A Review of the Importance of Collaboration in Strategy Design and Efficiency of Supply Chain Partnership

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ABSTRACT

No organization or business is an island. In fact, it is practically impossible for any operations or a portion of it to stand alone [1]. There exists that interaction and interconnectivity network of their “customers and suppliers and their customers’ customers and suppliers’ suppliers” [1]. The existence of this network brings about the development of operations strategies by businesses. Basically, before the design of the operation strategy, a great number of questions arise of which some few of them are; do we take up this activity or sublet it to a contract? Do we buy or make? How do we build business relationship with partnership? How do these networks change overtime? All these questions and many more are answered under the coverage of the operations strategy. This paper therefore seeks to discuss one of the questions, “how do we build business relationship with partnership” and stresses the need and the benefits for early involvement of the supply chain partners.

The main objectives for this paper are; (i) to discuss the need for organizations and businesses to collaborate in the area of design towards the overall efficiency of the supply chain (ii) to establish the benefits these organizations and businesses stand to gain by collaborating with their supply chain partners in the early stage of design to the overall efficiency of the supply chain partnership.

Keywords: Collaborative supply chain, supply chain partnership, operation strategy

1. INTRODUCTION

It is practically impossible for an operation or a portion of it to stand alone [1]. There exists that interaction and interconnectivity network of their “customers and suppliers and their customers’ customers and suppliers’ suppliers” [1]. The existence of this network brings about the development of operations strategies by businesses. Basically, before the design of the operation strategy, a great number of questions arise of which some few of them are; do we take up this activity or sublet it to a contract? Do we buy or make? How do we build business relationship with partnership? How do these networks change overtime? All these questions are answered under the coverage of the operations strategy.

Supply chain management is the activities that synchronize the flow of supplies, services, information’s and funds as they travel along the value chain from raw materials stages to component or parts stage through to industrialized or producing stage, merchant, vendor and to purchaser/end user [2]-[3]. These processes that makes up the activities includes generation of orders, taking of orders, given feedbacks or backwards flow of information and the associated proficiency and timeliness or on time deliverance of supplies and services [3].

According to Simatupang[4], a supply chain collaborative effort entails “two or more independent companies (that) work jointly to plan and execute supply chain operations with greater success than when acting in isolation”. This is of the view that when a supply chain stand alone it does not gain that strength, capacity and capability needed to be able to compete in the current market where there is a high rate of demand uncertainty on the part of the consumers. Supply chain collaboration necessitates a realistic level of input from all contributing constituents to guarantee the achievement of prospective remuneration.

The essential brain behind the collaborative effect or partnership is to facilitate possibilities of an organization to compete or participate in the current ever turbulent business environment so as to become highly successfully since it’s been realized lately that businesses can’t compete on a standalone and this has cropped up because customers are becoming exceedingly difficult, and competition is escalating [5].

This paper is organized in the following manner: Section 2 presents the Research Objectives, Section 3 presents the
2. Research Objectives

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i. To discuss the need for organizations and businesses to collaborate in the area of design toward the overall efficiency of the supply chain partnership.

ii. To establish the benefits these organizations and businesses stand to gain by collaborating with their supply chain partners in the early stage of design towards the overall efficiency of the supply chain partnership.

3. Research Methodology

In order to gain immense insightfulness into the topic and the right information needed for this research paper, thorough literature reviews were conducted on collaborative supply chain and the effect of the collaboration of the overall performance/efficiency of the supply chain partnership.

4. Review of the Literature

4.1 Collaborative Supply Chain

To guarantee optimal performance, businesses must ensure that they strive to operate their businesses in such a way that, operational cost can be reduced; their operations speed up and improve quality both on their business processes and that of their partners businesses [4]-[6]. By attaining cross-business visibility and control, businesses can combine resources to recognize and pursue chances to improve the supply chain. The purchaser as well as the vendors can gain lots of benefits through the collaborative effort on vital supply chain matters, right from the initial ordering stage down to the shipment, stock holding, and the total process execution [6].

Supply chain is continuously receiving an overall renovation in the way vendors and consumers are strongly connected all through the whole chain of actions that convey raw material from its point of delivery, throughout the diverse value chain actions to the critical consumer [4]. Success is no more considered by an individual operation; competitiveness is in numerous occurrences appraised as an interconnection of collaborated businesses challenging among other businesses alongside the whole supply chain [7].

4.2 Main Components of Supply Chain Collaboration

Mehrjerdi [6] argued that, managing the supply chain function is all about building an interconnection among scheduling and scheming the delivery methods and business competitiveness. In view of that, top level managers intend to achieve great economic wins from the professional exploit of the supply chain property. In the area of partnership, four main components are mentioned, namely; integration, automation, information and trust.

4.2.1 Collaboration and Integration

Mostly organizations trades and revenues can be increased dramatically through the integration of the backward, forward or horizontal within the business [5]. Customers are becoming extremely difficult and competition is increasing rapidly, therefore many organizations are seeking to synchronize cross-business dealings and work jointly endlessly to generate a crucial recital [6].

4.2.2 Collaboration and Automation

The partnership and computerization of supply chain have achieved a great level of the consideration lately by most researchers. Partnership by information flow/distribution has joined the position of grouping and computerization as a trademark of viable benefit in the supply chains. The shared information is all about the stock holdings, transactions, forecast of demand, status of orders, planning of products, logistics control, cost and scheduling production. This information can be categorized into three main groups; information for product, customer demand and sales information, and stock holding information [6].

4.2.3 Collaboration and Information

In the earlier stages, information systems were used to manage individual functions within the supply chain management such as the purchasing departments, and were traditionally designed to congregate the needs of the individual functions and businesses. This brought about lack of inter-functional and inter-business coordination between departments in a company and with the vendors/consumers which called for the development of the match connecting in-house divisional dispensation conditions. Inter-business synchronization was consummate by a number of untimely adopters with the application of the “EDI” system [8].

Information Technology (IT) performs a great number of considerable tasks at each phase of the supply chain by facilitating firms to congregate and scrutinize information. IT software/machine encompasses diverse stages of tasks
that permit the capturing as well as showing information; evaluate the information to work out ‘short or long term’ issues. Businesses choose to adapt to the use of IT machine/software to formulate a suitable choice on tactical, scheduling or operational difficulties contained by the supply chain [6].

4.2.4 Collaboration and Trust
Mehrjerdi [6] argued that “A trust-based relationship between two stages of the supply chain includes the dependability of two stages and the ability of each stage to increase faith”. Whenever excellent rapport pertains between partners, the cost of transaction connecting supply chain phases will definitely decrease immensely. Currall [9] argued that, trust/dependence is the judgment to lean on a collaborator with the anticipation that the collaborator will perform in accordance to a mutual accord. Collaboration and reliance within the supply chain facilitates progress performance.

4.3 Collaboration and Performance
Various authors have studied Supply Chain (SC) performance and have proposed several models for measuring the performance of Supply chains. Brewer [9] suggested the use of balance scorecard for measuring SC performance. Gunasekaran [10] proposed a list of key Supply Chain Management (SCM) performance measures and categorized them into three main broader groups (strategic, tactical and operational). He further classified these three broader groups into two major groups - financial and non-financial. However, the right choice of these measures can only be made after a thorough review and understanding of the SCM function to an organization have been realized. It is therefore highly imperative for businesses and leadership to wholly understand SCM and realize the value that it can bring to their firm’s bottom line [6]. Simatupang [4] argued that, this is an extremely imperative issue for business success but it is most often ignored. This presupposes that, the existence of high functional and operational businesses are as a result of these businesses seeing successful management of their SC as their competitive advantages.

As argued by Christopher [2], competition in the current business environment is not between individual businesses but between supply chains. It is therefore imperative for businesses to collaborative to build a stronger supply chain to compete in the market. This has a greater potential of leading the individual businesses to improved business performances. SC collaboration is expected to offer the following outcomes to business partners; SC capabilities - Demand planning, Inventory visibility & new knowledge and skill,
- SC efficiency - Reduce inventory and cost savings
- SC effectiveness - Improve customer, responsiveness, Better access to target & market segments

A brief comparative analysis between traditional SC without collaboration between partners and modern SC with collaboration with partners

4.3.1 Traditional Supply Chain

Lack of SC Collaboration results in SC incapability, SC inefficiency & SC ineffectiveness

Some obvious indications are as follows;
- Multiple order decisions
- Delays
- Over Ordering
- Over Stocking/excessive inventory
In the “traditional” supply chains setup as shown in figure 1, the only information that available to the chain is the purchase order and it’s only unidirectional always from the demand side. Raw materials or products are therefore delivered in response to a request received flowing in the opposite direction. Relying solely on purchase order often cause the bullwhip problem, as there is the lack of visibility of the actual demand, so upstream members are always tempted to order some ‘just-in-case’. This approach has resulted in multiple ordering decisions, delays and over-order in uncertain times to ‘play it safe’ causing demand to move up from one stage to the other along the chain, bringing about supply chain confusion and cost amplification. This bullwhip effect leads to excessive inventory held to match the ever increasing demand uncertainty, reduced customer services due to mismatch of demand and supply, reduced productivity, increase capital investment, shortages and missed production schedule.

4.3.2 Modern Supply Chain

From the “modern” supply chain setup as shown in figure 2, businesses operate in a seamless manner where information within these businesses flows across it boundaries, smoothly and in a multidirectional manner. Once the SC collaboration has been achieved, a stronger face of supply chain shows up given raise to SC capability, SC efficiency and SC effectiveness. This therefore offers the business SC performance amplification. The demand of products within the chain is based on collective forecast by the partners. The collaborative partners share information through automation system integration and build partnership on the bedrock of trust for the betterment of the overall supply chain. As a normal practice by SC collaborators, the Enterprise Resource Planning (ERP) systems used by individual companies are interfaced and so, demand for a product downstream are known in advance in the upstream from the Electronic Point Of Sale (EPOS) data by all parties within the chain making demand highly certain and relatively steady.

5. Research Discussions

The rate of change, global financial system and organization challenge have brought about businesses to reconsider and combine various workable strategies in their operation systems [1]. This has brought about a high rate of concern about the ‘buyer-supplier’ partnership in the area of intellectual and global business which helps strengthen the competitiveness and profit margins of the business. This is done by suggesting diverse approach, organizations structure designs, structure, tools and skill to help in determining how to decide on a partnership, ascertain the right partnership and adapt adequately to the in-house and outside transformations [7]. Supply chain perception have shifted
dramatically from simply connected sovereign organizations to a multi-business with the focus on synchronizing efforts to strengthen the supply chain competency development and improved competitiveness [11]. The drive to collaborate is being facilitated by two certainties.

In the first instance, the essential certainty is that, supportive performance will highly decrease the level of jeopardy and immensely help develop the effectiveness of the overall supply chain processes. In order to achieve this supportive performance, it is highly recommend that the supply chain partners share tactical information and this ought not to be narrow to only transactional data [11]. Sharing of information such as future plans goes a very long way in strengthening the satisfaction of customer requirements because businesses jointly build up the best approach. Joint information sharing is very crucial to organizing and synchronizing contributing businesses to mutually execute the exact thing earlier and even more competently [12]. The other instance is the chance to eradicate overwhels and replica challenge. Consequently, the presence of the collaborative effort eradicates the sizeable stock set up in a conventional system and at the same time can also eradicate or decrease the risk connected with the stock guesswork significantly [11].

The concept for the supply chain rationalization is to arrive at an inventory which is cost-effective and requirements driven and not the conventional and predictable approaches and not with the conception that inventory is dreadful and needs to be wholly eradicate. Supply chain partnership position businesses in a point that help in attaining enhanced performance. To arrive at this point, all contributing associates ought to build up essential preparations of mutual performance, cooperate in the direction to systems, strive to accomplish the importance of supply chain’s yardsticks, and pursue all moral values to formulate effective healthy work. Benchmarking facilitates them to discover the maximum principles of quality in consumer services and develop as well as execute crucial enhancements to go with or even go beyond the set values [12].

6. CONCLUSION

The rapidity and swiftness movement of the world has led to advancement in technology in the present complex business situation. Therefore collaboration and or partnership have become increasingly vital to all businesses and such a great move helps businesses to meet the required current and extreme continually change demand of customers. Simatupang [13] argues that, for business to be highly successful, they ought to harmonize their organization and that of the customer throughout the product or service development stages/processes, for that matter feedbacks can be straightforwardly acknowledged from these customers and the necessary adjustments made to the processes for improvements.

Customer participation in the process design or product development stages goes a long way in helping the business achieve success immensely. Forker [14] argued that, supply chain partnership end up to interconnected/interrelated marketplace centered enhanced synchronization of vending and require accomplishment, and lowest connected risks among demand ambiguity. To sum up, the discussion has presented a number of existing studies on why collaborative efforts in businesses has become of much concern to many lately. Many researches have been carried out under different scenarios and assumptions.

From the above discussions, the following conclusions can be drawn:
Managers of supply chain should consider involving customers and suppliers (partners) at every stage of the process design and or product development to help achieve the following results:
1. To recognize their demand so that they can be built up and launch the products or services to their utmost satisfaction.
2. Development of product expertise to be in line with that of the supply chain and their partners in order for the manufacturing, supply chain and their partners to be incorporated to tolerate a liberated flow of the product to the marketplace.
3. Optimizing the flow of product whereas taking into account the improvement of the process together with enchanting a significant glance at the needs and wants of the customer in the marketplace.
4. Customers’ involvement in all parts of the businesses new product improvement practice will assist to obtain instant criticisms/comments for adjustment.
5. Response time, Product variety, Product availability, Customer experience, Time to market, Order visibility, and return ability [3].

REFERENCES


AUTHOR

Simonov Kusi-Sarpong earned his Undergraduate Diploma in Mine Mechanical Engineering from the Kwame Nkrumah University of Science and Technology (KNUST), Kumasi, Ghana in 2001 and MSc in Operations & Supply Chain Management from the University of Liverpool, United Kingdom in 2011. Simonov is also a Chartered Member (MCIPS) of the Chartered Institute of Purchasing & Supply, United Kingdom and a Chartered Member (CMILT) of the Chartered Institute of Logistics & Transport, United Kingdom. He has over ten (10) years mix working experience in the Supply Chain Management and Engineering Environments as well as Construction and Mining Industries with additional couple of years in Business Development Management in the Mining/Oil & Gas, Mining and Industrial with relation to Procurement Services. Simonov’s research interest cut across Engineering, Business Development, Marketing, E-Business, Logistics, Operations and Supply Chain with greater focus on topics related to e-business, logistics & supply chain management processes improvements. His is currently pursuing his PhD in Management Science and Engineering with specialization in E-Business & Logistics Management at the Faculty of Management & Economics, Dalian University of Technology, Dalian, P.R China. He has a couple of academic journal publications in his name.