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Full Length Research Article

QUALITY AND SUPPLY CHAIN INTEGRATION CRITICAL SUCCESS FACTORS PROPOSED MODEL

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ABSTRACT

Purpose:

The purpose of this article is to propose a model designed to achieve successful Quality and Supply Chain Integration.

Design/methodology/approach:

The research design, guided by a Qualitative philosophy, was inductive in nature. Based on extensive literature review methodology on existing body of knowledge regarding Quality management and Supply chain management, the researcher deduced four main critical points to achieve quality supply chain integration.

Findings:

To achieve successful quality supply chain integration organizations need to apply the following factors; Value added perspective, Process Management, Performance Measures and Environmental Analysis. As organizational environment varies, the strategies must be crafted to take these variabilities into account.

Research limitations/implications:

The absence of empirical research is the limitation of this study. The validity and the theoretical soundness of the proposed four critical factors can only be tested by collecting empirical data from real-life cases and testing the propositions of the framework.

Practical implications:

The proposed Model is essential to improve the application of Quality and supply chain integration

Originality/value:

Despite the remarkable contributions of existent research, there is a lack of studies that identified the critical success factors that leads to successful quality and supply chain integration. The proposed Model has included four critical success factors that filled that gap within the literature.

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INTRODUCTION

In recent years there has been a lot of emphasis in business on supply chain management where it is crucial for effective operations and meeting customer needs (Evans, 2011). Organizations are operating in a dynamic environment where organizational success depends on how they continuously strive to improve their supply chain to achieve quality, cost, speed, flexibility, and customer value. Quality in its simplest form can be defined as meeting or exceeding customer's expectations (Besterfield, 2013). Upon examining existing literature from Supply Chain and Quality integration perspective, it is found that agreement exist about the need for both quality improvement, and supply chain integration

however the means of achieving effective quality and supply chain integration in the overall supply chain is not discussed or well understood. The researchers in this article, is aiming to explore the critical success factors to achieve Quality and Supply Chain integration. The results found are expected to be of great benefit to top managers, strategic planner and Supply chain specialists in identifying the critical success factor needed to achieve quality and supply chain integration.

MATERIALS AND METHODS

The research design, guided by a Qualitative philosophy, was inductive in nature. Based on extensive literature review methodology on existing body of knowledge regarding Quality management and Supply chain management, the researcher deduced four main critical points to achieve quality supply chain integration which are:

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- Value added perspective
- Process Management
- Performance Measures
- Environmental Analysis

The models and frameworks discussed in the literature review may have achieved one or two of the above four points, however, there is no existing study that shows the importance and need of integrating the above four points together. In such dynamic environment, it is believed that in an organization when capabilities are generally accepted to be the backbone of sustainable competitive advantage, integration should be considered as one key capability that remains under used (Ahmed *et al.*, 2002, p.124). Before proposing the model, a discussion of the above four points and the grounding theories and relevant literature that led to the deduction of these points will be presented.

Research Background

According to Heizer and Render (2011, p. 453) and Summers (2009, p. 239) Supply chain has two main objectives, first is to build a chain of suppliers that focuses on maximizing value and design service to the ultimate customer and second is to increase competitiveness via product customization, flexibility, high quality, cost reductions and speed to market. Ultimately, to enhance customer satisfaction and firm performance, the concept of Total Quality Management (TQM) can apply firm-wide management philosophy for continuously improving the quality of the products, services and processes by focusing on the customers' needs and expectations (Sadikoglu and Olcay, 2014).

However, it depict in the literature that in a dynamic global market, quality is not enough. Supply at the right time, place and cost is also critical for competitive advantage (Chin *et al.*, 2004; Robinson and Malhotra, 2005). The global business competition is no longer between the organisations but between their supply chains (Kuei *et al.*, 2001). Therefore, leading companies have adopted Supply Chain Management (SCM) and Total Quality Management (TQM) to strengthen their organisational performance. A number of studies have been conducted to emphasize the importance of integrating quality with supply chain management and used the symbol SCQM Supply Chain Quality Management (Kuei, 2001; Robinson and Malhotra, 2005; Gunasekaran *et al.*, 2001; Kannan *et al.*, 2005; Sharma and Agarwal, 2012). SCQM is the coordination and integration of quality in supply chain business processes to measure, analyze and continually improve products, services, and processes with the purposes of creating value and achieving satisfaction of intermediate ultimate customers in the business and market (Robinson and Malhotra, 2005).

Reviewing the literature it shows that different studies have emphasized different factors affecting the success of Quality and Supply Chain Integration. Fernandes *et al.* (2014) proposed a model of six dimensions for SCM and QM practices together and that are: 1) Management and strategic planning; 2) stakeholders/employees involvement and commitment; 3) information, integration and 4) mutually beneficial supplier relationships; 5) leadership and

6) continuous improvement and innovation". Handfield *et al.* (1998) further suggested that the focus of supply chain quality should be to develop a quality infrastructure. Quality infrastructure consists of leadership and human resource development. The focus on supply chain quality in turn may lead to improved financial results, and customer satisfaction.

Furthermore, Flynn and Flynn (2005) examined the relationship between Quality Management and Supply Chain Management. In their study, three quality management practices (1) information and analysis; (2) process management; and (3) strategic planning were found to be significant in SCM. Bessant *et al.* (1994) identified seven components that need to be managed if supply chain quality is to be sustained, those seven components are: 1) strategy, 2) boundary definition, 3) monitoring and measuring performance, 4) developing and managing the culture within the relationship, 5) people and structures, processes 6) coordination, and 7) continuous improvement. Kuei *et al.* (2001, p.866) uses eleven supply quality-management practices to study manager's perception on the association between supply-chain quality-management practices and organizational performance.

The 11 factors were

- top-management leadership;
- training;
- product design;
- supplier quality management;
- process management;
- quality data reporting;
- employee's relations;
- customer's relations;
- benchmarking;
- supplier selection; and
- supplier participation

Some authors suggests that further research is needed to provide more understanding about synchronizing traditional quality practices and its effect across the entire network of firms in the supply chain (Lin *et al.*, 2005) and the link in transforming quality practices in overall performance of organization (Robinson and Malhotra, 2005). Some studies stresses the need for future research that could be very helpful for the companies (Marra *et al.*, 2012; Cao and Zhang, 2011). After reviewing existing literature, the researchers observed that the mix of many principles like (organizational strategy, product design, supplier relationship, benchmarking, organizational culture, etc.) are mentioned in previous studies, all is important and cannot be neglected. What is more critical to quality supply chain integration-as the researcher is proposing in this research- is how organization can achieve the following points:

The value added perspective

Organizations are made of different processes. Different processes are conducted by different functions in an organization. Common processes in an organization include strategic planning, environmental scanning, supplier partnering, acquiring customers, developing new product,

marketing, distribution, to name just a few. Processes can be linked together to form a supply chain. For organization to succeed is a keen understanding of how their processes work (Krajewski *et al.*, 2013). Processes can be divided into both core and support processes (Krajewski *et al.*, 2013). "Organic view of the organization sees the whole as the sum of different parts uniting to achieve an end"(Foster, 2010, p. 34).Fosters (2010) says, employees for the same firm often view quality differently based on where they are located in the supply chain. Every worker should understand their place in the larger system and their contribution to the final product/service in order to satisfy the final consumer (Evans and Lindsay, 2011). Or in other words employees should achieve their works according to the value added perspective of quality, where it involves subjective assessment of the ability to achieve the intended result of every step of the process for the customer (Foster, 2010).

Since customers constantly desire change organization must be driven by the need of its customers. Customer driven quality, represent a proactive approach to satisfying customer needs. Organizations can continuously gather data about their customers to learn about their preferences which will be used to finalize their products (Foster, 2010). Satisfying final customers can only be possible when the whole chain get serious, perform, integrates, and coordinates to pursue consistent, coherent and creative innovative practices (Simchi-Levi *et al.*, 2003, Kushwaha and Barman, 2010). Therefore individuals or groups known as process owners are accountable for managing the process and optimizing its effectiveness (Evans and Lindsay, 2011, p.333).

Another way to think about value added perspective is the value added processes. Value-added element can be during commodity processes or products that already exist; the organizations only have to use smart modifications and apply them. According to Bishop (1990), value-added is defined as "adding those manufacturing or service steps to a commodity product, which the customer perceives as increasing its value" (p. 30). So Value added concept is related to Supply chain management as it has been defined as "the management of upstream and downstream relationship with suppliers, distributors and customers to achieve greater customer value-added at less total cost" (Wilding, 2003, p.31). Customers always want to pay the cost that they think is correct, and if they get something additional to the product, they got value-added.

The successful model of supply chain inspect and review the complexity of the process and remove non value-added steps and activities and capitalize which is adding more value in the flow of various kinds of materials from supplier to end customer (Chan and Lee, 2005, Croxton *et al.*, 2001). "The integration of quality management principles offers potential for broadening the perspective of supply chain management from its traditional narrow focus on costs and competitive relationships to a focus on cooperative relationships between members of the supply chain and the strategic importance of supply chain management to the achievement of competitive advantage" (Kushwaha and Barman, 2010, p.128). For example product design in the past was based on sequential design process, nowadays organizations apply concurrent

engineering where the steps of product design is conducted simultaneously resulting in less errors, time to get concept to market is reduced drastically, enhances communication and the cross-fertilization of ideas and increase interaction with customers (Foster, 2010). One significant aspect of value added perspective is the relationship between suppliers and firms, where organization nowadays is moving from competitive to cooperative relationship with their suppliers. This orientation implies long-term commitments, joint work on quality, service and product design, sharing information, less inspection rate of incoming materials, and lead to reduce the number of supplier in the supply chain which leads to reduce the complexity of managing them (Krajewski *et al.*, 2013).

Value added perspective supports the idea that achieving high quality product/service is the responsibility of all employees where ever they are located within the supply chain. For example Fed Ex Company asks their employees to ask the following three questions when they interface with a coworker: What do you need from me? What do you do with what I give you? Are there any gaps between what I give you and what you need? (Foster, 2010)

Considering all the above factors, it is apparent that organization need to focus on the interaction between the various components of the supply chain including people, processes, machines, products, services, suppliers, markets, customers, legal requirements, procedures, etc. in a way that lead to increase the added value to achieve high quality product and services.

Therefore it is hypothesized that

H1: The value added perspective has a significant effect on the success of Supply Chain and Quality Integration (SCQI)

Process Management

A firm cannot gain competitive advantage with faulty processes, no matter how talented and motivated people are (Krajewski *et al.*, 2013). Processes are perhaps the least understood and managed aspect of a business (Krajewski *et al.*, 2013). Organizations develop problems that must be solved and situations that demand decisions. In the global market place, continual improvement is needed in processes, the people who are operating them as well as to the products resulting from the processes (Goetsch and Davis, 2013).

A firm competes not only by offering new services, great products, creative marketing of its product, and effective finance, but also through its unique competencies in operations and by designing sound management of core business processes (Krajewski *et al.*, 2013; Cashon and Terwiesch, 2013, p. 10). They added that a coherent process strategy is a key to managing supply chains effectively, where each process in the chain starting from supplier and ending by customers must be designed to achieve its competitive priorities and should be improve to add value to the work performed.

Many studies showed that managing effective processes for both QM and SCM is vital to increase customer satisfaction

and improve organizational success. Based on QM and SCM, processes are divided into core and support processes. Where the core processes (or value creation processes) are driven by external customers and support processes are driven by internal customers therefore core processes needs more attention than support processes (Evans and Lindsay, 2011).

Robinson and Kalakota (2000) view the supply chain quite simply as a “process umbrella” under which products are developed and delivered to customers. According to Juanqiong *et al.* (2007), a successful SCM requires a change from managing individual functions to integrating activities into key supply chain processes.

Evans and Lindsay (2014) depict that “As customer needs and expectations change, organizations must design processes that are increasingly agile” (p.334). “The goal of process management is to achieve the highest level of process performance” (Evans and Lindsay, 2011, p.333). They added that process management can be achieved through going into three phases; design phase, control phase and improvement phase.

Process improvement is essential for organization because customer loyalty is driven by delivered value, delivered value is created by business processes, sustained success in competitive markets requires a business to continuously improve delivered value and to continuously improve value creation ability, and business must continuously improve its value creation processes (Evans and Lindsay, 2011)

Supply Chain Council have developed Supply-Chain Operations Reference (SCOR) model that is used for rapid assessment of supply chain process and performance through clear identification of performance gaps. The SCOR process reference model contains: (SCOR, 2010)

Performance Metrics: Standard metrics to measure process performance

Processes: Standard descriptions of management processes and a framework of process relationships

Practices: Management practices that produce best-in-class performance

People: Training and skills requirements aligned with processes, best practices, and metrics

Goetsch and Davis (2013) believe that there is no single road map to follow when improving processes. Examining processes from the perspective of the value should be an important part of a successful manager’s agenda, as it will be helpful in gaining an understanding of how core processes are related to supply chains and how they are linked to their competitive priorities, markets and the operations strategy of a firm (Krajewski *et al.*, 2013).

Sadikoglu and Olcay (2014) concluded in their study that TQM practices improve various performance measures in the firms if all aspects of TQM practices managed effectively. Therefore managers can use tools of quality, six sigma, lean

system, Taguchi concept or any other TQM practices to improve their organizational processes. Based on the above, failure to manage a process is failure to manage a business, each organization is different from one another so there is high need to understand the elements of Process management and refine the work activities which can give them more sustainable advantage, therefore it is hypothesized that:

H2:Process Management has a significant effect on the success of Supply Chain and Quality Integration (SCQI)

Performance Measures

In supply chain management and performance measurement it is believed that ‘If you cannot measure it, you cannot control it. If you cannot control it, you cannot manage it. If you cannot manage it, you cannot improve it’ (Harrington, 1991, p.164; Schmitz and Platts, 2004, p. 232). Thus from the above concept, it is expected that to obtain the benefits of performance measurement, organisations have to make use of the measures, i.e. they have to manage through measures (Amaratunga and Baldry, 2002). Using measures will assist in identifying individual to collaborative performance measurement (Konsynski, 1993). With that, it will also assist in monitoring the performance and measuring how successfully company operational changes happened from past to present (Amaratunga and Baldry, 2002). According to Mentzer and Konrad (1991), effectiveness and efficiency in performance measurement will be considered by accomplishing a given task in relation to how well a goal is met.

The performance measures provide a great amount of information inside to enlarge the integration of the company and alongside the supply chain, it is to identify the internal improvements that should be accomplished in order to stimulate performances and to have a great impact in competitiveness (Croxtton *et al.*, 2001). Evans and Lindsay (2011) believe that in order to apply business process management, process need to be repeatable and measurable. Neely (1999,p. 208) asserts that firms should use performance measurements for seven reasons, as the trend has shifted from only hard financial data to more sophisticated and developed measurements.

- The changing nature of work
- Increased competition
- Specific improvement initiatives
- National and international awards
- Changing organizational roles
- Changing external demands
- Powerful information technology

Gunasekaran *et al.* (2001) exemplify cohesive framework for performance measures and metrics of the supply chain management. The framework is classified into strategic, tactical and operational levels of management. The metrics are also divided into financial and non-financial. However, due to the large number of metrics given and lack of balanced approach, companies have been failed to identify measurement approach for financial (strategic decisions and external reporting) and non-financial (handle more day-to-day control

of manufacturing and distribution operation). Also for organization, they find lack of clear distinction between metrics at strategic, tactical, and operational levels in performance measurement. According Melnyk *et al.* (2004) the performance metrics have three basic functions: control, communication and improvement. Control means that the metrics enable managers and workers to evaluate and control the performance of the resources. The performance is communicated for internal needs and external stakeholders' purposes by the metrics. Improvement means the possibility to identify the gaps between performance and expectations and to identify the areas where the development work is needed. Dixon *et al.* (1990, 1991) developed Performance Measurement Questionnaire (PMQ), with the purpose of assessing the existing performance measurement used in an organization/company mainly from two parts:

Part 1: to evaluate the particular improvement areas and the current performance improvement that is already used in the company In terms of the improvement areas, Dixon *et al.* (1990) identified three categories i.e. quality, labor efficiency and machine efficiency.

Part 2: to evaluate the particular long term importance of improvement that will be achieved by the company.

Beamon (1999, p. 275) also accept the fact that challenges exist in terms of identifying appropriate performance measures for the analysis of supply chain. However he mentioned some features present in effective performance measurement systems and these include the following:

- Inclusiveness (measurement of all pertinent aspects)
- Universality (allow for comparison under various operating conditions)
- Measurability (data required are measurable)
- Consistency (measures consistent with organization goals)

Bhagwat and Sharma (2007) develop a balanced scorecard (BSC) for measuring and evaluating day-to-day business operations of supply chain management from following four perspectives: finance, customer, internal business process and learning and growth. However, addition research is recommended in order to determine whether the proposed perspectives and measures are a necessary and sufficient set.

In order to monitor the activities, it is important to measure the performance of the complete supply chain and the individual processes. Furthermore, Chan and Qi (2003) focused to measure performance based on the strategy, value drivers and continuous improvement of the whole supply chain. Another way to measure the performance in Supply Chain performance can be viewed in terms of qualitative (Customer satisfaction, Flexibility, Effective Risk Management, Supplier Performance) and quantitative measures (Cost and Resource Utilization) (Viswanadham, 2000). Thakkar *et al.* (2009) propose an integrated supply chain performance measurement framework for the case of small and medium scale enterprises in India using set of qualitative and quantitative insights gained during the case study research. The proposed framework integrates the features of balanced scorecard (BSC) and supply chain operation reference (SCOR) model to deliver a comprehensive performance measurement framework for

SMEs. The Malcolm Baldrige Criteria for performance excellence results category groups the performance measures into six sets: (Evans and Lindsay, 2011, p.392).

- Product outcomes
- Customer focused outcomes
- Financial and Market outcomes
- Workforce-focused outcomes
- Process effectiveness outcomes
- And leadership outcomes.

A number of authors (Maskell, 1991; Fawcett and Cooper, 1998; Gunasekaran *et al.*, 2001; Griffis *et al.*, 2004; Schmitz and Platts, 2004) have all emphasized the importance of performance measurement between supply chain partners. Along with importance of performance measurement, there are some issues as well. In fact, the lack of relevant performance measures has been recognized as one of the major problems in process management and the management of a supply chain (Davenport *et al.*, 1996, Dreyer, 2000). According to Beamon (1999), the choice for performance measures in the chain is complex because it depends on many factors, such as size, culture, needs, location, etc.

According to Lambert and Pohlen (2001), many measures used in the supply chain are internal and it does not measure the chain performance as a whole. With that they also raised the issue of lacking suitable measures to the supply chain. When it comes to the activity of measurement, unsuitable measurement systems in a supply chain may be the cause of several problems (Keebler *et al.*, 1999). These flaws will make it difficult to reach customer's expectations, optimizations in the chain, barriers in competitive advantages and it will generate conflicts (Lambert and Pohlen, 2001). Several authors point out that there are a few studies about performance measure in the supply chain (Beamon, 1999; Gunasekaram *et al.*, 2001; Holmberg, 2000). Simultaneous implementation of supply chain management and total quality management can be challenging and consumes a considerable amount of resources due to the extended scope that covers not only internal functions but also the operations of external perspective. If simultaneous implementation can be accomplished, the organisation should achieve success. If it fails, the impact on the business performance would be serious (Vanichchinchai and Igel, 2011).

Almost most of the scholars have emphasized on the factors which are required for measuring performance (Neely, 2003; Evans and Lindsay, 2011; Vanichchinchai and Igel, 2011). They agree to this fact that performance measurement can assist organization in directing management attention, revising company goals, and re-engineering business processes to respond rapidly to customers' needs and external challenges. However, researchers and scholars stresses on different ways and techniques on measuring the outcome. Therefore each organization needs to set their performance measurement prudently so that they can measure their success.

Based on the above it is hypothesized that

H3: Performance measures has a significant effect on the success of Supply Chain and Quality Integration (SCQI)

Environmental Analysis

Boon and Paul (2008) in their study have emphasized that in the literature of Supply Chain Management, very few studies have included the effect of environment uncertainty on the relationship between Supply Chain integration and firm competitive capability and specially quality. Processes will differ greatly among organizations, depending on the nature of their product or service, customer, market requirement, global focus, and other factors (Evans and Lindsay, 2011). Developing a corporate strategy involve four considerations: (1) monitoring and adjusting to changes in the business environment, (2) identifying and developing the firm's core competencies, (3) developing the firm's core processes and (4) developing the firm's global strategies (Krajewski *et al.*, 2013).

Lee and Whang (2001) defined integration as, "the quality of the state of collaboration that exists among departments that are required to achieve unity of effort by the demands of the environment" (p.18). While this definition refers to integration internal to a firm or organization, the researcher's emphasis here goes beyond the firm and encompasses external entities that are players in a supply chain. Organizations are operating in a dynamic environment where technology, globalization, management of supply chain, outsourcing, agility, work force diversity, productivity, role of management, ethical behaviour and government regulation all are effecting the way processes are managed (Stevenson, 2012, Krajewski *et al.*, 2013, Yusuf, 1995). Ettlíe and Reza (1992) described this as environmental uncertainty as unexpected changes in external and internal environment. Components of external environment are customers, suppliers, competitors, socio-politics, and technology, while internal environment are organizational personnel, functions and levels (Ettlíe and Reza, 1992). The same classification of environmental uncertainty is adopted in Li *et al.*'s (2005) study of integrated model for supply chain management. Such unpredictability of environmental or organizational variables can have an impact on corporate performance (Miller 1993, p.694).

Paulraj *et al.* (2007) mentioned that environmental uncertainty is an important factor in the realization of strategic supply management plans. As environmental uncertainty can give an idea about changing of trends that create opportunities and threats for individual organizations (Lenz, 1980). Notably, according to Milliken, (1987, p.134) the definition of environmental uncertainty in organisation can be summarised as three components

- Lack of confidence as to how environmental factors are going to affect the success or failure of the decision in performing its function,
- Lack of information about cause-effect relationship-environmental factors associated with a given decision-making situation
- Inability to predict accurately what the outcomes of a specific decision might be- how much the organization would lose if the decision were incorrect

Geary *et al.* (2002) consider supply uncertainty as the results from poorly performing suppliers not meeting organization's needs. Supply uncertainty can also be evaluated by looking at

supplier's delivery performance, inflexibility, unreliable suppliers, time series of order placed, actual lead-times, and supplier quality variation. Moreover, suppliers may be limited in both size and experience or possibly manufacturing process and the underlying technology are still under early development (Lee, 2002). Li (2002) assesses supply uncertainty by providing factors such as unpredictability of engineering level, product quality, delivery time, and quantity. Fynes *et al.* (2004) suggests that there are three different sources of uncertainty in supply chains: demand uncertainty, supply uncertainty and technological uncertainty. But he did not analyze the types of environmental uncertainty from the perspective of supply chain flexibility.

Most literature on manufacturing and supply chain describes flexibility as a response to, or a means to cope or accommodate with uncertainty (Beach *et al.*, 2000, Stevenson and Spring, 2007). Similarly, in the study of Chang *et al.* (2002), they construct supply uncertainty by considering the unpredictability degree of four factors including improvement of supplier quality as requested, possibility of increasing supplier production capacity, possibility of changing supplier delivery date, and possibility of supplier quality variation. Competitor uncertainty is defined as the extent and unpredictability of the competitors' actions (Li, 2002). Chang *et al.* (2002) suggest three factors regarding possibility and predictability of competitors changing: 1) price, 2) marketing strategies, and 3) entry/exit of new/current competitors. Similar to the Chang *et al.* (2002), Li (2002) provides the measurement including the possibility of competitors to introduce new product unexpectedly, enter form different sectors/countries, and unpredictable actions. Technology uncertainty is defined as the extent of changes and unpredictability of product and process technology development. New market opportunities come with technological innovation.

As technology becomes more multidisciplinary and dynamic, firms are relying on other firms as a way to attain the technological knowhow necessary as parts of their supply chain restructuring programmes. Ragatz *et al.* (2002) suggest that technology uncertainty can be measured as the degree to which the product or process technologies employed are new, complex, and/or rapidly changing. In terms of product technology uncertainty, Chang *et al.* (2002) include two variables: 1) change of core production technology, and 2) change of supporting technology. Technology uncertainty can also be viewed as how significantly changing of technology in particular industry, and technology breakthrough resulting in new product development. Based on the above, the environment of an organization both internal external undergoes different types of uncertainties. Goetsch and Davis (2013) say that no one best way fits the needs of all organizations. Fosters (2010) says that "from quality point of view, quality will depend on the environment in which the company operates" He added that Contingency theory presupposes that is no theory or method for operating a business that can be applied in all instances. The difference is that they pursue different paths and strategies to achieve right outcome and meeting customer need. Therefore the researchers suggest that:

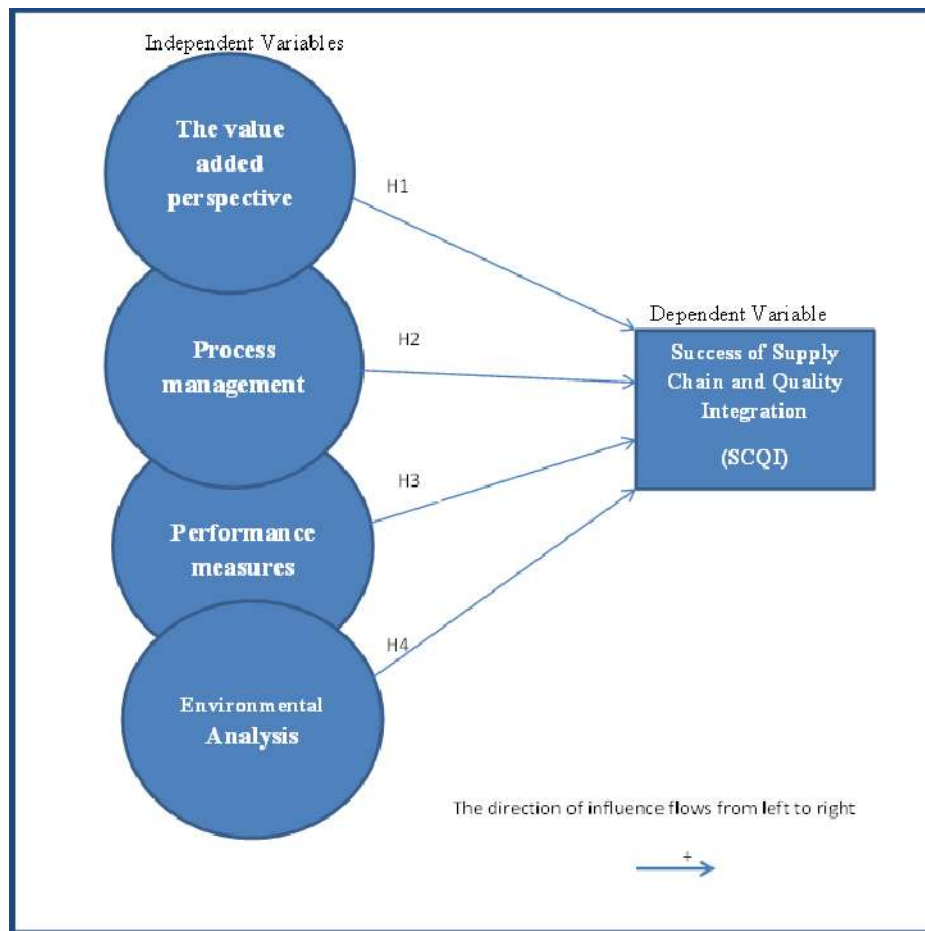


Figure 1. SCQI Visual Model with the direction of relationship

H4: Environmental Analysis has a significant effect on the success of Supply Chain and Quality Integration (SCQI)

Proposed Model

Figure 1 shows a detail Supply Chain Quality Integration (SCQI) visual model with the predicted relationship between dependent and independent variables. To test the hypotheses, a secondary analysis needs to be conducted which is beyond the aim of this research.

Conclusion

Quality and Supply chain integration requires the interaction of many disciplines and principles to create quality valued product or services to consumers. Many studies emphasized the importance of Supply Chain Quality Management Integration and suggested different frameworks and factors that lead to the success of such implementation that lead to improve business processes. The researchers in this study believe that the mix of many principles like (organizational strategy, product design, supplier relationship, benchmarking, organizational culture, etc.) mentioned in previous studies all is important and cannot be neglected, however research ernoticed that there are still less documented evidence of its critical success factors and their impact on supply chain quality integration.

What is more critical to quality supply chain integration-as the researcher is proposing in this research- is the achievement and application of the following factors as seen in figure 1:

- Value added perspective
- Process Management
- Performance Measures
- And Environmental Analysis

As organizational environment varies, from industry to industry, country to country, company to company, the strategies must be crafted to take these variabilities into account. The main limitation of this study is the absence of empirical research. The validity and the theoretical soundness of the proposed four critical factors can only be tested by collecting empirical data from real-life cases and testing the propositions of the framework.

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