procedures. The same authors discusses three types of research design, namely exploratory (emphasizes discovery of ideas and insights), descriptive (concerned with determining the frequency with which an event occurs or relationship between variables) and explanatory (concerned with determining the cause and effect relationships).

Accordingly, the research is basically a case study considering one firm where it has purely the type of research employed under this study will be descriptive research. The major purpose of descriptive research is description of the state of affairs as it exists at present. In this study, qualitative approaches of doing research will be employed, which has been practiced, as recommended by (Creswell, 2003). Whilst, a case type study follows to answer one of the research questions, where the detail design is describes as follows.

The first research method which is used to answer the all three research questions formulated as descriptive statistics and tested hypotheses is the survey method. This study uses a five-point scale for three constructs of independent variables (internal integration, supply integration and customer integration) and two dependent variables (Purchasing strategy implementation and competitive advantage) to draft a questionnaire. These draft questionnaires are supposedly expected to be applied at the target firm of the study, i.e. Repi soap and detergent S.C. where

the author and the adviser have checked for its content validity. Since it was pre-tested with academics and practitioners to check its content validity, there was no need of conducting pilot test to examine its suitability for the target population. However, it need to be noted that the tested instrument is subject to modification by the researcher and Advisor so that it can fit and be suitability for the target population for further large scale survey.

3.3. Sample Size & Sampling Technique

Repi soap and Detergent S.C., being one of the pioneer soap and detergent facility in the country with a significant number of employees which directly involved in supply chain activity. In addition, it is the Author's justification that data collection and access to previous data especially for the case study is truly facilitated as the candidate is a staff and have ample access to the data in addition to the convenience to collect data in short time.

Stratified random sampling will be used to get information from different sizes of stake holders. This technique is preferred because it is used to assist in minimizing bias when dealing with the population. With this technique, the sampling frame can be organized into relatively homogeneous groups (strata) before selecting elements for the sample. According to (Janet, 2006), this step increases the probability that the final sample will be representative in terms of the stratified groups.

According to (Dawson, 2002), the correct sample size in a study is dependent on the nature of the population and the purpose of the study. Although there are no general rules, the sample size usually depends on the population to be sampled. The total population of the study will approximate 200. It will include all supply chain personals and different stake holders (Vendors, internal customers, departments and others). In this study it will be planned to distribute and collect 65 questionnaires with a confidence level of 95% and Confidence interval (error margin) of 10, therefore worst acceptable is 85%. (Sample Size Calculator a public service of Creative Research Systems survey software). The sample size selected here is considered as representative and also large enough to allow for precision, confidence and generalizability of the research findings.

3.4. Data Source & Data gathering Tools

Data was gathered by the researcher by using the two types of data collection techniques i.e. primary and secondary data collection methods. Primary data was collected through a standard questionnaires and observation while secondary data was acquired using different relevant documents, journals, articles, books and online source sightings. The questionnaire and

observation was seen to be the most suitable data collection method for the primary source because as the researcher is one of the supply chain manager at Repi soap and detergent SC, it will be easy to observe each and every activities in the supply chain and purchasing function and which reduces Non Respondent on the side of questionnaire.

The layout of the questionnaire was kept very simple to encourage meaningful participation by the respondents. The questions were kept as concise as possible with care taken to the actual wording and phrasing of the questions. The reason for the appearance and layout of the questionnaire are of great importance in any study where the questionnaire is to be completed by the respondent (John Adams, 2007). The literature in the study will be used as a guideline for the development of the questions in the questionnaire. Empirical data was obtained through a questionnaire survey from supply chain, finance, Sales & marketing, Quality, production, technic and HR employees where the questionnaire was distributed and collected by the researcher. The indicators of the studied variables are measured using a five point Likert scale (1=strongly Disagree;2=Disagree;3=Neutral;4=Agree;5=Strongly Agree) where higher values indicates stronger integration. Moreover In order to improve my study and strength my findings, I will referee articles, academic journals, and useful texts through different sources, such as library, journals, academic books and relevant documents from the enterprises.

3.5. Defining Study Variables and Measurements

Independent Variables:

- Internal Integration
- External Integration
- Customer Integration

Dependent Variables:

- Competitive Advantage
- Strategy Implementation.

Internal integration: is measured through communication and information sharing among internal functions, integrative inventory management, periodic inter departmental planning and development programs meetings among internal functions, and technical information sharing among cross functional teams and (Narasimhan R. &., 2001).

Supplier Integration: is measured through the level of information exchange with suppliers, establishment of quick ordering system with major supplier, level of strategic partnership with

major supplier and stable procurement through network with major supplier (Narasimhan R. &., 2001);.

Customer integration: is measured through follow-up with customer for feedback, level of computerization for customer ordering, frequency of periodic contact with customer and level of linkage with customer through information network (Narasimhan R. &., 2001);

Competitive Advantage: is measured in this study using construct dimensions of cost/price and quality as basic measurements (Porter, 1985)

Strategy implementation: As a basic measurement of this variable basing the implementation of purchasing strategy, a combination of good internal organization and competent staffing and categorization of purchased materials and suppliers based on profit impact and supply risk (Kraljic, 1983).

3.6. Method of Data Presentation

Data presentation and interpretation was made using tables in order to display the collected data in a concise and meaningful way, percentage and frequency to shows the respondents position towards Supply Chain Integration (internal, Supply and Customer integration) activities, and mean so as to compare vertically integrated and non- integrated garments with respect to SCI (Supply, Customer, and internal integration) activities.

In order to analyze the data and test the developed hypothesis, this study used Spearman's co relation. According to (Kothari, 2004), Spearman's correlation is the technique of determining the degree of correlation between two variables in case of ordinal data where ranks are given to the different values of the variables. The main objective of this coefficient is to determine the extent to which the two sets of ranking are similar or dissimilar. The value of "r" lies between ± 1. Positive values of r indicate positive correlation between the two variables (i.e., changes in both variables take place in the statement direction), whereas negative values of "r" indicate negative correlation i.e., changes in the two variables taking place in the opposite directions. A zero value of "r" indicates that there is no association between the two variables. When r = (+) 1, it indicates perfect positive correlation and when it is (–) 1, it indicates perfect negative correlation, meaning thereby that variations in independent variable (X) explain 100% of the variations in the dependent variable (Y). We can also say that for a unit change in independent variable, if there happens to be a constant change in the dependent variable in the same direction, then correlation will be termed as perfect positive. But if such change occurs in the opposite direction, the correlation will be termed as perfect negative. The value of "r" nearer to +1 or –1 indicates high degree of correlation between the two variables.

3.7. Data Analysis

The data of this study was analyzed by computer through package software (SPSS: Statistical Package for Social Sciences), version 17.0. Some statistical methods employed were:

- The demographic background information of the respondents was analyzed and presented using descriptive statistics in form of frequency and percentage.
- To assess the level of supply chain integration, measures of central tendency such as mean and standard deviation was used.
- To determine the relationship between supply chain integration variables and two dependent variables correlation analysis was used.
- The scoring of questionnaire was analyzed by using five-points rating scale or five– Likert scales.
- To test hypothesis of the association of supply chain on competitive advantage and strategy implementation and separately to test hypothesis the association of strategy implementation on competitive advantage from 7 aspects of integration by using p alpha value testing.

3.8. Validity and Reliability

The study aspires to specially look after two of the validity types i.e. content validity and construct validity. First, the content validity will be assessed subjectively based on reviewed researches as to evidence of how much the instrument covers and reflects the objective of the study. Then, a construct validity, which basically assesses the extent to which a measuring instrument accurately measures a theoretical construct it is designed to measure, is targeted to be dealt. The study uses a measure by correlating performance on the test with performance on a test for which construct validity has been determined.

Table 1 - Cronbach's Alpha

Cronbach's Alpha	N of Items
.930	32

Source: Own survey result, 2017

Whilst reliability which is defined to be the ability of an instrument to create reproducible results where whenever there is a time it is used, similar scores should be obtained. Accordingly, the study intended to use the possibility of its measurement by estimating correlation coefficients. In this particular study, reliability of the independent and dependent variables will be assessed

using Cronbach's Alpha Statistics, as seen on table 1, which is the most common technique used in the literature to assess the scale's reliability and stability. Chronbach Alpha should be over 0.70 to produce a reliable scale and any scale with Chronbach Alpha less than this standard should be eliminated (Sakaran, 2005). In this case, the Chronbach Alpha value gained is 0.930 which is above the requirement proving reliability.

3.9. Ethical Consideration

The study conductor (author) is fully aware and commits to keep the top available professional ethical consideration during and after the study duration. This includes to reveal the source of any cited material and list under reference section, indicate the source as it appears in the research body, keep the data of any technical, sales, production, marketing or any relevant accessed during the study time of the firm under study confidential and assure no transfer of it to the third party. Besides, all the data collected from different respondents will be kept anonymous and by never revealed to any third party in any form.

Chapter 4: Research Analysis, result and Discussion

4.1. Introduction

Under this chapter the analysis and interpretation were carried out based on the data collected through questionnaire from five departments (i.e. supply chain management, sales & marketing, quality assurance, category management and store operations) which work along the line of supply chain. The data was analyzed using Statistical Package for Social Science (SPSS v.17.0).Based on the methodologies, research design and tools of the thesis; data was collected from 62 respondents. From the total 65 questionnaire distributed 63 were returned from which 7 were not correctly filled and rejected. Therefore 56 were effectively used for analysis that shows response rate of 86.15 percent. This is a good response rate based on (Fowler,2002) a 75 percent response rate is considered adequate.

Data analysis, discussion and interpretation of the results are presented in the following subheadings: presentation of demographic data and frequency of respondents, analysis of mean, analysis of correlation and regression coefficient.

4.2. Demographic Data Description

Observing the demographic trend or characteristics of our sample population before starting the data analysis is useful to make the analysis more meaningful for the reader. This part of the questionnaire requested limited amount of information related to personal and demographic status of respondents.

The purpose of demographic analysis in this research is to describe the characteristics of the sample such as proportion of male and female in the sample, department of respondents, academic qualification of respondents and experience of respondents. Accordingly these variables are summarized and described in tables shown below.

Table 2 - Demographic profile of respondents

Variable		Frequency	Percentage	Valid Percentage	Cumulative Percentage
Respondent Gender	Female	12	21.4	21.4	21.4
	Male	44	78.6	78.6	100.0
	Total	**56**	**100.0**	**100.0**	
Respondent Department	Supply Chain	13	23.2	23.2	23.2

	Finance	4	7.1	7.1	30.4
	Sales & Marketing	10	17.9	17.9	48.2
	Quality	5	8.9	8.9	57.1
	Production	14	25.0	25.0	82.1
	Technic	7	12.5	12.5	94.6
	HR	3	5.4	5.4	100.0
	Total	**56**	**100.0**	**100.0**	
Educational Level	Certificate	9	16.1	16.1	16.1
	Diploma	8	14.3	14.3	30.4
	First Degree	37	66.1	66.1	96.4
	Masters	2	3.6	3.6	100.0
	Total	**56**	**100.0**	**100.0**	
Experience	1-5 years	30	53.6	53.6	53.6
	6-10 years	14	25.0	25.0	78.6
	More than 10 years	12	21.4	21.4	100.0
	Total	**56**	**100.0**	**100.0**	

Source: Own survey result, 2017

As the above table depicts that the gender distribution of respondents in Repi covers 78.6% of male and 21.7 percent of female respectively. This implies that the gender distribution of Repi Soap and detergent S.C. is dominated by male employees.

The respondents were also asked to indicate the departments they had assigned while they are in REPI and the result implied that, the department of supply chain covers 23.2 percent, Finance 7.1 %, sales & Marketing 17.9 %, quality 8.9%, Production 25%, technic 12.5 % Human Resource 5.4 percent. Accordingly, the production, Supply Chain and sales & marketing departments accommodate large number of employees who are incorporated in this study.

In the meantime, the results of respondents associated with their educational background show that, 16.1 percent of respondents have certificate, 14.3 percent of the respondents have Diploma, 66.1 percent of the respondents are under Graduate (first Degree) and the rest 3.6

percent are post graduates (master's Degree). This indicates that the majority of respondents are degree holders. This suggests that the respondents provide relevant and accurate information needed for the study on the relation of supply chain integration on operational performance. Irrespective of the high educational levels of the respondents, the researcher finds it necessary to find the specific professional qualifications of the respondents in order to have a fair view of their capacity to comply with the current practice and changes of supply chain integration. The research established that understanding prospects of supply chain integration requires professionalism and therefore requires staff with supply chain qualification and training in order to understand the veracity of the practice.

Ultimately, the output in Table 2 shows that, 53.6 percent of the respondents indicated that they had work experience of 1 to 5 years while 25.0 percent of the respondents said they had experience of 6 to 10 years and also 21.4 percent of the respondents replied that they have worked for more than 10 years. The results indicates that majority of the respondents have an experience in work area between 1 to 5 years which is an indication that they understand the relation of supply chain integration on their competitive advantage enhanced by strategy implementation because they had the chance to work in different areas in different positions where it paves a way to analyze the circumstances of different problems. The implication of the result is that most of the respondents are young professionals which dominated the enterprise (1-5 years) and they are more cooperative and easily understand the questionnaire which is required to comply by them to provide information. The respondents are aware of the modern application and implication of supply chain procedures at the enterprise level and therefore they gave the correct and accurate information the researcher needed for the study.

4.3. Descriptive Analysis (Addressing First Research Question)

The mean or average is a measure of central tendency that offers a general picture of the data without unnecessarily covering one with each of the observations in the data set. The mean of respondents in each dimensions of supply chain integration suggest that the average amount that each dimension has positive or negative response of respondents. In this case, the mean of each item together with their respective dimension overall mean/average mean was calculated in order to conclude the overall supply chain integration of REPI. The mean statistical values of the items were based on the 5 point Likert scale and will be illustrated through the following assumptions: if the mean (M) score is below 2.5 it implies that the respondents‟ disagree with the statement, if the mean score is equal to 2.5 it indicates that the respondents‟ prefer to stay Neutral, and finally if the mean score is above 2.5 it implies that the respondents‟ agree with the statement.

Accordingly, the mean scores have been computed for all the three supply chain integration dimensions that includes internal integration, External (supplier) integration and customer integration, and also the dependent variable Competitive Advantage and Strategy Implementation by equally weighting the mean scores of all the items under each dimension. The average mean result of each supply chain integration dimension together with their respective variables was separately presented, analyzed and interpreted as follows.

Internal Integration

Table 3 depicts the average mean value of all the dimensions being rated with more than the average value with high regard. Seeing in detail, with regard to the communication between Repi's departments scored (M=3.05,SD=1.327) which is the least of all the other internal integration dimensions. Followed by Repi's departments sharing technical information and strong integrative inventory management with a mean value of (M=3.27, SD=0.963) and (M=3.32, SD=0.974) respectively. The issue of tendency of sharing plans among Repi's departments and departments collaboration for development program score of (M=3.48,SD=0.874) and (M=3.71,SD=0.909) respectively.

Table 3 - Mean value of internal integration

Internal integration Questions	N	Mean	Standard Deviation
A.1.1 Communication between Repi's departments	56	3.05	1.327
A.1.2 Inventory Information sharing	56	3.32	0.974
A.1.3 Sharing plans by departments at Repi	56	3.48	0.874
A.1.4 Collaboration for development programs by Repi's Dept's	56	3.71	0.909
A.1.5 Sharing of technical information by Repi's Departments	56	3.27	0.963
A.1. Summary of Internal Integration	**56**	**3.37**	**0.751**

Source: Own survey (2017)

External (Supplier) integration

Table 4, illustrates responses to the first and third items of supplier integration factors which shows their disagreement (neutrality) on the issue of Repi's commitment in communication on R & D activities and production plans with supplier. These items have a mean and standard deviation score of (M=3.04, SD=0.852) and (M=3.09, SD=0.793) respectively. Respondents , in the other aspect have shown their strong affiliation towards the established long term relationship Repi established with the strategic suppliers and the ability of sharing technical

information with its suppliers as depicted on the results described as mean and standard deviation score of (M=3.77, SD=0.809) and (M=3.48, SD=0.783).While the other factors of External integration determinant variables, which were described by level of communication by Repi to suppliers in sharing its inventory level, internal policies and procedures and lastly collaboration with supplier development programs are been seen to score moderately satisfactory acceptance result. The three have a summarized respective result as Mean and standard deviation as (M=3.36, SD=0.962), (M=3.20, SD=0.942) and (M=3.14, SD=0.841) respectively.

As the results acquired from Repi Soap & detergent SC indicated that, there is a rather strong integration with supplier which is seen as positive remark. As most of the suppliers are key to the overall performance of the company, it is evident that the result reflects what is on ground. In other words, the JV within the company with a core Raw materials supplier give a strategic competitive advantage to source with rather fully vertically integrated supply chain making the respondents well aware of the fact and the advantage scored. This is also finally proved by the overall statistical result gained and expressed as mean and Standard deviation score of (M=3.29,SD=0.558).

Table 4 - Mean value of External (Supplier) Integration

Factors of External Integration	N	Mean	Standard Deviation
A.2.1 Communication between Suppliers & Repi's R & D	56	3.04	0.852
A.2.2 Repi shares inventory Information with supplier	56	3.36	0.962
A.2.3 Supplier & Repi share their production plan	56	3.09	0.793
A.2.4 Repi Collaborate with supplier Development program	56	3.14	0.841
A.2.5 Repi & suppliers are aware of each other's policies	56	3.20	0.942
A.2.6 Repi & Suppliers share technical information	56	3.48	0.763
A.2.7 Repi has long term relationship with suppliers	56	3.77	0.809
A.2. Summary of External Integration	**56**	**3.29**	**0.558**

Source: own survey result, 2017

Customer integration

The other critical dimension of supply chain integration is the integration of customer. The table below depicts that the respondents again moderately acknowledge the existence of strong integration with the customer as described by the nature of relationship it established among themselves which is a long term relationship, having a mean and standard deviation score of (M=3.93,SD=0.871). Further, an encouraging positive outcome in describing the customer integration with factor scores of existence of collaboration with customer development program, R&D communication with customers and sharing information about inventory levels with respective scores in terms of Mean and Standard deviation like (M=3.59,SD=0.987), (M=3.36,SD=0.962) and (M=3.36,SD=0.943). Consequently, sharing of technical information and production plan with customers has seen to be given moderate emphasis with a mean and standard deviation score of (M=3.29,SD=0.825) and (M=3.027,SD=0.981) respectively. Finally, the respondents expressed their rather positive but relatively low tendency in agreeing on the customer integration factored by customer awareness of Repi's medium and long term policies and programs with a mean score and standard deviation score of (M=3.25,SD=0.858).

The summary result of the all factors analysis with a mean and standard deviation score of (M=3.43,SD=0.654), clearly shows that there is a notable customer integration in Repi Soap & Detergent SC.

Table 5 - Mean value of Customer integration

Factors of Customer Integration	N	Mean	Standard Deviation
A.3.1 Communication between Customers & Repi's R & D	56	3.36	0.962
A.3.2 Repi shares inventory Information with Customers	56	3.36	0.943
A.3.3 Repi share its production plan with its Customers	56	3.27	0.981
A.3.4 Repi Collaborate with Customer Development program	56	3.59	0.987
A.3.5 Customers are aware of Repi's medium & long term policies	56	3.25	0.858
A.3.6 Repi share technical information with its Customers	56	3.29	0.825
A.3.7 Repi has long term relationship with Customers	56	3.93	0.871
A.3. Summary of Customer Integration	**56**	**3.43**	**0.614**

Source: Own survey result, 2017

Competitive Advantage

As per table 6 from the dimensions of Competitive Advantage respondents disagree on the competitive advantage gained by offering lower prices than the competitor with a lowest mean score of (M=2..84, SD=1.171) followed by competitive advantage gained by offering competitive price with a mean score of (M=3.16, SD=1.187).
Whilst, an overwhelmingly positive agreement was seen by respondents where the scores of Competitive advantage was gained by offering Quality and durable products respectively as expressed with their high mean and standard deviations scores of (M=4.18, SD0.956) and (M=3.93, SD= 0.892) respectively.

Based on the indication of variables of Competitive Advantage, it was clearly seen that the competitive advantage of Repi is based on the product quality it offers than the price aspect of the market, which is encouraging while working on the price factor needs attention.

Table 6 - Mean value of Competitive Advantage

Factors of Competitive Advantage	N	Mean	Standard Deviation
B.1.1 Competitive Advantage based on offering Competitive Price	56	3.16	1.187
B.1.2 Competitive Advantage based on offering prices as lower than Competitor	56	2.84	1.171
B.2.1 Competitive Advantage based on offering Quality products	56	4.18	0.956
B.2.2 Competitive Advantage based on offering Durable products	56	3.93	0.892
B. Summary of Competitive Advantage	**56**	**3.53**	**0.828**

Source: Own survey result, 2017

Strategy Implementation

As per table 7 from the dimensions of Strategy Implementation respondents reflect with a relatively similar manner agreeing mostly with the factors. To express more, they have had a similar attitude towards factors like purchasing function which is supposedly a function to implement portfolio supply strategy to be separate & independent, with a management style following an annual plan, with employees at this function being assessed with qualification and on the categorization of suppliers based on supply risk of strategy implementation with the same mean score of (M=3.39, SD=1.410), (M=3.39, SD=1.371), (M=3.39, SD=1.123)a and (M=3.39, SD=0.802) respectively,.
In the meantime, Repi's assessment of its suppliers based on business attractiveness and level of business as perceived by the suppliers are also given a considerable agreement with a positive score of mean (M=3.38, SD=1.054) and (M=3.38,SD=0.906) respectively proving the

right path of the implemented strategy awareness by the respondents. With the lower tone note, the respondents high lightened a rather low agreement and approval on the factors describing strategy implementation like Centralized purchasing function existence and implementation of categorization of suppliers based on their annual expenditure with a score of mean & standard deviation (M=3.30,1.40) and (M=3.20,SD=0.862) respectively, which shows the facts that there might be some follow-ups to be done to assure a perfect strategy implementation ability. Finally, a rather troubling disagreement comes from the respondents in the factor of existence of structured upgrading training on strategy implementation and procurement functions with a core of (M=2.80, SD= 0.923) which indicates a stress point to look after.

Based on the indication of variables of Strategy Implementation, however, shows a strong tendency of strategy implementation ability at Repi supply chain which gives a way towards a strong competitive advantage.

Table 7 - Mean value of Strategy Implementation

Factors of Strategy Implementation	N	Mean	Standard Deviation
C.1.1 Purchasing Function being separate & Independent	56	3.39	1.410
C.1.2 Centralized Purchasing Function	56	3.30	1.400
C.1.3 Purchasing activity is managed by Annual plan	56	3.39	1.371
C.2.1 Purchasing staff are assessed for their qualification	56	3.39	1.123
C.2.2 Existence of structured upgrading training schedule	56	2.80	0.923
C.3.1 Repi categorizes suppliers based on Annual Expenditure	56	3.20	0.862
C.3.2 Repi categorizes suppliers based on impact caused by supply risk	56	3.39	0.802
C.3.3 Repi assess its suppliers from business attractiveness point	56	3.38	1.054
C.3.4 Repi assess level of business to its suppliers	56	3.38	0.906
C. Summary of Strategy Implementation	**56**	**3.29**	**0.828**

Source: Own survey result, 2017

4.3.1. Supply chain Integration Level Analysis

Whilst the detailed descriptive statistics examined above shows summarized results based on Mean and standard deviation of each constraint under consideration as independent and dependent variables, assessing the level of Supply chain integration is the first research question which needs to be studied. Accordingly, the descriptive statistics based on the consolidated mean and standard deviation result obtained from the three independent variables representing the supply chain and interpreting with the result gained by comparing the three variables to get a summary of the supply chain integration need to be conducted.

Compiling the three Integration studied as exposed on Table 8 shows the relative position of the Mean and standard deviation values.

Table 8 - Mean value of Supply Chain Integration

Summary of Supply Chain Integration Variables	N	Mean	Standard Deviation
Internal Integration	56	3.37	0.751
External Integration	56	3.29	0.558
Customer Integration	56	3.43	0.6141
Supply chain Integration	**56**	3.366	0.56803

Source: Own survey result, 2017

Data Analysis & Discussion: As seen, the three variables assessing the Integration level of supply Chain at Repi soap and Detergent SC with the study reveals a score of (M=3.37,SD=0.751) for Internal integration, (M=3.29,SD=0.558) for External integration and (M=3.43,SD=0.614) for Customer integration. This in turn reveals the fact that respondents considers for all three variables a moderate positive integration level existence where us averagely considered Customer Integration (M=3.43) to be relatively gaining higher Mean score following by Internal integration (M=3.37) and finally with External integration (M=3.29). However, assessing the range of respondent replies score and its spread to asses consistency of the data, the External integration (SD=0.558) is seen to be the better agreed one as a lesser spread seen in relative to the customer integration (SD=0.614) and finally internal integration (SD=0.751).

Finding: Observing the scores and interpretation of the three Supply chain Integration variables gives a hint on the overall level of integration level of the supply chain at Repi, where a score of mean value of 3.37 and Standard Deviation of 0.568 , which is interpreted as a Moderate Level

of supply chain with an acceptable consistence as seen with the variation being narrowly spreads.

4.4. Correlation Analysis (Addressing 2nd & 3rd Research Question)

4.4.1. Examining SCI dimensions association on competitive advantage and strategy Implementation.

The Correlation Analysis is used in order to answer the second research question mentioned where the study is required to show how the three supply chain integrations constructs as independent variable are related to the two dependent variables. Besides, we will use this analysis to test the hypothesis we want t test as Correlation is the relationship between two variables, revealing the result in a form of correlation coefficient and significant level (p). So, we would like see the nature, direction, and significance of the bivariate relationship of the variables used in the study. In order to start the test, a summary of the variables result need to be compiled as seen in table 9 below.

Table 9 - Mean values Summary of Independent and dependent Variables.

Summary of Variables	N	Mean	Standard Deviation
Internal Integration	56	3.37	0.751
External Integration	56	3.29	0.558
Customer Integration	56	3.43	0.6141
Competitive Advantage	56	3.53	0.828
Strategy Implementation	56	3.29	0.828
Valid N (list Wise)	**56**		

Source: Own survey result, 2017

As stated, the above table shows the overall calculated mean scores of all the three supply chain integrations, Competitive Advantage and Strategy Implementations dimensions that have discussed above. It showed that the integration among stated items are found to be satisfactorily positive which is undertaken by Repi Soap & detergent SC as all the mean scores of each supply chain dimension is above 2.5.

The Bivariate Correlations procedure computes the pair wise associations for a set of variables and displays the results in a matrix. It is useful for determining the strength and direction of the association between two scale and ordinal Bivariate Correlations. As noted above, a Pearson correlation matrix indicates the direction, strength, and significance of the bivariate relationships of all the variables in the study. According to (Fowler, 2013) correlation coefficient is a very useful means to summarize the relationship between two variables with a single number that falls between -1 and +1.The general symbol for the correlation coefficient is ‘r’. So, a perfect

positive relationship (r=+1.00) indicates a direct relationship and an 'r' of -1.00 indicates a perfect negative relationship.

Hence, in this study Bivariate Pearson Coefficient (r) was used to examine the relationship between the five supply chain dimensions by using a two-tailed test of statistical significance at the level of 95% significance, P< 0.05.

Interpretation of correlation coefficient (r) size is as follows: if the correlation coefficient falls between 0.1 to 0.20, it is slight correlation or small; if it is between 0.20 to 0.40 is low correlation or weak relationship, if it lies between 0.40 to 0.70 moderate; if it falls along 0.70 to 0.90 high correlation or substantial relationship and if it is within 0.90 to 1.00 it is very high correlation or very strong correlation between variables (Burns, 2008).

Table 10 - Correlation table of independent variables with dependent variables.

		Internal Integration	External Integration	Customer Integration	Competitive Advantage	Strategy Implementation
Internal Integration	Pearson Correlation Sig (2_tailed) N	1 56	.676** .000 56	.644** .000 56	.172 .204 56	.460** .000 56
External Integration	Pearson Correlation Sig (2_tailed) N		1 56	.720** .000 56	.326* .014 56	.488** .000 56
Customer Integration	Pearson Correlation Sig (2_tailed) N			1 56	.319* .017 56	.500** .000 56
Competitive Advantage	Pearson Correlation Sig (2_tailed) N				1 56	.716** .000 56
Strategy Implementation	Pearson Correlation Sig (2_tailed) N					1 56

*. Correlation is significant at the 0.05 level (2-tailed).

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

Source: Own survey result,2017

Table 10 shows the correlation coefficient of the three factors measuring supply chain integration where all are positively correlated with Competitive Advantage and Strategy Implementation of the firm within the range of 0.172 up to 0.716. The result shows a mix of small to substantial significant at both p<0.05 and p<0.01 level.

Data Analysis & Discussion: When we further look at into the first dependent construct i.e. Competitive Advantage against their coefficient which indicates the three independent variables: Internal integration (r=0.172), shows a slight correlation, External integration (r=0.326) and customer integration (r=0.319) where both can be rated to reflect low correlation.

Whereas the correlation result between the Supply Chain independent variables and the second dependent variable which is strategy implementation presents: with Internal integration (r=0.460), with external integration (r=0.488) and with customer integration (r=0.500) showing in all the three cases existence of moderate relation.

Finding: In the above correlation relationship test, we can get a major finding of the small association and relation existing between the internal integration and competitive advantage. In addition, the external and customer integration relation with competitive advantage is rated as "weak". Where us the relationship among the internal, external and customer integration with strategy implementation is moderate.

4.4.2. Analysis on Competitive Advantage and Strategy Implementation.

The third major test required by the research question is assessing the association of the strategy implementation on Competitive advantage.

Data Analysis & Discussion: As seen on Table 10, a very substantial high correlation is seen as the correlation coefficient result is 0.716 which is between 0.7 and 0.9, which can be concluded to show a high correlation relationship existence.

Further enhancing the above result, checking the significant level, which is 0.000 also shows values less than 0.05 to assist the interpretation of rejecting the null hypothesis and solidify existence of strong relationship between the two last variables under test. The hyphenizes test is seen on the below table.

Table 11 - Hypothesis testing of external Integration and strategy implementation.

Hypothesis	Result	Reason
HO_3: Strategy Implementation ability has No significant association on competitive advantage gained by the Supply Chain of the Firm	HO_3: Rejected	P= 0.000 < 0.05
H3: Strategy Implementation ability has significant association on competitive advantage gained by the Supply Chain of the Firm	H3: Accepted	

Source; own survey result, 2017.

Finding: According the above result, a major finding addressing how important strategy implementation is on achieving and enhancing the competitive advantage of the firm. This also satisfies the result gained by the implementation of the portfolio purchasing supply strategy in gaining a firm ground in addressing the important factors which competitive advantage is described in the study at Repi.

4.5. Hypothesis testing.

H1. Supply chain integration is positively related to Competitive Advantage.

H1a: Internal Integration & Competitive Advantage.

As required, we will now examine the relationship of the respective variables one by one in detail starting with the first two tests involving internal Integration as independent variable and competitive Advantage as dependent. As seen on the correlation table on Table 10, the score maintained as correlation coefficient among these variables is 0.172, which is interpreted as a positive correlation with very low insignificant intensity as it is between 0.1 and 0.2. This is in fact the lowest correlation compared with the other variable correlations which this study finds out contradicting other researches.

With the same approach, we can observe the significant level gained by the two variables in question to be 0.204, which is greater than p value of 0.05 which is the default alpha level for testing the null hypothesis resulting in accepting it as it is. This is interpreted as the study couldn't have enough evidence to say that there is statistically proven correlation between internal integration and competitive advantage. The result of hypothesis testing is revealed in the summary table.

H1b: External Integration & Competitive Advantage.

Next, we will continue the analysis this time involving external Integration as independent variable and competitive Advantage as dependent. The correlation table revealed that correlation coefficient against these variables is 0.326, which is interpreted as a positive correlation but with weak and slow intensity as it is between 0.2 and 0.4.

While the significant level being 0.014 which is less than the default alpha level of 0.05 depicts that we can reject the null hypothesis and conclude that there is enough evidence showing statistically proven correlation to conclude an existence of a notable association of the independent variable External integration have on the competitive advantage. The below table shows the same result in summary.

H1c: Customer integration & Competitive Advantage.

Finally, the last test will be assessing the result gained in correlation between Customer integration and Competitive advantage, where the correlation coefficient shows a result of 0.319 which is again a positive correlation but with the weak intensity level.

The significant tow tailed value of 0.017 is again less than 0.05 alpha level assisting to conclude in rejecting the null hypothesis and accept the alternative one. It indeed proves that there is a significant relationship between the customer integration level in order to association the competitive advantage gained.

H2 : Supply chain integration is positively related to strategy implementation.

Whereas considering the second dependent variable factor with their coefficients which indicates the three independent variables: Internal integration (r=0.460), External integration (r=0.488) and customer integration (r=0.500). All are important determinants of supply chain integration and significant to show the relation of supply chain integration on strategy implementation.

H2a: Internal Integration & strategy Implementation.

Assessing the second dependent variable against internal integration association, the correlation coefficient of 0.46 which shows a better positive correlation than the first result with competitive advantage with a moderate intensity is witnessed on the relationship.

The corresponding significant two tailed result is 0.000 which is less than 0.05 to provide an interpretation that the null hypothesis need to reject and solidify existence of relationship and association the independent variable has on the strategy implementation. The hypothesis is summarized in the table presented last.

H2b: External Integration & strategy Implementation.

In this case, a correlation coefficient of 0.488 is scored which shows a positive correlation as the first test of this dependent variable.

A 0.000 significant value which is less than the alpha level of 0.05 also assumes existence of proof to conclude relationship between the external integration and strategy implementation where the hypothesis testing result in rejecting again the null hypothesis. Summary of the hypothesis test is seen below.

H2c: Customer Integration & strategy Implementation.

In a conclusion test of comparing correlations, the customer integration and strategy implementation has resulted with correlation coefficient result of 0.500, which is moderate positive correlation with a slight strengthen than the other relations.

The significant level reveals the same result of 0.000 which depicts availability of relationship between the variables assisting in rejecting the null hypothesis, which is seen below.

4.5.1. Summary of Hypothesis test

As described in detail above, the second research question was analyzed using the correlation study where in the meantime the hyphenizes which are seen to be tested on the proposal are also been checked. Summary of the test is compiled as follows.

Table 12 - Summary of the overall outcome of the research hypothesis

Hypothesis	Result	Reason
$H0_{1a}$: Internal Integration has No significant association on Competitive Advantage gained by the Supply Chain of the Firm	HO_{1a}: Accepted	P= 0.204 > 0.05
H1a: Internal Integration has significant association on Competitive Advantage gained by the Supply Chain of the Firm	H1a: Rejected	
$H0_{1b}$: External Integration has No significant association on Competitive Advantage gained by the Supply Chain of the Firm	HO_{1b}: Rejected	P= 0.014 < 0.05
H1b: External Integration has significant association on Competitive Advantage gained by the Supply Chain of the Firm	H1b: Accepted	
$H0_{1c}$: Customer Integration has No significant association on Competitive Advantage gained by the Supply Chain of the Firm	HO_{1c}: Rejected	P= 0.017 < 0.05
H1c: Customer Integration has significant association on Competitive Advantage gained by the Supply Chain of the Firm	H1c: Accepted	
$H0_{2a}$: Internal Integration has No significant association on strategy Implementation enforced by the Supply Chain of the Firm	HO_{2a}: Rejected	P= 0.000 < 0.05
H2a: Internal Integration has significant association on strategy Implementation enforced by the Supply Chain of the Firm	H2a: Accepted	
$H0_{2b}$: External Integration has No significant association on strategy Implementation enforced by the Supply Chain of the Firm	HO_{2b}: Rejected	P= 0.000 < 0.05
H2b: External Integration has significant association on strategy Implementation enforced by the Supply Chain of the Firm	H2b: Accepted	
$H0_{2c}$: Customer Integration has No significant association on strategy Implementation enforced by the Supply Chain of the Firm	HO_{2c}: Rejected	P= 0.000 < 0.05
H2c: Customer Integration has significant association on strategy Implementation enforced by the Supply Chain of the Firm	H2c: Accepted	
$H0_3$: Strategy Implementation ability has No significant association on competitive advantage gained by the Supply Chain of the Firm	HO_3: Rejected	P= 0.000 < 0.05
H3: Strategy Implementation ability has significant association on competitive advantage gained by the Supply Chain of the Firm	H3: Accepted	

Source: own study Analysis, 2017

Chapter 5 : Summary, Conclusion and Recommendations

With this chapter, summary of major findings, conclusions and recommendation of the study is provided.

5.1. Summary of the findings

Repi soap & detergent SC which was established four decades ago is seen to be a classic example of Ethiopian manufacturing sector. In this study, the researched searched for thorough assessment of supply chain integration and the relation of relationship and association this have on the competitive advantage gained by supply chain activities like the portfolio supply strategy implementation at the company. The study also illustrated in fare detail components of supply chain integration in a form of internal, external and customer integration to address main activity and concern areas and find statistical relationship that exists between the above mentioned dependent variables. In order to achieve these objectives, data were collected from the employees of the company and processed in both quantitative and qualitative approach of descriptive approach and also used correlation analysis.

From the demographic characteristics of respondents, the lion share is taken by (78.6%) was male and the remaining (21.4%) were female respondents. Besides, the large number of respondents who participated in the study survey were from the three departments with the active actors of the supply chain integration that is supply chain, Sales and marketing and production covering more than half of the total participants which is 66.1%. In relation to their qualification level, most of the respondents had a minimum of first degree in which we can infer that it is stacked with educated employees who understands the subject matter better. Finally, when we came to the work experience of the respondents, they had adequate exposure to the work area and had a potential of bringing change to the enterprise which reasonably increase the validity (as a whole the quality) of this research.

The first Finding against the primary research question was observed by considering the scores and interpretation of the three Supply chain Integration variables gives a hint on the overall level of integration level of the supply chain at Repi, where a score of mean value of 3.37 and Standard Deviation of 0.568, which is interpreted as a Moderate Level of supply chain with an acceptable consistence as seen with the variation being narrowly spreads.

While assessing the second research question considers a computed correlation relationship test, we can get a major finding of the small association and relation existing between the

internal integration and competitive advantage. In addition, the external and customer integration relation with competitive advantage is rated as “weak”. Where us the relationship among the internal, external and customer integration with strategy implementation is moderate.

The third Research question has shown a major finding addressing how important strategy implementation is on achieving and enhancing the competitive advantage of the firm. This also satisfies the result gained by the implementation of the portfolio purchasing supply strategy in gaining a firm ground in addressing the important factors which competitive advantage is described in the study at Repi.

Furthermore, the hypothesis testing using significant two tailed alpha value has shown to accept only one null hypothesis that is the one which was described above to have no correlation while all the other testes were found out to reject the null hypothesis establishing a strong positive influencing relationship between the supply chain three components and the dependent variables under the study.

5.2. Conclusion

Under this study, the major determining factors of competitive advantage and strategy implementation identified were integrating variables of supply chain based on the response of employees which composed of three dimensions; internal Integration, external Integration and customer integration. Three research questions were developed and addressed in this research and all the dimensions were rated above the average mean value which concludes the moderately medium existence of supply chain integration in the company.

The first observed fact answering the research question subject to the level of supply chain integration was found to be moderate. This can lead us to a conclusion that there is a sign of understanding and know how on the supply chain elements and the association it has when integrated. This also might give rise to complement the educational status of most of the respondents. However, a conclusion can be drawn for the concerned to work more on getting a better results by implementing the supply chain management tools, considering the fact that the study has used a limited factors describing the variables.

Drilling deep, some results which is seen to have a lower mean values and inconsistency can be taken as points to be focused for further enhancing the integration. To mention them, factors like communication among internal departments in the internal integration assessment with both near neutral score and with higher inconsistency is the starting focal point to deal with. As tried

to conclude in this section, a very interesting finding of unusual nonexistence of positive correlation between internal integration and competitive advantage have arrived mainly because of this crucial element being not fulfilled, where the author of this paper tried to explain further down.

Further assessing external integration, the next integration factor studied, concludes that there is an improvement opportunity on the factors like communication between suppliers & research and development initiation at Repi coupled by sharing production plan with suppliers, as they have scored near neutral. This concludes that an effort needs to be exerted on the concerned resources in getting the essence of execution of the mentioned action which key factors are contributing to the whole supply chain.

The other point set in this study can be seen from the result of the exercise where a relatively poor score is recorded for the element mentioning existence of structured upgrading training schedule, which do reflect the reality and the concerned should correct ASAP, for further betterment of the Supply Chan Integration at Repi Soap and detergent SC.

Individual assessment of the strategy implementation elements also shown scores with inconsistency records concluding that respondents involved do not have relative same knowhow. This points were seen on the tests on existence of separate & independent purchasing function, centralized purchasing function, annual plan based purchasing activity. This triggers the reveling of the next level of the portfolio analysis which involves all concerned parties involvement in factoring out, categorization and planning activities which might happen annually.

As observed from the results, the strategy implementation variable is seen to be associationd by the three components of the supply chain integration components of the study while External and Customer integration have positive and moderate association with the competitive advantage. However, the internal integration is seen to have no significant statistical correlation with competitive advantage.

This finding is rather unusual and deep observation and fact gathering attempt revels that respondents are not keen in knowing the cost advantage triggered competitive capability of the company pertaining to its strong brand and pioneer existence in the market mainly due to the management decision not to sell or give products to its employees. Besides, attempt to communicate marketing initiatives and encouraging in getting the commitment and involvement

if the respondents fail to ascertain the embedded competitive advantage the company has and disseminated through the employees.

All the items in this dimension i.e. Communication between departments, Inventory Information sharing, Sharing plans by departments at Repi, Collaboration for development programs by Repi's Departments and Sharing of technical information by Repi's Departments This implies that the employees need an improvement along the internal activities of the enterprise geared towards the competitive advantage. Besides, the management of the company should seek the root cause as to why the correlation doesn't surface while the unique capabilities leading to the competitive advantage were supposed to be known by its employees.

The results given on the conclusion entails us that the three research questions developed in this study were considerably rated moderate medium by the employees which actually indicates the supply chain integration is at the moderately medium level its employees.

In this stage, it is a strong message to the researcher that the overall result of the strategy implementation variable is positive where it proved the implemented portfolio strategy is in one way or another is felt by the respondents. Further, the positive high correlation observed also concludes. Also that implementing the klarjic portfolio supply strategy is a means to encourage a competitive advantage the company could enjoy.

Regarding the correlation, it is possible to conclude that there is a notable and positive relationship among the three supply chain integration dimensions which this study was relied on.

5.3. Recommendation

By relying on the study findings, the researcher suggests the following points as credible recommendations to the problem.

- The company should review its policy of not availing its own products to its employees as a giveaway or as sales with better access to products As soon as possible, In order to gain a maximum positive result on internal integration and competitive advantage.
- There should be a revised a scheme by the concerned functions as to how and what the supply chain actors need to be addressed both in the fields of communication as concluded in the study.

- Purchasing function need to have a clear well thought plan to avail information on its independence and centralized structure.
- While involving on further categorization attempt, strategy initiative brain storming and annual purchasing planning to gain maximum commitment and integration.
- The concluded fact related to scheduled structured upgrading skill development programs and trainings should be a focus of supply chain and human resource functions.

The study recommends the following areas for further study;

- Future researches should also conduct a study that will assess the barriers on the implementation of supply chain integration strategies in manufacturing sector. Such study will have a significant contribution in helping managers to identify areas within such businesses that require a critical attention in order to increase the competitive advantage of facilities operations.
- Furthermore, I recommend researchers to undertake a comparative analysis on the level of supply chain integration on their competitive advantage with other manufacturing facilities that are found in the country.

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Data Collection questionnaire

ADDIS ABABA UNIVERSITY,
SCHOOL OF COMMERCE,
DEPARTMENT Of LOGISTICS & SUPPLY CHAIN MANAGEMENT.

Questionnaire to be filled by employees of Repi soap & Detergent S.C.

Dear Participants,
First I want to put my gratitude for your time in responding to the research questions provided below. I am a postgraduate student at Addis Ababa University School of Commerce from the department of logistics and supply chain management, currently working on the project. The response you provided me gives a critical input to my research **"Assessment of Supply Chain Integration in Ethiopian Manufacturing Sector: The Case of Portfolio Procurement Strategy Implementation at Repi Soap & Detergent SC."**
You have been identified as one of the respondents for this study and you are kindly requested to fill the questionnaire. The information obtained from the questionnaire will be kept confidential and will not be used for any other purpose. Hence, I kindly ask respondents to give your candid information.
Thanks you for your cooperation.

NB:

- It is not necessary to write your name
- Try to address all the question given below
- Please tick inside the boxes as appropriate

Section 1. Demographic Characteristics

1.1. Gender

a) Male □ b) Female □

1.2. Department: Supply Chain □
Finance □
Sales & Marketing □
Quality □
Production □
Technic □

1.3. Qualification

Certificate □ Diploma □ First Degree □ Masters □

1.3. Experience

Less than 1 year □ 1-5 year □ 6-10 year □ More than 10 years□

Section 2. Interview Questions for Supply Chain Integration Assessment at REPI Soap and Detergent S.C, competitive Advantage and Strategy Implementation.

PART A

The following statements relate to the assessment of the level of integration of Repi's supply chain. Follow the instructions given for your responses.

	Please indicate the extent of integration of Repi Soap and detergent SC. **(1= Strongly Disagree; 2=Disagree; 3= Neutral; 4=Agree; 5=Strongly Agree)**	1	2	3	4	5
A.1.	**Internal Integration**					
A.1.1.	There is efficient communications between different departments at Repi regarding a new product or process development project.					
A.1.2.	Different sections at Repi have transparent information about the inventory status of each other.					
A.1.3.	Different departments at Repi provide each other with their plan(s).					
A.1.4.	Different departments at Repi collaborate with the company development program(s).					
A.1.5.	Different departments at Repi share technical information with each other quickly if required.					
A.2.	**External (supplier) Integration**					
A.2.1.	There is efficient communications with your suppliers on research activities and new product development (R&D).					
A.2.2.	Repi and its suppliers have transparent information about each other's inventory status.					
A.2.3.	Repi and its suppliers provide each other with each other production plan.					
A.2.4.	Repi collaborate with its suppliers development program (s).					
A.2.5.	Repi and its suppliers are aware of each other medium-term and long-terms policies and strategies?					
A.2.6.	Repi and its suppliers share technical information with each other if required.					
A.2.7.	Repi have long-term relationships with your suppliers.					
A.3.	**Customer Integration**					
A.3.1.	There is efficient communications with Repi's customers on research activities and new product development (R&D).					
A.3.2.	Repi have transparent information with its customers about each other's inventory status.					
A.3.3.	Repi provide its production plan to its customers.					
A.3.4.	Repi has customers development program.					
A.3.5.	Repi and its customers are aware of each other medium-term and long-terms policies and strategies?					
A.3.6.	Repi share technical information with its customers if required.					
A.3.7.	Repi has a long term relationships with its customers.					

PART B

The following statements relate to the dependent variable of competitive advantage gained through supply chain integration as independent variable. Follow the instructions given for your responses.

	Please indicate the Competitive advantage Repi gained through supply Chain integration of Repi Soap and detergent SC. **(1= Strongly Disagree; 2=Disagree; 3=Neutral; 4=Agree; 5=Strongly Agree)**	**1**	**2**	**3**	**4**	**5**
B.1.	**Cost/Price**					
B.1.1.	Repi is capable of competing against major competitors based on low price by offering competitive price.					
b.1.2.	Repi is capable of competing against major competitors based on low price by offering prices as low or lower than its competitors.					
B.2.	**Quality**					
B.2.1.	Repi is capable of offering product Quality and performance that creates higher value for customers by competing based on quality.					
B.2.2.	Repi is capable of offering product Quality and performance that creates higher value for customers by offering products that are very durable.					

PART C

The following statements relate to the dependent variable of Supply Chain practice in a form of Purchasing Strategy implementation have got to do with the supply chain integration as independent variable. Follow the instructions given for your responses.

	Please indicate the extent of purchasing strategy implementation using a portfolio supply strategy at Repi Soap and detergent SC. As part of SC practice. **(1= Strongly Disagree; 2=Disagree; 3= Neutral; 4=Agree; 5=Strongly Agree)**	**1**	**2**	**3**	**4**	**5**
C.1.	**Internal Organization**					
C.1.1.	Repi has structured Purchasing function as a separate and independent department by itself.					
C.1.2.	Repi's purchasing is centrally managed.					
C.1.3.	Repi's purchasing activities are managed by annual plan and operation forecasts.					
C.2.	**Staffing**					
C.2.1.	Procurement employees are assessed for their relevant qualification when assigning them for the functions position.					
C.2.2.	There is a structured upgrading training schedule for purchasing professionals at Repi.					
C.3.	**Portfolio based supplier categorization**					
C.3.1.	Repi categorizes its suppliers based on Annual expenditure.					
C.3.2.	Repi identifies its suppliers based on the impact caused by supply risk if supply objective is not met.					
C.3.3.	Repi assess its suppliers from attractiveness of Repi's business to them.					
C.3.4.	Repi's assess level of business to its suppliers.					