

***THE EFFECT OF INTERNAL SUPPLY CHAIN INTEGRATION
ON ORGANIZATIONAL PERFORMANCE: THE CASE OF
BEDELE BREWERY***

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DECLARATION

I, the undersigned, declare that this study entitled “the effect of internal supply chain integration on organizational performance: the case of Bedele brewery” is my original work and has not been presented for a degree in any other university, and that all sources of materials used for the study have been duly acknowledged.

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This is to certify that this study, “the effect of internal supply chain integration on organizational performance: the case of Bedele brewery”, undertaken by Berisa H/Mariamis an original work and not submitted earlier for any degree either at this University or any other University.

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Abstract

Internal Supply chain integration is part of supply chain integration; coordinating and synchronizing the internal functions and interdependent departments to address product and services to end consumer to enhance common benefits. The main objective of the study was to examine the effect of internal supply chain functional On operational performance in BedeleBrewery which is located in Bedele town. The level and practice of information integration, coordination and resource sharing, organizational relationship linkage, perceived benefits of supply chain integration and information technology tools implementation practice were analyzed. The main drivers of this study was those Critical factors of the Internal supply chain integration including; Poor internal information integration and traditional way of communication and lack of trust among internal partners. The study deployed descriptive research design with representative sample of 175 respondents from the employees and process owners selected through simple random sampling. A self-developed questionnaire was adopted from related literatures as well as semi structured interview was used as a research tool for collecting data. The collected data was analyze using statistical package for social science version.21 (SPSS) software, descriptive statistics (mean standard deviation and correlation) were the main analysis method. Based on the analysis, the research comes up with the following findings. All independent variables internal integration, customer integration and supplier integration have significant positive impact on operational performance. Finally based on the finding the recommendations forwarded as follow. Beadle Brewery Share Company is better to enhance the extents of integration of the three variables (Internal Integration, ICT/Information Technology, Collaboration& Resource Sharing and Challenges) since these variables help to the improvement of organizational performance.

Keywords: -Internal Supply Chain, Integration and performance

CHAPTER ONE

1. Introduction

This chapter addresses the introductory part of the paper. It basically includes Background of the study, Statement of the problem with basic research questions, Objectives of the study, Significance of the study, Scope of the study, Description of the study area, and Organization of the study's basic terms.

1.1. Background of the study

Supply chain management (SCM) links a firm with its customers, suppliers and other members of the supply chain system, including transportation, freight forwarding and warehousing service providing companies. Recently, the rapid advancements of technology such as Globalization, wireless and internet networks, the basic supply chain is rapidly evolving into what is known as a Supply Chain Network. To cope with these fast-growing challenges manufacturing industries are implementing different systems like TQM, ERP, BPR, etc. But still the integration of supply chain is still in low level to develop the competitive advantage of the organizations (Fasika, et.al.2014).

In this competitive world, one of the important tools for achieving organizational objective in manufacturing sector is integrating supply chain among the internal and external network. Organizations within the supply chain should manage the integration of business, people, technology and the process to get successful in the market (Intan, *et al.*, 2015).

Process integration and redesign is an important component of supply chain management implementations. Integration among partners along the supply chain achievement involves information sharing especially with regards of projected product or service. In addition, it requires comprehensive look at customer service level, supply chain distribution channels, facility location, allocation, inventory, transportation information management as well as organization of the supply chain (Kent, 2001).

The development of supply chain integration described into four basic levels including; the first stage represents the fragmented operations within the individual company; the second

stage is limited to integration between adjacent functions, for example, purchasing and materials control. In the third stage, the integration requires the internal integration of the end-to-end planning in the individual company and finally, the last stage represents the true supply chain integration including upstream to suppliers and downstream to customers (Stevens, 1989).

On the other side, as Chandra (2012) illustrate on their book, Global logistics and supply chain management, there are four primary model of supply chain integration including; Back ward integration; Integration with first tire and second tire supplier, forward Integration; Increasingly with first tire customers or service providers, Forward & back ward integration; Integration with suppliers and customers and Internal integration; Cross functional integration within an organization.

Upstream and downstream supply chain integration requires technological integration primarily with main supplier and customer which has positive impact on overall monitoring and collaboration among the business entities within the supply chain. Supply chain integration can also encourage business firms for information sharing, collaboration and cooperation among them which enhance ultimate customer satisfaction (Power, 2005).

Supply chain Integration requires strong commitment and involvement by top management, supply chain risk management, needs to react to dynamic market changes and the factories brings high competition among them to win the market share throughout the country (Ngai, 2004). Moreover, the nature of the business in the beer supply chain requires high level of internal supply chain to win the market for the reason that , this research focused on analyzing practice, level, benefits and challenges of internal supply chain integration for Beadle Brewery products and internal supply chain integration strategy to maximize the benefits of internal supply chain integration from manufacturing to retailing as the result maximizing customers' satisfaction in terms of Price as well as product Quality.

1.2. Statement of the problem

According to Li et al (2006), different organizations have recognized effect of SC integration on building sustainable competitiveness of their goods and services in an increasingly crowded market places and enhancing firm performance and overall supply chain performance. This has resulted in increased attention of managers, consultants and business owners towards proper supply chain management in business organizations (Tan et al., 2012).

Global Research outputs indicate that, the internal integration is least touched in both academic and practitioner literatures (Gurumurthy, 2013). One of the probable reasons could be that, the design and coordination of internal networks i.e. the distribution channels is considered to be the responsibility of more than one business functions. Sales and marketing departments, operations department, and supply chain department end up in conflict while deciding on owning the distribution process (Wathne, 2004).

Inappropriate or lack of information technology integration with the business, poor IT infrastructure, insufficient and inadequate application of IT among the supply chain partners affects the overall supply chain performance (Gunasekaran, 2009).

In Ethiopia, brewery industry is evolving rapidly and gets attraction of direct foreign investment on the industry to fill the market gap. Recently numbers of new breweries have been come in to the market and the existing factories are expanding their capacity (Ethiopian News Agency, May 2016). These resulted in tough and aggressive market competition; different scholar's studies proved that practice of supply chain integration (internal and external integration) in Ethiopian manufacturing sector is at infant stage (Fasikaet al., 2014). On the other side, as supply chain management is one of the basic tools to win the market through fulfilling the interest of all partners in the supply chain and bringing customer satisfaction in the existing situation; integrating all participants plays great role to ensure their common goals especially to survive in the current market.

As per the previous knowledge of the researcher obtained from Beadle brewery internal supply chain activity, there is no or very poor Information Technology implemented in the supply chain as the result the information exchanges are limited to traditional like telephone and fax and informal observation especially the row material management annual report of the organization (2011).

Cooperation, collaboration, information sharing, trust, partnerships and shared technology are the main milestones of integration in the internal supply chain integration therefore this situation affects the normal flow of supply chain network even the external one. Because of this the researcher tries to fill the gap by assessing on how coordination among internal stakeholders takes place, how is the practice and level of internal supply chain integration in Bedelebrewery members can perceived the benefits of integration among them and the challenges observed for internal supply chain integration.

1.3. Research questions

The research was guided by the following main research questions

1. How the internal SC integration affect the organization performance?
2. What is the level of advanced information sharing practice to facilitate & mange the internal supply chain integration?
3. What is the level and practice of collaboration & resource sharing activities in the internal integration of the organization?
4. What are the challenges of internal supply integration in beadle brewery?

1.4. Objective of the study

1.4.1. General objective of the study

To assess the effect of internal supply chain integration on organizational performance: the case of BedeleBrewery

1.4.2. Specific objectives of the study

The specific objectives of the study are:

1. To what extent does the internal SC integration affects the organization performance?
2. To examine the level of information sharing practice to facilitate & mange the internal supply chain integration?
3. To examine the level and practice of collaboration & resource sharing activities of the organization
4. To identify the challenges of internal supply integration

1.5. Significance of the study

As different literatures point out, the concept of supply chain integration have significant role for any manufacturing company, provided that companies implement the supply chain management successfully. Effective and efficient supply chain integration creates value to customer as well as the rest of the supply chain actors and enables the supply chain firms to maintain or gain competitive advantages over their competitors. Besides, in the contemporary business environment, individual firms will not perform and compete independently. There is no more competition among individual firms, but it is among the supply chain network.

Therefore, conducting research on internal supply chain integration on product quality and identifying gaps will enable the case organization to plan improvement actions and to fill their gaps. The finding of this study will give an insight on policy makers and also have its own importance for the researcher himself because the researcher develops much informal knowledge from this activity.

The finding will also give an insight to other supply chain partners (the suppliers, distributors, retail outlets, transporters, etc.). As this research study has its own scope limitation, other researchers can also use it as starting point to capitalize on the different aspects of the internal supply chain integration on product quality which have not been addressed in this study.

1.6. Scope of the study

Scope refers to the coverage aspects related to the particular study area. The research enclosed geographical in one region that is OromiaBedele. So, the general objective of the study focuses towards the effect of internal supply chain integration on organizational performance.

Methodologically, the study employed descriptive design and simple random sampling technique. Structured questionnaires and semi structured interview distributed to respondents. The research based on the response of samples which gathered by primary data (using structured questionnaires and semi-structured interview) from managers and senior experts and the study limited to those only, the general managers, marketing managers and production managers, quality and standard assurance manager and professional employees.

The reason behind is that the selected respondents could represent and relevant to the research study but nonprofessional employees were not included.

1.7. Organization of the paper

The expected research paper will be organized into five chapters. Chapter one will all about the mail stone of the paper and Chapter twodeals on review of related literature as well as empirical literatures and conceptual framework. Chapter threewillconsists of the research methodology including data type and source, method of data collection and instrumentation, research design and sampling procedure, data processing and method of data analysis, and description of the study area. Chapter four of the proposal will be time and financial plan of the general paper Chapter four of the paper will be all about the results and discussion and finally Chapter five: contains conclusion and recommendations of the paper.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2. Introduction

The literature review section of the research proposal will consist of relevant information about the overall issues about theoretical and empirical studies and conceptual framework of the study: as discussed by various authors, scholars and researchers.

2.1. Theoretical review

2.1.1. Overview of supply chain integration

Supply chain is an integrated system wherein number of business entities work together for efficient and effective flow of material and service, information and funds (Kittipong, 2015). Supply chain management is the process of value to achieve sustainable competitive advantage. The flow of materials and information through a business from the purchasing activity, through the operations and out to customers, by way of distribution or service delivers activity can be described as immediate supply chain. There are often strategic benefits to be gained in managing the flow between customers and supplier.

As Jeff Rose (2014) description, the historical supply chain has focused on the efficiency and execution and has fallen short in bringing significant improvement in firm's level competitiveness. They strictly recommended that, "Supply chain must now take the next step and incorporate the business knowledge and practice that will help the firm understand their market place and drive the firm's strategy to the operational level in order to differentiate it substantially from its completion (Rose, 2014)." In this situation supply chain enables the business organization to be efficient and competent not the business companies within the chain but completion among supply chain.

The term supply chain management was originally introduced by consultants in the early 1980's and since then has received considerable attention. A supply chain is much wider than logistics in terms of intercompany, boundary spanning concept (John & Chandra, 2012).

The upstream supply chain incorporates the supply of raw material, store, and transport to manufacturing companies while downstream supply chain includes organizations which are

responsible for conversion of raw material to semi-finished or finished product, distributors and retailers who directly communicate with ultimate consumers. Internal supply chain integration as part of the whole supply chain will have the lion share for the effective and efficient implementation of the supply chain to address the customer requirement at the right time, the right quality, at the right price.

2.1.2. A supply chain

Defining a supply chain (SC) is as easy as defining supply chain management in absolute terms: Definitions vary with authors and thus, a more comprehensive overall picture of a supply chain offers more use than trying to define it in absolute terms. Nevertheless, one way to look at a supply chain is as a network of multiple businesses and relationships. Fawcett and Magnan concluded from their study that SC practice rarely looks like the theoretical ideal.

Nonetheless, a typical SC according to Simchi-Levi et al includes raw material procurement, production of goods at one or more facilities, transportation and warehousing, and then delivery to retailers or customers. Chandra and Grabis also present a SC as containing suppliers, manufacturers, warehouses, distributors, and retailers working together. Regardless of their actual compositions, Narayanan and Raman advocates the periodic study by management of all supply chains, as the alignment of incentives within the chain can shift due to changes in technology or business conditions, whether it is a top-performing network or not.

Antecedents of a supply chain are trust (commitment), cooperation, organizational compatibility, (“complementary goals and objectives”), agreement on vision and key processes, and operational philosophy, as well as cooperative culture, leader company (a so called “Kingmaker” that coordinates and oversees the SC) and top management support.

Trust was identified as one of the major supply chain enablers by Carter et al in their study on supply chain integration challenges and good practices. Carter et al state that

“Trust is at the heart of breaking down the functional and organizational barriers that impede true integration. Without trust and the willingness to collaborate, it is impossible to achieve aligned, consistent decision-making and actions required for the integrated supply chain.”

2.1.3. Internal Supply Chain

In the article “The measurement of internal supply chain integration”, Basnet writes about the internal supply chain and its management as follows: Internal supply chain refers to the chain of activities or functions within a company that results in providing a product to the customer. Integration of these functions involves the holistic performance of activities across departmental boundaries. A well-integrated internal supply chain should result in excellent customer service and company performance. Basnet (2016,) Effective internal supply chain integrates the internal functions for example from marketing to logistics.

Chen et al. (2013) write in their article that “marketing/logistics collaborations and interactions can provide valuable input to support broader-based decision making and planning within the firm” and continue further: “Interdepartmental collaboration can bring departments together into a cohesive organization. Firm performance and, ultimately, supply chain performance depend on such collaboration.

Companies should achieve internal integration before implementing supply chain management that will eventually include other supply chain partners. According to Gimenez (2012) “internal integration has a positive effect on external integration because coordination among internal functions facilitates coordination among different companies”. However remind that “SCM is not easy to set-up: there can be internal barriers to change processes, and there can also be difficulties to shifting from traditional arms-length or even adversarial attitudes to a partnership perspective”.

Burt et al. (2014) write about the internal integration as follows: “the first priority of a business enterprise is to integrate and optimize its own operations before making any attempt to extend supply chain rationalization to external organizations” and “the internal customers need to acknowledge the presence of the supply management organization when they are implementing the product development and planning process”. Collaborative behavior positively impacts effective interdepartmental relations. However, unless participants in the process see value in the information that is exchanged and are somehow motivated to use it, increasing the amount of information may be somewhat worthless.

2.1.4. What is supply chain management

Christopher (2013) Supply Chain is a network of various organizations involved both through upstream and downstream linkages in different kinds of activities and processes. It is the task of integrating organizational units along a supply Chain and coordinating materials, information and financial flows in order to fulfill customer demands with the aim of improving competitiveness of the supply chain as a whole. The key elements of supply Chain and its management from these definitions are therefore the upstream parties, the downstream parties and the integration of all the organizations involved, together with the internal function of an organization itself.

The upstream parties, as being described by (Handfield, 2013) consists of an organization's functions, processes and network of suppliers while the downstream function on the other hand concerns the distribution channels, processes and functions where the product passes through to the end customer. Where external downstream and upstream functions are concerned, the managers involved in each upstream and downstream supplier and functions are responsible in making sure that the deliveries of products and services are done as scheduled to their destinations. If there are cases where delays are inevitable, the managers are to ensure that the impact of the delays to the SC and the value it carries will be minimal.

While managers in a supply Chain involving external organizations have to deal with the people outside of its own company, in this situation mutual understanding have to be reached between the managers of departments inside the company itself. However, the term supply Chain Management has been used to describe the planning and control of materials and information flows as well as logistics activities not only internally within a company, but also externally between companies (Janus, 2007). Due to the increasing number of players and forces, a supply Chain may develop into a supply network which will require a more complex and complicated management system.

Mentzer, (2011) defined Supply chain management as the systemic, strategic coordination of the traditional business functions and the tactics across these business functions within a particular company and across businesses within the supply chain, for the purposes of improving the long-term performance of the individual companies and the supply chain as a

whole. SCM focuses on how firms utilize their suppliers' processes, technology, and capability to enhance competitive advantage.

Supply chain management (SCM) enhances competitive performance by closely integrating the internal cross-functions within a company and effectively extending them to the external operations of external partners to be successful. Supply chain is a set of three or more entities directly involve in the upstream and downstream flows of products services, finances and information from a source to a customer(Kim, 2016).

The idea of improving products and services through Supply chain management; including to reduce the production time and cost without compromising the product quality, is that the managers have to work cooperatively with other organizations in the Supply chain. Eventually, through mutual understanding between them and ability to reduce the risks of uncertainties in production processes, higher degree of efficiency can be achieved. Though originally it was used mainly in manufacturing industry to improve responsiveness and flexibility, and has been found to also improve organizational competitiveness (Gaughey, 2013), Supply chain management has now been recognized by many to be an important strategic tool for organization's efficiency and to gain competitive advantage.

2.1.5. SCI concept

It is apparent from the previous researches that SCI has different meanings to different researchers and organizations. To some authors, the concept of integration is implicit in the very definition of SCM. SCM coordinates and integrates into a seamless process of all the activities involved in delivering a product from raw material to the customers, including sourcing raw materials and parts, manufacturing and assembly, warehousing and inventory tracking, order entry and order management, distribution across all channels, delivery to the customer and manage information systems necessary to monitor all of these activities. SCM is the integration of key business processes from end user through original suppliers that provides products, services and information that add value for customers and other stakeholders. Such definitions emphasize the importance of the integration of flow of products, services, funds and information across firms for an effective SCM Vokurka (2012)

A few authors give specific definition of SCI. Romano (2013) describes the concept of integration as a mechanism to support business processes across the supply network to overcome intra- and inter-organizational boundaries. SCI is strictly related to coordination mechanisms and in particular implies that business processes should be streamlined and interconnected, both inside and outside company boundaries. On the other way he defined SCI as comprehensive collaboration between SC network members in strategic, tactical and operational decision-making. The last definition highlights the need for integration at all the levels of planning in order to be effective.

While operational coordination can only lead to operational benefits, strategic coordination provides both operational and strategic benefits. SCI implies collaborative inter- and intra-organizational management on the strategic, tactical and operational levels of activities (and their corresponding materials, funds and information flows) that, starting with raw materials suppliers, add value to the product to satisfy the needs of the final customer at the lowest cost and the greatest speed demonstrate that achieving strategic fit between competitive and SC strategies is the key to SCI. Therefore, the researches on SCI should consider not only tactical and operational issues but also strategic aspects of business (Sanders 2018).

2.2. SCI approaches

Previous studies analyses and measure SCI considering three main approaches:

- (1) External (with supplier and customer) and internal integration,
- (2) Process integration and
- (3) Information/data and physical/materials flows integration.

SCI needs both intra- and inter-company integration across the entire SC in order to work as a single entity (Pagell 2014). However, organizations are not always successful in achieving higher level of integration within their SCs. Many organizations have only achieved the first tier backward or forward integration.

Some studies show that one of the reasons that hinder the achievement of a high-level external integration is low level of internal integration. Intra-company integration is the starting point for broader integration across the SC. One of the major obstacles to fully integrate materials and information flows across the SC is the inadequacy of the internal management systems of the individual firms (Mentzer 2014). In order to achieve intra-organizational integration, coordination between functions is critical. Consequently, SCI aims

to break down the organizational boundaries between functions and barriers between organizations.

Although the internal and external integration is the key element for SCI, there is much emphasis on customer and supplier integration only, ignoring the important central link of internal integration (Flynn et al. 2011). For example, heclassifies three types of integration: backward integration, forward integration and complete forward and backward integration. Similarly, this perspective to define arcs of integration: inward-facing, periphery-facing, supplier-facing, customer-facing and outward-facing. Other papers have adopted a wider focus and have considered both types of integration (internal and external).

The second approach comprises of SCI from process integration perspective. Lambert and Cooper (2010) propose that, for successful implementation of SC, all firms within an SC must overcome their own functional silos and adopt a process approach. The key processes typically include customer relationship management, customer service management, demand management, order fulfillment, manufacturing flow management, supplier relationship management, product development and commercialization and returns management. Moreover, Romano and Vinelli (2011) maintain that even quality management can be considered as a key SC business process. SC business process integration involves collaboration between buyers and suppliers, joint product development, common systems and shared information.

Bagchi (2015) analyses the relative degree of the involvement of key suppliers and customers in decision making in new product development, inventory management, procurement, production and distribution and investigate the consequences of supplier integration in product development activities.

Finally, some papers focus on the integration of information/data and physical/materials flows. For example, Cagliano et al. (2016) investigate the relationship between the integration of information flows and the integration of physical flows and two manufacturing improvement programs (lean production and enterprise resource planning systems). Other studies analyses the information flows integration:

The previous approaches on SCI are not exclusive. Usually, at least customer and supplier integration (not always internal integration) is used when the research focus on process or physical/information flow integration.

There are different approaches to measure SCI. The dimensions and variables used for SCI in the previous researches have a wide variety. It is clear from previous research that SCI suffers from a lack of clarity in its definitions, dimensions and variables. Additionally, the concepts of SCI are incomplete as it seldom considers important central link of internal integration (Flynn et al. 2010). Even, some authors comment that SCI is in its infancy. Hefined significant differences in the dimensions and variables used to measure SC integration Therefore, it becomes necessary to conduct a literature review to identify dimensions and variables and develop a conceptual framework for SCI.

2.2.1. Internal Chain Integration

The phrase ‘internal supply chain’ has appeared in the literature (Huin et al. 2012) to describe work aimed at breaking down the barriers between functions within organizations. To establish a framework for describing the key functions of a typical internal supply chain, News’s comment.

For the purposes of this section the author has added a fifth element, namely the ‘store’ activity. This has been done to ensure that all activities associated with the design and management of warehouses and other storage locations is given due recognition in the framework. Warehouse management has long been regarded as an integral element of the logistics activity of firms (see below) and a significant amount of specialist knowledge and expertise in this area has been developed over the years. Essentially, ‘move’ has been disaggregated into separate ‘move’ and ‘store’ elements, reflecting the specific characteristics of each of these activities. Most businesses – certainly manufacturing based business – can be described in terms of the five functions: buy, make, store, move and sell

This is what is referred to as the internal (or micro or intra-firm) supply chain. Traditionally these functions have often been measured, and therefore managed, in isolation, often working at cross purposes. As succinctly noted by Story et al. (2016) this traditional approach is analogous to a relay race with responsibility being passed from one function to another.

SCM means thinking beyond the established boundaries, strengthening the linkages between the functions, and finding ways for them to pull together. A recognition that the 'whole is greater than the sum of the parts' calls for more effective integration between purchasing and procurement (buy), production planning and control (make), warehouse management (store), transport management (move) and customer relationship management (sell).

This shift, away from a functional orientation towards a more company-wide focus, is in line with the early stages of the various models of SCM historical evolution. It is also analogous to the supply chain orientation (SCO) approach of Mentzer et al. (2011) in the sense that SCO at firm level, as manifested in high levels of internal integration, could be regarded as a prerequisite for SCM, as manifested in high levels of external integration. Nonetheless, the desirability of achieving seamless integration is not something which is unique to SCM. As noted earlier, organizations have long realized the need for company-wide approaches to organizational design and redesign.

2.2.2. The impact of internal integration

Barratt stresses that there are not just gains in adopting internal integration: There could be a development of one large organizational silo. In order to avoid a great silo, Barratt says stress should be applied to simultaneously link inner collaboration with external collaboration: "Internal integration must be aligned with the drivers and constraints of the rest of the supply chain. The predominantly mentioned positive impact of internal integration is the alignment of inner processes; other positive impacts have been scarcely mentioned. Nevertheless, Lambert and Cooper stress that a company's success comes down to how successfully management can integrate the intricate network of business relationships in the company. But there is another side of the coin; O'Leary-Kelly and Flores stress that needed integration mechanisms in internal integration may give rise to costs that are not outweighed by the benefits of implementing them. Fully integrating may become too costly. Johnson and Filippini take it one step further, questioning the very impact of internal integration on time performance (Guopta 2011)

2.2.3. Challenges and Solutions

Virtually all contemporary definitions of SCM place a strong emphasis on the need for a shift from traditional supply chain architectures, which were often characterized by fragmentation, to more effective configurations, which need to replace fragmentation with integration. This is true both in relation to internal and external chains.

The achievement of high levels of integration has implications for the design of organizational structures and supply chain architectures. Kemppainen (2013) suggest that in the future this is “expected to result in a new structure of demand-supply networks, in this paper called the encapsulated network, with shared technology and systems, extended decision rights and non-territorial services” (p. 716). While ‘leading edge’ companies may well have adopted this philosophy to varying degrees, there is a need to understand its role and impact in the wider business community. For example, the recent work of Fabbe-Costes and Jahre (2018) concludes that: “In going behind the rhetoric of “integration is always best”, we have shown that “evidence” cannot be taken for granted and that much more research is needed in particular with regard to the impact of extended inter-organizational SC on supply chain performance. Finally, moving from fragmented to more integrated approaches inevitably requires changes to the ways in which both internal and external customer and supplier relationships are created and managed.

2.2.4. Integration benefits

Success of integration is “predicated on close cooperation inspired by a perception of mutual benefits.” Integration has to do with the competitive edge of those committed to the supply chain: Supply chain integration is motivated by increase in supply chain competitive advantage.

Closs and Savitskie have identified that several recent studies have identified internal and external supply chain dimensions as critical to achieving performance-related competitive advantage.” Integration is important as it is desired for its capability of bringing about better performance at lower cost

2.2.5. Integration Levels and Dimensions

According to Koskinen, and as seen in this chapter, the level of integration can vary between supply chain coordination and full integration. Now Lambert and Cooper advocate that the drivers for integration differ from process link to process link and are thus situational and as such, the level of integration “should vary from link to link and over time. Processes on an operative level can be integrated, but if tactical and strategic levels are not integrated performance benefits of integration are limited. In contrast, Troy et al advocate that “when integration occurs at the organizational level rather than at the team level, the impact of the integration is diminished Rushton et al advocates the most conventional perception of integration evolution in supply chains: from baseline chain to externally integrated supply chain, below ;But talking about integration dimensions, Lee and Whang (2012) identify four key dimensions of supply chain integration. The four dimensions increase by degree of integration and coordination. First come information integration, which focuses on data and information that can influence actions and performance of other members in the supply chain (such as demand data, inventory, capacity, schedules and plans, both in real-time and online). The second is called planning synchronization, where the step up in coordination and integration now is expressed through product introduction, forecast, replenishment coordination through joint design and execution. Actions are coordinated through focusing on what is done with the information (such as order fulfillment). The third dimension is called workflow coordination, which focuses on how to use the information.

Workflows are streamlined and automated through the information shared. Examples are procurement and supplier; accuracy, time, and cost. The fourth dimension is known as new business models, where a whole new approach to conducting business is found. This step includes finding new business that previously was unavailable. There is change possibility in roles and responsibilities among the chain partners, such as adopting new products, or mass customization yusuuf (2011)

<i>Dimension</i>	<i>Elements</i>	<i>Benefits</i>
Information Integration	Information sharing & transparency Direct & real-time accessibility	Reduced bullwhip effect Early problem detection Faster response Trust building
Synchronized Planning	Collaborative planning, forecasting & replenishment Joint design	Reduced bullwhip effect Lower cost Optimized capacity utilization Improved service
Workflow Coordination	Coordinated production planning & operations, procurement, order processing, engineering change & design Integrated, automated business processes	Efficiency & accuracy gains Fast response Improved service Earlier time to market Expanded network
New Business Models	Virtual resources Logistics restructuring Mass customization New services Click-and-mortar models	Better asset utilization Higher efficiency Penetrate new markets Create new products

Figure 1: Supply chain integration Dimensions by Lee and Whang

2.2.6. Integration and the company

There are thousands of activities performed and coordinated within the company. Perhaps correlated, efficient implementation of integration remains mysterious to many companies. A greater number of functions can cause confusion and make it increasingly difficult to increase goal congruity or a collaborative climate. This receives support by findings made by Troy et al in their conducted study: more functions can contribute to greater creativity and idea for new products, but increased confusion and conflict can also result as more divergent viewpoints come together. The implication is that managers should consider forming teams with a smaller number of key functions rather than longer, more diverse teams. Lambert and Cooper discuss the probable variation of the number of business processes that are “critical and/or beneficial to integrate and manage between companies. In some supply chains linking just one key process might be more appropriate, as linking of multiple or all business processes might be more appropriate in others. Still, this variation might cause varying levels of equivocality, which “may contribute to a varying need for internal and external integration Whang(2012)

In order to achieve integration, focus in functional values should be on universal capabilities. There must be the knowledge and set goals essential to nurture integrated performance. This knowledge of integration is the underlying understanding of why integration (work) is being performed in contrast to having a functional perspective, which is how integration (work) is performed. The capability reflects the value contribution of the work. Inherent in a capability is the application of integrative principles that allow multiple functions to be synchronized into value-creating competencies(Speh, 2012)

Adopting SCM successfully necessitates changing from having individual functions to managing integrated activities in key supply chain processes. The supply chain has usually been interacting up/downstream in the supply chain as disconnected companies with irregular information flows over time.

319 Successful SCM and integrated supply chain processes are facilitated through continuous information flows (Speh, 2012)

2.2.7. Functional integration

According to Chandra and Grabis (2010) a typical supply chain structure is functional in nature. This means that the flow of information and goods go from one stage to another without clear overview of the entire company. This means that the flows are contained between two units, such as suppliers/manufacturers, manufacturers/distribution, and distribution/customers. Rushton et al concurs stating that many companies have adopted functional integration.

Barratt also acknowledge the existing functional silos that exist within companies, and corporate silos that are found across the chain (where instead of going from unit to unit, flows of information and goods are contained between companies). This silo structure is the adopted metaphor of what is referred to as the “silo-mentality,” where interaction and activities are coordinated within silos rather than as processes that expand the entire chain. This silo mentality is a functional barrier to integration and collaboration in SCM. Seeing the industries differently, Fawcett and Magnan are of the opinion that most companies are at the stage of inter-relations collaboration Cutler, (2012)

As mentioned, in a functional structure, departments keep more to themselves, with information flows kept between units rather than shared across the entire firm. In the figure below, the information flow is represented by the arrows, and as can be seen there is generally few who see the overall picture of the company Moberg, (2012)

The functional structure can create a barrier to integration as they, the silos, are functional and focused inwards, with “power barons” at the top of each function fighting not to lose their power base. These structures are not process oriented, as with functional silos there is a general understanding of the representation of each function, such as marketing, and manufacturing. Fawcett and Magnan(2009) point out that though companies are trying to move from functional structure to more “seamless” value-adding processes the lack of clear and consistent communication and cooperation among functional areas is creating a persisting anxiety in making this transition.

2.2.8. Level of Information Sharing

Level of information sharing: information sharing has two aspects: quantity and quality. Both aspects are important for the practices of SCM and have been treated as independent constructs in the past supply chain management (Speh, 2012. Level (quantity aspect) of information sharing refers to the extent to which critical and proprietary information is communicated to one’s supply chain partner. Supply chain partners who exchange information regularly are able to work as a single entity. Together, they can understand the needs of the end customer better and hence can respond to market change quicker.

2.2.9. Quality of Information Sharing

Quality of information sharing includes such aspects as the accuracy, timeliness, adequacy, and credibility of information exchanged. While information sharing is important, the significance of its impact on SCM depends on what information is shared, when and how it is shared, and with whom. It appears that there is a built in reluctance within organizations to give away more than minimal information since information disclosure is perceived as a loss of power. Given these predispositions, ensuring the quality of the shared information becomes a critical aspect of effective SCM (Feldmann2013). Organizations need to view

their information as a strategic asset and ensure that it flows with minimum delay and distortion.

2.2.10. Collaboration and Resource Sharing

When looking at policy or program implementation, it is important to understand that often the success of a policy or program is dependent upon interagency or intergovernmental collaboration and cooperation. Key to collaboration and cooperation is the ability of agencies to share resources. The essence of collaboration is resource sharing since organizational priorities and institutional pride are based in resource allocation and utilization. Resource sharing represents commitment to something larger than the single focused organizational goals and objectives and a shift to enter into relationships with other agencies to achieve shared goals, visions and response to mutual interest and obligations.

Resource sharing requires development and enhancement of relationships and commitment to achieve something through that relationship, which may not otherwise be achievable by an individual agency or organization.

Vita C

There are several requirements to develop and nurture strong relationships and commitment. The first of those requirements can be described as people and organizations taking large doses of Vita-C. Vita-C describes action words connoting a commitment to develop and enhance relationships. Vita C includes:

- Collaboration: literally means working together. Coordination: arrangement in proper order or proper relation.
- Communication: a giving of information.
- Consultation: the act of seeking information or advice.
- Cooperation: the act of working together in united effort or labor.
- Clarity: clearness.
- Creativity: the quality of being creative (inventive, productive, constructive).
- Courage: bravery, meeting danger without fear.

While there are more Vita C words, these eight are particularly necessary for successful interagency relationships. If agencies take high doses of Vita C, the result would be positive interagency accomplishments and a reduction of truism and other negative attitudes and outcomes.

Who is responsible?

Most agencies would prefer that the other agency be required to cooperate with them. The question of who is responsible for resource sharing and cooperation is one that many organizations would rather not answer. The reason is that for there to be true collaboration, the relationship between agencies must be a give and take, conscious, negotiated relationship. It is much easier to be a demanding, one sided and organizationally self-centered agency or government. Organizations often feel threatened when required to share information, resources, or other assets. However, agencies that work with children, youth and families often have mutual interest, goals, and clients that necessitate collaborative effort. This makes collaboration an important responsibility of agencies to ensure clients receive the best possible service and/or care. Coordinated effort is essential to assist children, youth and families with multiple needs that require overlapping services from multiple agencies and programs.

Coordination of effort is the responsibility of all governmental and non-governmental agencies to minimize duplication of effort, services, and redundant red tape.

Effective collaboration is inclusive of each organization that shares a mutual interest, role or responsibility in service delivery, policy or program development and implementation. This includes public and private organizations and agencies and involving practitioners, administrators and policymakers. Various community groups, such as businesses, schools, the faith community and tribal spiritual leaders should also be involved. Lastly, it is important to remember that the citizens of the community, village or tribe are often stakeholders in certain policies and should be included. This would involve elders, parents, young people, and volunteers.

Levels of Interaction

Resource sharing and collaboration should occur at all levels of interaction. For governments it includes Tribal, County, State and Federal agency representatives. There may be instances when reservation districts, chapter houses, or villages would be included. Towns and municipalities would also be included in many circumstances as well as quasi-governmental organizations such as Councils of Government, Conservancy Districts and other creations of government. Levels of interaction in the private sector would include profit and non-profit business and organizations. In communities, schools, community centers, the faith community and traditional and cultural resources represent the major levels of interaction.

Vita C Promotes Mutual Respect

Resource sharing is based in applying Vita-C to promote and enhance relationships. By applying Vita-C, diverse groups establish common ground to share visions, goals and values that make resource sharing possible. Agencies understand and validate the other agencies needs and wants. Agency staffs spend more time together in positive and productive interaction and there is an understanding and appreciation of one another roles and responsibilities. Collaborative effort increases community benefits due to greater presence and cooperation of all the agencies existing in a community.

Public Policy Support for Collaboration

Policies help people focus on issues, not the person or agency.

Public policy greatly increases the chances for achieving resource sharing and collaboration goals and can include statutes, ordinances, and standard operating procedures. Formal relationships for collaboration can be established through intergovernmental and interagency agreements. Collaboration policies often provide the impetus or reason for people who don't, can't or won't work with each other to overcome political and personal barriers to get things done. Such policies help people to focus on their constituents needs, rather than on their dislikes of the person, organization, agency or government.

Why collaborate?

Perhaps the most important concepts around the issue of collaboration and resource sharing are found in understanding why collaboration should occur in the first place. To start with, no program can provide all things to those who are in need of services. No budget can provide the resources to assist all of those in need. Therefore, it is important to note that:

- Collaboration enhances services, especially for underserved populations such as Indian children, youth and families.
- Collaboration increases the quantity of resources available to serve clients
- Collaboration increases better use of available resources.
- Collaboration increases the quality of available services.
- Collaboration enables agencies to address their common interests and common goals in providing services to Indian constituents.
- Collaboration increases opportunities for cultural exchange, thereby increasing cultural awareness, sensitivity and competence.
- Collaboration helps to view everyone as a resource.

When should resource sharing occur?

Resource sharing should occur whenever it is needed or desired. There are times when resource sharing or collaboration needs a formal process to accomplish the collaboration. This occurs when the collaboration is defined by statute (using mandatory or non-mandatory language), agency policy or procedure, or by intergovernmental agreement. Some examples of intergovernmental agreements are for information sharing, cross-deputation, multi-disciplinary team investigations, and special response teams or to transfer cases, share in the development of predisposition reports, or treatment planning.

Interagency collaboration is not always a formal process. Informal processes may establish patterns of collaborative behavior, such as protocols, which allow for invitation or active participation by members outside the agency. The culture of an agency or organization may traditionally encourage positive interagency relationships. There are also informal agreements that allow for participation via committees, boards and task forces that informally allow for joint problem solving. Round table discussions, training events, convocations, and conferences are some examples for information exchange and cross-training to occur.

2.3. Empirical review

SCI is relatively new as an area of research (Flynn et al. 2010). The wide variety of dimensions and variables revealed in previous research for defining SCI makes it difficult to compare their findings. Very few researchers employ the same dimensions and variables for SCI. Therefore, a review of existing literature is essential to create a reference framework on which future research could be based for the consolidation of the knowledge in SCI. This would allow studying SCI across industries and regions, which will enable benchmarking exercise on SC effectiveness. It is necessary to reach into consensus on the definition of SCI and its dimensions and variables in order to build SCI theory. Several examples of conceptual discrepancies in SCI constructs have been pointed out in this research along with descriptions of mono and multi-dimensional constructs for SCI

Previous SCI researches indicate varied dimensions and variables. For example, Kannan and Tan (2005) created a model with four constructs, namely JIT, TQM, Performance and SCM. The SCM construct is sub-divided into SCI, SC coordination, SC development and information sharing. However, Lee (2000) and Bagchi (2005) considered SC coordination and Information sharing as dimensions of the SCI. In another study, Vickery et al. (2013)

considered integrative information technologies and SCI as different dimensions. Further, Sezen (2008) established three different constructs – SCI, information sharing with suppliers and information sharing with customers. Similarly, Tan et al. (2012) considered an information sharing construct separately from SCI. These examples reinforce the need to create a conceptual framework about SCI.

Perhaps, the lack of consensus on the level of SCI and performance (Van der Vaart and Van Donk 2008) could be attributed to the different dimensions and variables used to measure the SCI in each research and different scopes of these studies. Other reasons could be that the studies focus on different industries. It could be further analyzed whether each dimension and variable has the same impact on performance depending on the region, sector or type of product.

Flynn et al. (2010) state that it is unclear whether the relationship between SCI and performance is the same in different countries or industries. For example, in the car industry, external integration does not lead to a competitive advantage because it is a prerequisite to survive, and almost all companies have implemented it. Hence, SCI studies in specific country and industry employing the same SCI dimensions and variables are required in order to achieve comparable results (Speh, 2012)

The proposed model defines the variables on which a company should act in order to improve the level of integration. It should be highlighted that SCI is not only a process and technique; it also has important human and organizational behavior components. Therefore, formal and informal communication, collaboration and joint agreements between companies are indispensable elements for SCI to be successful. Organizations must expand their internal integrated behavior to customers and suppliers through external integration. SCI needs to be included in the organizational culture. SCI is a result of human interactions which can be supported, but not be replaced by information technologies (Sanders 2007). SCI needs SC orientation across suppliers and customers in various tiers.

Mentzer et al. (2001) define SC orientation as recognizing strategic implications of materials, funds and information flow across the entire SC stakeholders. A firm has SC orientation if its management can see the implications of managing the upstream and downstream physical and information flows. Therefore, SCI needs both strategic and operational focus (Lambert et al. 1998, Fabbe-Costes et al. 2009).

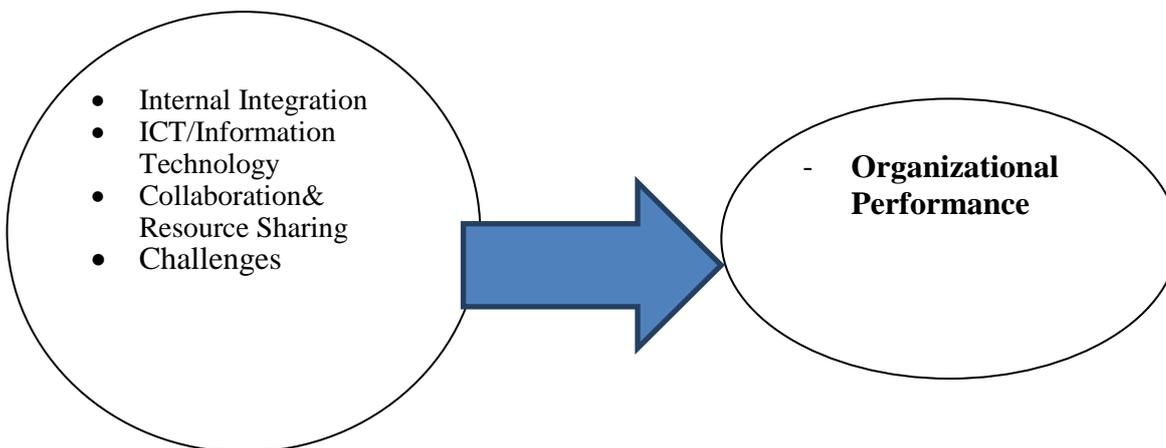
2.4. Conceptual framework

The effect of globalization brings the high interest of integrating supply chain process instead of dealing with business organizations' internal boundary but focusing end-to-end integration from supplier to customer. Organizations should implement tools like ICT to enhance their business advantage. Effective and efficient utilization of ICT tools will provide manufacturing enterprises a better option in their global supply chain integration efforts (Hill, 2010).

The benefit of supply chain management will be maximized when the internal integration maximized first (case teams, employees, managers and Customers) within the chain is efficient and effective. In this regard, many research suggested that the higher level of integration with in the supply chain benefits all at greater extent (Fasika, *et al.*, 2014) or it is a great millstone towards the external integration.

Therefore, based on the network theory, the extent of internal supply chain integration level, benefits, coordination among stakeholders, challenges or barriers of supply chain integration in Bedele brewery products will be assessed and analyzed.

Independent variables Dependent variables



Source: adopted from literatures 2020

CHAPTER THREE

RESEARCH DESIGN & METHODOLOGY

3. Introduction

Research methodology provides a means to systematically solve a research problem. This chapter explains the methodological approach adopted when conducting the research. This includes the research design; population and sampling technique, tool of data collection and method of data analysis are briefly explained.

3.1. Research Design

Descriptive and, explanatory survey design was for this study. With such a study, information will be obtained to meet the underlying purposes and objectives of the study.

Descriptive survey is useful in investigating the existing relationships among the variables that will be captured in this study. According to Cooper & Emory (1995), a survey is feasible when the population is small and variable hence the researcher is able to cover all the elements of the population. Hence the survey is considered more efficient and economical. In addition to this according to Roberts and Burke (1989), a descriptive research is useful in observing a variable when little conceptual background has developed on various facets of the variables.

The study used a mixed method while conducting the study i.e. to collect, to organize and to analyse the data.

For data collection, a research question was developed to explore to satisfy the objectives and concepts were developed based on it. Close ended Likert type questionnaires were distributed to and collected from the selected employees of the organization and then they were summarized and analyzed in order to describe them and to make inferences on the population.

3.2. Data Source and Type

Primary and secondary data were used for the analysis of the study. The primary data was gathered using survey questionnaires from the selected sample respondents/employees of the organization and secondary data were collected from the company's Oracle database, from the different online and off-line literatures mainly on Journals, Books, and Reports and Proceedings of Heineken Company.

3.3. Population

3.3.1. Target population

The population of the study included selected from different departments of Bedele Brewery Company, there are around 6 departments and more than 326 permanent workers.

3.4.2. Sampling technique

According to Donald et al, population consists of all the subjects you want to study. It comprises of all the possible cases (persons, objects, events) that constitute a known whole. Therefore the population consists of all the subjects the research envisaged to study. The population for this particular study will get multiple actors operating in the company and the researcher used purposive sampling method from around such departments. Therefore the total size of the target population for the study were expected to 326(N= 326) permanent employees of the organization.

3.4.3. Determination of Sample Size for the Study

The study is based on a sample frame of employees` of the manufacturing firms, and management members drawn from the total population. Hence the sample size determined in the following fashion, (Yamane 1967)

$$n = \frac{N}{1 + Ne^2}$$

$$n = \frac{311}{1 + 311 \times 0.08^2}$$

$$n = 175$$

Where:

N= total population

n = Adequate sample size within a given amount of confidence level

e = tolerable amount of error the researcher accepts which is 5% or 0.05

3.4.4. Sampling Technique

In order to find the appropriate number of respondents for the survey, the researcher was divide the target population in to two i.e. staff level and managerial level employees of organization. Since the above managers, employees, officers and logistics supervisors are more experienced, the researcher used purposive sampling method because to address the right sample from the total population.

3.5. Data Collection Instrument

In business research, the most common method of generating primary data is the survey. Questionnaires are preferred since they are easy to analyze and save time in data collection

The questionnaire were incorporated both closed and open ended questions. It was sub divided into four sections; the first part sought general information about the employee respondent. The second part focused on the general information of the firm. The third part contained questions aimed at determining the effect of internal supply chain integration and the last part focused on problems in internal supply chain integration. (Oso and Onen, 2011).

3.6. Data Collection Methods

Primary and secondary sources of data were collected to gather quantitative data collection standardized surveys tools were utilized. The questionnaire were translated, piloted, and finalized before conducting the actual surveys.

3.7. Data Analysis

According to Gujarati (2004), the term regression was introduced by Francis Galton. Regression analysis is concerned with the study of the dependence of one variable, the dependent variable, on one or more other variables, the explanatory variables, with a view to estimating and/or predicting the (population) mean or average value of the former in terms of the known or fixed (in repeated sampling) values of the latter.

The multiple regression analysis was used to determine whether the internal supply chain integration affects organizational performance of Bedele Brewery. The study takes the four determinant factors as independent variables and the organizational performance as dependent variable in the regression model. The study used the following multiple regression model to establish the statistical significance of the independent variables on the dependent variable.

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

Where; Y = Organizational performance

X1 = Internal Supply Chain Integration

X2 = ICT/Information Technology

X3 = Collaboration & Resource Sharing

X4 = Challenges

In the model, β_0 = Constant, β_1 to β_4 = Regression coefficients represent the mean change in the dependent variable for one unit of change in the independent variable while holding other independent variables in the model constant and e = Error term which captures the unexplained variation in the model.

3.7.2. Pilot Study

The close-ended Likert type questionnaires were selected from similar studies in the area. This questionnaire type is selected because it is easy to administer to groups of people simultaneously; it is less costly and less time consuming than other measuring instruments. Likert scale is a widely used rating scale which requires the respondents to indicate a degree of agreement or disagreement with each of a series of statements or questions i.e. from (1) strongly disagree to (5) strongly agree. The questionnaire will also include some questions about educational back ground of respondents, employee level of the respondents, and experience of the respondents at their current position.

In order to cross check its completeness the researcher will be used SCM literature and empirical review of the previous researches on the area of the study and additional content on the framework are included based on it. However, according to the research texts, in survey based research, before the questioners administrated, it is important to validate the scales used for reliability and validity. Though, the questionnaire will be used for this survey is adopted form previous research with minor customization and its validity and reliability will tests. The researcher was made a pre pilot and pilot survey to test the questioner validity and reliability on current survey situations. Therefore, the test result will present on the following topics.

3.8. Validity and Reliability

3.8.2. Validity

Validity is the extent to which a test measures what it claims to measure (Lakshmi and Mohideen, 2013). A measure is valid if it measures what it is supposed to measure. According to Kindy et al. (2016), content validity is the extent to which the item in an instrument covers the entire range of the significant aspects of the area being investigated. It is the degree to which the measurement device, in this case, the measuring questions in the questionnaire, provides sufficient coverage of the research investigative questions. To maintain the validity of the instruments, most of the questionnaires were adopted from

previous researches. Some of the questionnaires were developed based on careful review of literatures. In addition, pilot testing of questionnaires was conducted to obtain a feedback from the respondent on validity and responses were collected and questionnaire was adjusted subsequently.

3.4.1. Reliability

Reliability is the extent to which measurements are repeatable when different persons perform the measurements on different occasions under different conditions with supposedly alternative instruments which measure the same thing (Drost, 2011). Reliability is consistency of measurement or stability of measurement over a variety of conditions in which basically the same results should be obtained.

The most popular method of testing for internal consistency in the behavioral sciences is Cronbach's coefficient alpha. Cronbach's alpha reliability coefficient normally ranges between 0 and 1. Gliem and Gliem (2003) provide the following rules of thumb: if " $\alpha > 0.9$ – Excellent, $\alpha > 0.8$ – Good, $\alpha > 0.7$ – Acceptable, and $\alpha > 0.6$ – Questionable, and $\alpha > 0.5$ – Poor, and $\alpha < 0.5$ – Unacceptable". Cronbach alpha was computed and compared with the threshold value of 0.7. An overall value of .8658 was obtained which implied that high level of internal consistency of research instruments.

Table 3.1. Cronbach's alpha reliability test

No	Variables	Cronbach's alpha	No. of items	Reliability range
1	Internal Supply Chain Integration	0.838	7	Good
2	ICT/Information Technology	0.863	5	Good
3	Collaboration & Resource Sharing	0.869	6	Good
4	Challenges	0.849	7	Good
5	Organizational performance	0.910	4	Excellent
Average		0.8658	29	Excellent

Source: survey data, 2020

CHAPTER FOUR

PRESENTATION OF FINDINGS AND ANALYSIS

4. Introduction

In this chapter the researcher presented the main findings from which the analysis was made. The researcher analyzed the results with respect to research objectives and research questions from chapter one. The chapter was divided into two major parts; descriptive statistics analysis and inferential statistics analysis. Data analysis for both descriptive statistics and inferential statistics was made possible with the help of Statistical Package for Social Science (SPSS-21) software.

1.1. Descriptive statistics Analysis

This section basically analyzed preliminary data for generating descriptive statistics whereby frequencies and percentages were used to present quantitative data in the form of tables and charts for demographic description of respondents and organizations. Also calculation of arithmetic means and standard deviations was made to measure the extent of effect of internal supply chain integration and organizational performance in the respective organizations.

4.4. Demographical description of respondents and their firms

Demographic information described both individual and firm profile. Individual profile section included aspects of age, gender, level of education, job title/position and years of experience, whereas organizational profile section included Aspect of number of full time employees and categories of selected departments.

4.4.1. Response Rate

First a total of 175 questionnaires were distributed to the entire departments of Bedele brewery and out this number 164 were returned to the researcher. This represents a response rate of 93.7%. This percentage was considered sufficient for this study. The 6.3% who never responded to the questionnaires claimed to lack of time due to their busy life style and due to covid 19.

The table 4.1 shows the frequency and percentage of respondents.

Response status	Frequency	Percentage
Filled and returned	164	93.7
Not returned	11	6.3
Total	175	100

Source: survey data, 2020

4.4.2. Respondents General Information

This section presents general information about respondents. The general information collected was on gender, age, level of education, work unit and work experience. Gender was assessed to understand the involvement of both genders in the study. The level of education was important to imply that the respondents were well educated and had the ability to understand and respond to the issues sought by the study. Work unit was required to infer that the respondents were able to understand the different practices sought by the research. Work experience was important to ensure aspects of familiarity and experience of the respondents in matters of SCM practices.

4.4.2.1. Gender of Respondents

The study sought and obtained gender details of the respondents as shown in table 4.2.

Table 4.2 Gender of respondents

Response status	Frequency	Percentage
Male	102	62.2
Female	62	37.8
Total	164	100

Source: survey data, 2020

As indicated on the above table, majority of the respondents were male which covers 102(62.2%) and the remaining number were female 62(37.8%). This indicates that both genders were fairly involved in the study and the organization could expect to balance the number of females with those of men's.

Table 4.3. Age of the respondents

Response status	Frequency	Percentage
a. 18-30	30	18.3
b. 31-40	88	53.7
c. 41-55	38	23
d. >55	8	4.88
Total	164	100

Source: survey data, 2020

As the Table 4.3 shows the age composition of the respondents 88(53.7%) of participant were between 31-40 years, which representing the majority the respondent and while, 38 (23%) of the respondent were between 41-55 Again 30 (18.3%) of the respondents were between 18-30 years. While the remaining 8(4.9%) of the employee respondent were in the category of greater than 55 years old. This implies that about 72% of the respondents are below 40 years of age. From this figure it is possible to say that, more employees are youngsters.

Table 4.4. Educational background of employees

Response status	Frequency	Percentage
Level (ii,iii,iv)	47	28.6
Degree	65	39.6
MA	40	24.4
Above MA	12	7.3
Total	164	100

Source: survey data, 2020

Study findings indicated that most of the respondents 65(39.6%), had degree level of education, and 47(28.6%) of the respondents had diploma level or Level (II, III, IV) on the other way, 40(24.4%) of the respondents were the owners of postgraduate level of education and finally the remaining 12(7.3%) were Above MA. This implies that majority of employees are competent and have the capacity to transform the organization to the next stage which is the strategic goal. On the other hand this had increased validity of the study because these are the type of people who are well acknowledged in matters concern organizations' activities and performance hence are expected to be well informed about internal SCM practices implemented in their organization .

Table 4.5. Work experience of employees

Response status	Frequency	Percentage
<3 years	8	4.9
3-5 year	20	12.2
5-10 years	24	14.6
>10 years	112	68.3
Total	164	100

Source: survey data, 2020

Ultimately, the output in Table 4.5 shows that, 112(68.3%) of the respondents indicated that they had work experience of greater than 10 years while 24(14.6%) of the respondents said they had experience of between 5 to 10 years and also 20 (12.2%) of the respondents replied that they have worked for between 3-5 years finally the remaining small number were 8(4.9%) were less than 3 years. The results indicate that majority of the respondents have an experience in work area greater than 10 years which is an indication that they understand the relation of internal 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 best in terms of knowhow 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.

Table 4.7. Customers of the organizations

Response status	Frequency	Percentage
Wholesalers	164	100
Retailers	0	0
Individuals	0	0
Foreign Market	0	0
Total	164	100

Source: survey data, 2020

According to the table 4.7, the direct buyers of the organizations product were whole sellers which is 164(100%) of the respondents were agreed towards the situation. This has its own

positive impact which is saving employee cost or labor cost and minimizing a direct contact with retailers.

4.5. 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 internal 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 internal supply chain integration of Bedele Briwery. 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 four supply chain integration dimensions that includes internal supply chain integration, ICT/information technology ,collaboration& resource sharing and challenges , and also the dependent variable organizational performance; increase sales volume ,increase profit , faster response and continuous improvement by equally weighting the mean scores of all the items under each dimension.

The average mean result of each internal supply chain integration dimension together with their respective variables was separately presented, analyzed and interpreted as follows

4.5.1. Internal Integration

When talking about internal integration, it is usual to talk about supply-related functions that should be internally integrated, such as purchasing, manufacturing, and logistics. According to Barratt, there is also a need to include marketing and R&D activities (NPD). According to Barratt, internal integration can be enabled through internal collaboration as collaboration can overcome functional myopia.

However, Lambert and Cooper report that improvement in efficiency of internal supply chain activities such as purchasing when talking about internal integration, it is usual to talk about

supply-related functions that should be internally integrated, such as purchasing, manufacturing, and logistics.

According to Barratt, there is also a need to include marketing and R&D activities (NPD). According to Barratt, internal integration can be enabled through internal collaboration as collaboration can overcome functional myopia.

However, Lambert and Cooper report that improvement in efficiency of internal supply chain activities such as purchasing forms of cooperation. In terms of integration adoption in the companies, 60% of the respondents felt they were doing cross-functional integration within the firm. On the other hand, Chen et al found in their study that it is easier for buyer/supplier integration and logistics managers /customer integration than either group to integrate cross-functionally. In contrast, the Halldorsson et al study uncovered that internal resistance during SCM implementation is more substantial as a barrier than outside/external resistance, and thus the authors suggest that there should first be a focus on internal integration, and then external integration

As shown from the following table, an overall mean and standard deviation of (M=2.935, SD= 1.063) was recorded indicating that Internal Integration management was occasionally practiced. As revealed from the table, Internal integration is a result of a focus on collaboration and coordination of activities within a firm and Every member of department realizes joint action to achieve common objective was occasionally practiced with relatively highest mean (M= 3.1 and 3.0, respectively) followed by Internal integration related to collaboration and/or coordination activities (M= 2.95). And next Internal integration built through collaborative and cooperative alignment (M= 2.9), Internal integration of the organization is strategically planned (M=2.82), Internal integration is interchangeable (equal) with collaboration and coordination activities (M= 2.77,) were occasionally practiced respectively.

Therefore, 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 all functional areas to increase the organizational efficiency more than the existed one.

Similarly, it can be argued that the same capabilities that are necessary to create internal social and structural ties are likely to be beneficial to the accumulation of cognitive and structural capital with external partners because internal integration breaks down functional barriers and engenders cooperation in order to meet the requirements of customers (Flynn et al., 2010, p. 60). In this context, it can be argued that internally well-integrated organizations are experienced in managing social exchange processes, i.e., those organizations are able to use social exchange processes to encourage the communication of shared norms, goals, and values with other organizations (Thompson and Fine, 1999)., Successful internal integration could also facilitate the creation of structural capital with external partners.

Table 4.8: Internal Integration

No	Internal Integration	N	Mean	Std. Deviation
1	Internal integration is a result of a focus on collaboration and coordination of activities within a firm	164	3.1.	1.092
2	Every member of department realizes joint action to achieve common objective	164	3.00	1.068
3	Internal integration built through collaborative and cooperative alignment	164	2.9	1.098
4	Internal integration related to collaboration and/or coordination activities	164	2.95	0.986
5	Internal integration is interchangeable (equal) with collaboration and coordination activities	164	2.77	1.1.05
6	Internal integration of the organization is strategically planned	164	2.82	1.029
	Average	164	2.935	1.063

Source: survey data, 2020

4.5.2. ICT/Information Technology

Researchers have found that a key enabler for effective supply chain management is information sharing among linked partners, which has been greatly facilitated by recent advances in information technology (Shankar, 2005). The reported benefits of information sharing include improved ordering function, increases in sales, and lower inventory and/or shortage costs through better inventory allocation, because information sharing mitigates the information distortions along the vertical supply chain linkages.

In addition, poor information technology infrastructure, whether caused by lack of funds or lack of awareness and commitment of top management, has also been identified as a major barrier to successful supply chain integration (Bender, 2000).

Because of the wide range of supplier problems, potentially addressed by better supplier relationships, expertise is required from various functions (Elram 1997). Teams dedicated to supplier development have been organized either around the material being purchased or according to supplier's needs so team members can interact with their supplier counterparts (Hahn et al., 1990). A considerable amount has been written documenting the integration of suppliers in the new product development process. The involvement may range from giving minor design suggestions to being responsible for the complete development, design and engineering of a specific part of assembly. This practice can be attributed to the fact that suppliers accounted for approximately 30% of the quality problems and 80% of product lead-time problems (Burton 1988).

Research has shown information technology to be an effective means of promoting collaboration between collections of firms, such as groups of suppliers and customers organized into networks. Moreover, information technology is touted as having a profound effect on collaborative relationships by facilitating cross-functional interactions between the supply chain partners (Malhotra, 1997). It eliminates the barriers between functional areas and among firms for a smooth information flow. It also facilitates the integration of suppliers into new product development and joint planning (McIvor et al., 2000).

Information technology integration is one of the most significant dimensions of supply chain integration. The following table 4.9 pinpoints the mean value of each item related to information technology with its aggregate average ($m=2.974$). In case of each item, employees are using Information technology to access information by all partners and they are frequently sharing Information with each functional units gets the higher value than other questions ($m=3.21, 3.09$) respectively. There is real-time information practice directly from the end customer for demand forecast to avoid disruption ($M=2.94$). Information is available to all department in case of Planning ($M=2.83$). As the result the accessibility of information to all partners as well as obtaining real time information from the end consumers are stayed at low level and Scaling up information technology in the organization ($M=2.80$) respectively. Thus the existence of information system that supported the real time information access from the end consumer

Table 4.9 Information Technology

No	Information Technology	N	Mean	Std. Deviation
1	You are frequently sharing Information with each functional units	164	3.09	1.226
2	You are using Information technology to access information by all partners	164	3.21	1.396
3	Information is available to all department in case of Planning	164	2.83	1.089
4	There is real-time information practice directly from the end customer for demand forecast to avoid disruption	164	2.94	1.095
5	Scaling up information technology in the organization	164	2.8	1.125
	Average	164	2.974	1.862

Source: survey data, 2020

4.5.3. Collaboration& Resource Sharing

Coordination within the supply chain is the most important activity to manage the material, information as well as fund flows throughout the supply chain members(Arshinder., 2008).Coordination and resource sharing is one of the most significant dimensions for successful supply chain integration which look upsynergy based on trust and interdependency among the supply chain partners (Rafaela, 2012).

The coordination and resource sharing practice in beadle brewery products internal supply chain rated at moderate level. As per the table below, Collaboration& Resource Sharing practice of the organization has been measured by six items

In this regard, as it indicated on table 4.10, internal integration is a result of a focus on collaboration and coordination of activities within a firm rated as a mean value of (M=3.24) next by Internal integration related to collaboration and/or coordination activities (M=3.00). In this situation the result indicated on table 4.10 also Internal integration of the organization is strategically planned, member of department realizes joint action to achieve common objective, Internal integration is interchangeable with collaboration and coordination activities and also Internal integration built through collaborative and cooperative alignment scored a mean value of (M= 2.96,2.91,2.9 and 2.8) respectively.

Table 4.10 Collaboration& Resource Sharing

No	Collaboration& Resource Sharing	N	Mean	Std. Deviation
1	Internal integration is a result of a focus on collaboration and coordination of activities within a firm	164	3.24	1.152
2	Every member of department realizes joint action to achieve common objective	164	2.91	1.018
3	Internal integration built through collaborative and cooperative alignment	164	2.8	1.131
4	Internal integration related to collaboration and/or coordination activities	164	3.00	1.148
5	Internal integration is interchangeable (equal) with collaboration and coordination activities		2.9	1.1
6	Internal integration of the organization is strategically planned	164	2.96	1.093
	Average	164	2.968	1.137

Source: survey data, 2020

4.5.4. Challenges

According to the following table, Infrastructure have its own contribution to max SC integration, There is Knowhow Problems with strategic plan of the organization scores the higher and the same mean value of (M=3.00) and The level of financial challenges in the organization is high and Technology by itself is a challenge to the internal functional activities and there is a good top management awareness towards the importance of internal integrationscores almost the same mean value of between (M=2.95-2.97) finally the minimum mean value towards Top managers are committed towards the overall internal activities of the organization and There is resistance to change in order to integrate internally scores a mean value of (M=2.84 and 2.83)respectively. Thus the organization has its own weakness in case of top management awareness towards the importance of internal integration and resistance to change in order to integrate internally because of this the organization should work towards this problems.

Supply chain management (SCM) executives face unique challenges, with respect to integrating supply chain-specific strategies with the overall corporate business strategy. In

recent years, given changing business realities related to globalization, the supply chain has moved up on the chief executive officer's (CEO's) list of priorities, but it's not right reasons, in many cases, CEOs only pay attention to the supply chain when they want to cut costs or when something is wrong. Since the supply chain essentially moves the lifeblood of the organization, process efficiency on a global scale is essential to optimized business operations.

Many researches have mentioned a classification of supply chain integration challenges. Kussman in his paper, classify the challenges of SC integration to external and internal challenges, By reading Kussman classification details we found that his main emphasis was on the knowledge sharing challenges between supply chain partners, but in the other hand he omits other challenges such as; technical challenges and inter-organizational challenges. The focus in this classification was on the managerial view, but the classification disregard the technical aspects of managing SC integration.

Table 4.11. Challenges

No	Challenges	N	Mean	Std. Deviation
1	Technology by itself is a challenge to the internal functional activities	164	2.96	1.110
2	Infrastructure have its own contribution to max SC integration	164	3.00	1.127
3	The level of financial challenges in the organization is high	164	2.97	1.105
4	There is a good top management awareness towards the importance of internal integration	164	2.95	1.032
5	Top managers are committed towards the overall internal activities of the organization		2.84	1.068
6	There is resistance to change in order to integrate internally	164	2.83	1.019
7	There is Knowhow Problems with strategic plan of the organization		3.00	1.003
	Average	164	2.935	0.7734

Source: survey data, 2020

4.6. Organizational Performance

In this section of data analysis, the study sought to identify the effect of internal supply chain integration on organizational performance. Different parameters were used to measure organizational performance. Analysis of the data was done using means and standard deviations. The means recorded were interpreted as follows: as the following table implies, the implementation of internal supply chain integration increase sales volume of the organization, the good flow of internal integration there leads to a Continuous improvement, Increase sales volume is a result of internal integration, the implementation of internal supply chain integration beadle brewery has increased its profit and Due to the good internal integration the organization gives faster response scored a mean vale of (M = 2.73,2.72,2.70,2.66 and 2.60) respectively. Therefore as evidenced from the table, the statement that the implementation of internal supply chain integration increase sales volume of the organization have led to the growth of beadle brewery market share was relatively the most rated with mean of (M= 2.73, SD= 1.114) followed by because of the good flow of internal integration there is a Continuous improvement scores (M=2.72, SD= 1.180). Thus these findings disagree with the study of Thogori and Gathenya (2016) who concluded that logistics activities, factors of logistics activities and critical factors affecting those logistics activities are important element for business performance. The study done by Olavarrieta and Ellinger (1997), concluded that Focusing on the enhancement of logistics capabilities is associated with superior firm performance

Table 4.12: Internal Supply Chain Integration and Organizational Performance

N	Challenges	N	Mean	Std. Deviation
1	Through the implementation of internal supply chain integration increase sales volume of the organization	164	2.73	1.114
2	Through the implementation of internal supply chain integration beadle brewery has increased its profit	164	2.66	1.169
3	Due to the good internal integration the organization gives faster response	164	2.60	1.138
4	Because of the good flow of internal integration there is a Continuous improvement	164	2.72	1.180
5	Increase sales volume is a result of internal integration	164	2.70	1.068

	Average	164	2.682	1.338
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Source: survey data2020

4.6 The Effect of Internal Supply Chain Integration on Organizational Performance:

The study was to examine the Effect of Internal Supply Chain Integration on Organizational Performance. Inferential statistical analysis, correlation and multiple linear regression analysis were used to examine the relationship between the independent variable (Internal Supply Chain Integration) and dependent variable (organizational performance).

4.7. Correlation Analysis

The sign of the correlation coefficient determines whether the correlation is positive or negative. The magnitude of the correlation coefficient determines the strength of the correlation. The strength of correlation can be described using the guide that Evans (1996) suggests for the absolute value of r as cited in (Beldjazia and Alatou, 2016). If “r = 0.00 -0.19 very weak, r = 0.20-0.39 -weak, r = 0.40-0.59 -moderate, r = 0.60-0.79 -strong and r = 0.80-1.0 -very strong”. Pearson correlation coefficients were determined with the objective to obtain information about the relationships between the dependent and independent variables.

The study identified the correlation between independent variables (Internal Integration, ICT/Information Technology, Collaboration & Resource Sharing and Challenges) and dependent variable, of organizational performance. Correlation matrix calculated by using Pearson correlation indicates that internal integration and organizational performance are positively related. Their relationship is significant at level of 1%. This indicates that internal integration management in the company is positively and significantly contributing the organizational performance of the organization.

On the other hand, information technology is positively and significantly correlated with organizational performance of the organization. The correlation coefficient between, information technology and organizational performance of the organization is 0.672 and significant at significance level of 1%. This implies that the strategies of, information technology management are positively contributing to the organizational performance of the organization.

Collaboration & Resource Sharing has positive significant correlation with organizational performance with a significance level of 1%. The correlation coefficient between Collaboration & Resource Sharing and organizational performances is 0.528 indicating that

increase in Collaboration& Resource Sharing results in increasing performance of an organization significantly.

Organizational Challenge is significantly increasing organizational performance of an organization with significance level of 1% and correlation coefficient of 0.341.

Table 4.13. Correlation Analysis

	OP	II	IT	CRS	C
OP	1				
II	.720**	1			
IT	.672**	.065	1		
CRS	.528**	.316**	.108	1	
C	.341**	.239	.191	.383**	1

4.8. Regression Analysis

In addition to descriptive and correlation analyses, the researcher used regression analysis to identify effect of internal supply chain integration on the organizational performance. This section of the study presents the results and discussions of the regression analysis. So far, the study established a framework of literature review and data analysis of descriptive statistics was described for the effect of internal supply chain integration. To investigate the significant factors of internal supply chain integration, multiple regression model were computed. The multiple regression model of the study was estimated by linear regression model by using ordinary least square (OLS) method.

Table 4.15. Regression Analysis

MODEL	R	R	Adjusted R Square	Std. Error Of The Estimate
1.	.721 ^A	.5240	.4894	.03578
a. Procedures	Constant	SRM,CRS	II.L	OP

As stated in the model summary table 4.15 above R squared in the model is 0.52 that indicates that 52 percent of variability in organizational performance of the organization is explained by the changes in the independent variables used in the model.

Table 4.16: ANOVA

<i>MODEL</i>		<i>Sum of Squares</i>	<i>Df</i>	<i>Mean Square</i>	<i>F</i>	<i>Sig.</i>
1	Regression	0.0775	5	.01938	15.1440	.007 ^b
	Residual	0.7042	91	.00128		
	Total	0.1479	96			
a. Dependent variables is organizational performance						
b. Constant variables: II,IT,CRS and C						

Source:- survey 2020

The overall significance of the model presented in ANOVA table 4.16. Above, when measured by F statistics of 15.14 and P-values of 0.007 indicates that the model is well fitted at 1percent significance level. This implies that the model used for the study is appropriate.

4.9. Regression Analysis

In addition to descriptive and correlation analyses, the researcher used regression analysis to identify effect of internal integration on the organizational performance. This section of the study presents the results and discussions of the regression analysis. So far, the study established a framework of literature review and data analysis of descriptive statistics was described for the effect of internal integration on the organizational performance in the selected company. To investigate the significant factors of effect of internal integration, multiple regression model were computed. The multiple regression model of the study was estimated by linear regression model by using ordinary least square (OLS) method.

Table 4.17. Regression Analysis

MODEL	R	R	Adjusted R Square	Std. Error Of The Estimate
1.	.721 ^A	.5240	.4894	.03578
b. Procedures	Constant	I,IT,	CRS , C	OP

Source:- survey 2020

As stated in the model summary table 9 above R squared in the model is 0.52 that indicates that 52 percent of variability in organizational performance explained by the changes in the independent variables used in the model.

Table 4.18: ANOVA

MODEL		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	0.0775	5	.01938	15.1440	.007 ^b
	Residual	0.7042	91	.00128		
	Total	0.1479	96			
c. Dependent variables is operational performance						
d. Constant variables: I,IT,CRS and C						

Source:- survey 2020

The overall significance of the model presented in ANOVA table 10 above, when measured by F statistics of 15.14 and P-values of 0.007 indicates that the model is well fitted at 1percent significance level. This implies that the model used for the study is appropriate.

The study specifically determined the effect of Internal Integration on organizational performance. The value of correlation between Internal Supply Chain Integration and organizational performance $r = 0.599$ and the correlation is significant at the $p = 0.01$ level. Correlation value between ICT and organizational performance is $r = 0.620$, correlation is significant at the $p = 0.01$. There is significant relationship in all independent variable (II, IT, CRS and C) and dependent variable (organizational performance). In case of model fitness test, the results reveals a highly significant relationship between the dependent variable and the linear combination of the predictor variables as indicated by multiple R (0.783), with adjusted R square 0.601 and Std. Error of the Estimate 0.26444, and the independent variables plays significant impact on organizational performance. Finally, 60.1% of organizational performance is determined by internal integration, ICT, Collaboration and Resource sharing and Challenge

4.9.1. REGRESSION ANALYSIS : I,IT,CRS and C

Model	Unstandardized coefficients		standardized coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	.880	.092		9.565	.070
II	.642	.093	.651	6.903	.001
ICT	.540	.082	.577	6.585	.002

CRS	<i>.506</i>	<i>.097</i>	<i>.507</i>	<i>5.216</i>	<i>.042</i>
C	<i>.707</i>	<i>0.073</i>	<i>.746</i>	<i>9.685</i>	<i>.000</i>

➤ Here the Dependent Variables Is organizational Performance

Source; survey of 2020

Therefore the researcher identified the effect of internal integration on organizational performance by using multiple regression models.

The independent variables used to identify effect of supply chain management are: I, IT, CRS and C. This study was conducted with an objective of identifying Effect of internal supply chain integration on organizational performance of an organization.

As a result of regression analysis shows, there is positive relationship between II and organizational performance with coefficient of 0.642 and significance level of 1%. This implies that the parties with the II are highly contributing to organizational performance of the organization by increasing the effectiveness of the organization. According to Tan et al., (2002) strategic supplier partnership enables an organization to work more effectively with a few important suppliers who are willing to share responsibility for the success of the products. Suppliers participating early in the product-design process can offer more cost effective design choices, help select the best components and technologies, and help in design assessment. Chau (2007) reached the conclusion of strategic supplier partnership has been reported to yield organization-specific benefits in terms of financial performance. Advanced design and logistic links with suppliers are related to better-performing plants.

Strategically aligned organizations can work closely together and eliminate wasteful time and effort.

ICT is significantly affecting the organizational performance. Effect of the ICT is positive and significant on the organizational performance at significance level of 1%. The finding of this study is consistent with the work of Carr and Pearson (1999) which describe that focusing and maintaining the ICT will enable the organizations to be more responsive towards customers' needs and will result creating greater customer loyalty, repeat purchase and willing to pay premium prices for high quality product that will guaranty in increasing market share. (Whang, 2007) also identified that customer relation practices lead to significant improvement in organizational performance.

Another practice of supply chain management is collaboration and resource sharing practice is one which has strong positive effect on organizational performance with coefficient 0.506 and significant at 5%. This result is consistent with the work of Lalonde (1998) which

describes sharing of information as one of five building blocks that characterize a solid supply chain relationship and have an impact on the performance of organizations in supply chain. Kroes&Ghosh (2010) stated that the higher level of information sharing is associated with the lower total cost, the higher-order fulfillment rate and the shorter-order cycle time. Organizational challenge has positive significant impact on performance of the organization with significance level of 1% and coefficient of 0.707. This finding is consistent with the work of Child house and Towill (2003).

CHAPTER FIVE

5. SUMMARY OF MAJOR FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1. Summary of Major Findings

The study specifically determined the effect of Internal Supply Chain Integration on organizational performance. The value of correlation between Internal Supply Chain Integration and organizational performance $r = 0.599$ and the correlation is significant at the $p = 0.01$ level. Correlation value between supplier integration and operational performance is $r = 0.620$, correlation is significant at the $p = 0.01$. There is significant relationship in all independent variable (Internal Integration ICT/Information Technology Collaboration & Resource Sharing Challenges) and dependent variable (operational performance). In case of model fitness test, the results reveals a highly significant relationship between the dependent variable and the linear combination of the predictor variables as indicated by multiple R (0.783), with adjusted R square 0.601 and Std. Error of the Estimate 0.26444, and the independent variables plays significant impact on operational performance. Finally, 60.1% of operational performance is determined by internal integration, customer integration and supplier integration.

In general Internal Supply chain integration is the process of creating cohesion and increasing connectivity throughout the entire value chain, from procurement to production planning to logistics. Rather than letting each individual function exist in its own silo, supply chain integration brings these disparate functions together in such a way as to promote collaboration and decrease disconnect. This can be done through IT solutions that help to centralize cross-operational data or via other means, but regardless of how it's achieved, the result should be a significant increase in cross-operational visibility.

In an integrated environment, the left hand always knows what the right is doing, and can adjust accordingly. Not only do teams avoid working at cross-purposes, they gain new insights into their position within the entire supply chain

Inventory management performance was considered low due to lack of automated inventory management practice in the organization and collaborative forecasting and planning of

inventory within the organization have its own efficiency. As a result, there was visible supply chain inventory along the chain due to the good internal supply chain integration.

So the study saw in the benefit above the ways in which integration might help to smooth out the day-to-day functioning of a modern supply chain, Since integration is fundamentally a process of increasing the knowledge and resources available to each distinct organizational unit, it stands to reason that those newly accessible resources could be leveraged to mitigate crises. If, for instance, your production planners are experiencing a breakdown and may have trouble meeting demand, an integrated environment would effectively position them to work with inventory managers to develop a strategy that saves value and maintains existing shipments. In the meantime, the production workflow might be rejiggered to produce only parts that don't require the machine that's down, so that they can make up the difference without too much lost time. This ability to change plans to suit new realities is often simply unavailable in more siloed environments. Integration helps make sure that everyone knows the signs, so that they can communicate new information and adapt their strategies on the fly.

Improved Margins:-We've danced around this point, but it's time to come right out and say it: each of the benefits we've outlined above can and should have a measurable positive impact on profit margins. Increases in efficiency (whether via increased collaboration or analytics-based insights) can help save money through reduced warehouse space and generally lean supply chain management; flexibility and improved disruption management can help you maintain value in the face of the unexpected, meaning fewer late shipments, shortages, or overages—any of which could prove extremely costly in the short or long term. By dynamically decreasing your costs in this way, supply chain integration can pave the way for more profitable operations.

5.2. Conclusion

Supply chain management links a firm with its customers, suppliers and other members of the supply chain system, including transportation, freight forwarding and warehousing service providing companies. Recently, the rapid advancements of technology such as Globalization, wireless and internet networks, the basic supply chain is rapidly evolving into what is known as a Supply Chain Network. To cope with these fast-growing challenges manufacturing industries are implementing different systems like TQM, ERP, BPR, etc. But still the integration of supply chain is still in low level to develop the competitive advantage of the organizations.

In this competitive world, one of the important tools for achieving organizational objective in manufacturing sector is integrating supply chain among the internal network more than the external one. Because organizations within the supply chain should manage the integration of business, people, technology and the process to get successful in the market (Intan, *et al.*, 2015).

Based on the findings of the study, supply chain management executives face unique challenges, with respect to integrating supply chain-specific strategies with the overall corporate business strategy. In recent years, given changing business realities related to globalization, the supply chain has moved up on the chief executive officer's list of priorities, but it's not right reasons, in many cases, CEOs only pay attention to the supply chain when they want to cut costs or when something is wrong. Since the supply chain essentially moves the lifeblood of the organization, process efficiency on a global scale is essential to optimized business operations.

As the study result shows that there is a significant positive relationship between Internal Supply Chain Integration and organizational performance dimensions of Bedele Brewery Company. In addition, independent variables are correlated among themselves, and with the organizational performance dimensions. Again, dependent variable dimensions are also positively related together.

Internally Integrated supply chain or supply chain integration has several advantages which is why most companies have switched to integrated supply chain management.

Increase in revenue: - integrated supply chain allows a company to focus on assets that would allow the organization to reap more rewards. There are always facets of a business that will have a more pronounced impact on the revenues and hence must be optimized as much as possible. Integrated supply chain management allows companies to prioritize and focus on the specialized assets that would improve their products, increase market share or enhance operating profits.

Controlled costs: - internally integrated supply chain will always reduce even the external costs, especially transactional costs which are unavoidable among subsidiaries, partners or vendors. Having a centralized or integrated supply chain management, a company is essentially doing away with frills that would have otherwise delayed the process and would have also incurred needless costs.

Quality control:-Supply chain integration helps in ensuring quality. When there is a concerted attempt to keep a stringent compliance check, it is immensely difficult to approve or pass along faulty products. There is only one authority overseeing compliance throughout the process.

Competitive edge:-With financial advantages, stricter compliance and better products, a company will be able to fight its competition and emerge as the winner with integrated supply chain management.

5.3. Recommendations

Based on the findings of the study, the researcher forwarded the following recommendations. The study is about the effect of (Internal Integration ICT/Information Technology Collaboration& Resource Sharing and Challenges) on Bedele Beer Company organizational performance.

Since there is a positive and significant relationship between (Internal Integration ICT/Information Technology Collaboration & Resource Sharing and Challenges) and organizational performance of Bedele Beer Company, the industry managers better to ensure that the extents of integration of the whole variables to enhance since these variables help to the improvement of organizational performance more than the existed one.

It is recommended that Bedele Brewery private company is better to work more closely with the whole community of the organization in order to increase the level of internal integration which in turn it will increase the operational performance. The organization is advisable to build the internal integration continuously to integrate the external supply side strategic relationship with their suppliers, establishing system of information exchange with major suppliers through information network and by establishment of quick ordering systems with the company major suppliers.

- The researcher believes that internal integration variable has the highest effect and it is better the company's managers acquire awareness about the importance of internal integration and its positive impact on the dependent variable, and improving the extent of internal integration ensures a great potential to improve the company's operational performance.
- It is recommended to pay greater attention to the internal integration through the involvement of various departments in formulating the strategic plans and creating continuous interdepartmental contact among internal functions. It is desirable to give more attention to the strategic relationship with customers through enhancing joint programs about their relation, engages its customers in the preparation of marketing programs, link the customer through information network and high degree of follow-ups with its customer's feedback which help to increase coordination between the customers and the company since customers are the cornerstone for the existence of every organizations.

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Appendix

JIMMA UNIVERSITY

BUSINESS AND ECONOMICS COLLEGE DEPARTMENT OF MANAGEMENT

LOGISTICS AND TRANSPORT MANAGEMENT

QUESTIONNAIRE TO BE FILLED BY STAFF MEMBERS OF BEDELE BREWERY

Dear respondents:

The intent of this questionnaire is gathering data for a thesis to be conducted with regard to the Effect of Internal Supply Chain Integration on product quality the case of Bedele brewery industry: for the partial fulfillment of the requirements for the Master of Logistics and transport Management.

Your honest reply is highly appreciated and will contribute a lot to the accuracy of this research paper. The information collected from this questioner will only be used for academic purpose and will be treated with strict confidentiality.

Thank you for your time and consideration!

SECTION A: General Information

Respondent information	
Respondent Function:	
Company Name:	
Core Activity:	
Position	

- ✓ NB: Circle or put a tick mark (✓) on the appropriate box as per the enquiries.
- ✓ Give a brief explanation for open-ended Questions.

Part one:-

1. Gender
 - a. Male
 - b. Female
2. Age of respondents
 - a. 18-30

- b. 31-40
- c. 41-55
- d. >55
- 3. Education background
 - A. Level (ii,iii,iv)
 - B. Degree
 - C. MA
 - D. Above MA
 - E. Another _____
- 4. How long have you been in this organization?
 - A. <3 years
 - B. 3-5 year
 - C. 5-10 years
 - D. >10 years
- 5. Please indicate your annual revenue
 - A. < ETB 100, 000.00
 - B. ETB 100, 001.00 – 500,000.00
 - C. ETB 501,000.00 – 1,000,000.00
 - D. > ETB 1,000, 000.00
- 6. Who are the direct buyers of your products?
 - A. Wholesalers
 - B. Retailers
 - C. Individuals
 - D. Foreign Market
- 7. How long has your firm been operating? _____ Years.

Part Three: -

Questions With Respect to Internal Supply Chain Integration Using the following Rating Scales under the columns, “√” only on one number from the given numbers in the box after reading the variable on the left hand side.

The numbers represent: 1- Strongly Disagree, 2- Disagree, 3- Undecided, 4- Agree 5 - Strongly Agree

i. ICT /Information Technology		Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1.	You are frequently sharing Information with each functional units					
2.	You are using Information technology to access information by all partners					
3.	Information is available to all department in case of Planning					
4.	There is real-time information practice directly from the end customer for demand forecast to avoid disruption					
5.	Scaling up information technology in the organization					
ii. Collaboration & Resource Sharing						
1.	Internal integration is a result of a focus on collaboration and coordination of activities within a firm					

2.	Every member of department realizes joint action to achieve common objective					
3.	Internal integration built through collaborative and cooperative alignment					
4.	Internal integration related to collaboration and/or coordination activities					
5	Internal integration is interchangeable (equal) with collaboration and coordination activities					
6	Internal integration of the organization is strategically planned					
iii. Challenges						
1	Technology by itself is a challenge to the internal functional activities					
2	Infrastructure have its own contribution to max SC integration					
3	The level of financial challenges in the organization is high					
4	There is a good top management awareness towards the importance of internal integration					
5	Top managers are committed towards the overall internal activities of the organization					
6	There is resistance to change in order to integrate internally					
7	There is Knowhow Problems with strategic plan of the organization					
iv. Internal integration						
1	The company makes continuous follow up supplies to improve their product quality					
2	The company has continuous quality improvement programs					
3	standards are set on the quality of inputs					
4	Employees have a good knowledge and understanding of what a product quality is					
5	The company has a standardize warehouse					
6	The company implements Just-in-time (JIT) delivery arrangements.					
7	The brewery company jointly manage raw material inventory with strategic suppliers.					
v. Performance indicators of the organizations						
1	Increase sales volume					
2	Increase profit					
3	Increase in demand					
4	Getting competitive advantage over the others					