

Supply Chain Management in Service Quality

Mahadi Hasan Miraz

Department of Decision science
Universiti Utara Malaysia (UUM)
Sintok, Kedah, 06010 Malaysia
mahadimiraz1@gmail.com

Ferdoush Saleheen

Department of Decision science
Universiti Utara Malaysia (UUM)
Sintok, Kedah, 06010 Malaysia
ferdoushsaleheen@gmail.com

Mashiour Rahman

Department of Decision science
Universiti Utara Malaysia (UUM)
Sintok, Kedah, 06010 Malaysia
mashiour@aiub.edu

Abstract- Tourism literature has been replete on the importance of supply chain management in delivering tourism services. Many studies have exerted empirical attentions to understanding supply chain management in the context of tourism industry. Nonetheless, more questions are still left unanswered with regards to the role of supply chain management in tourism services. To this end, this present study examines the role of supply chain management practices in delivering attractive service quality in the Malaysian tourism industry. The findings presented in this study found that successful supply chain management practices would yield to advanced facility and excellence. To improve the business management upon maturity adaption of service supply chain is needed. To growth of service sectors which requires improvements in service sector for better quality deliveries. The implications of this finding are discussed in details.

Keywords: *Communication, Suppliers' relationship, Service quality, tourism industry.*

I. INTRODUCTION

Operation prices has become a mark access fact leading commercial forecaster in income development strategies. Together sales industrial and ability subdivisions aspects growing increase rate caused by global financial variability. To increase the gross revenue from the income against operating costs needs to be steady over time. Both production goods and service quality depend on operation improvements and efficiency of the production. The amount of development in service demand rises overtime as economic development takes place from industrialization to post-industrialization [11]. The growing demand that was skilled in industrial industry will be projected on service industry as well as service sector finally replaces manufacturing sector as the leading sector of the economy. For example, the info schemes to trail, order, examine and distribute data to various parties especially the operation management in a timely manner [26].

II. IMPLICATION OF STUDY

Objectively, this study aim at understanding supply chain management in the Malaysian tourism industry. Exploring the role of supply chain management is imperative in order to ensure improvement and sustainability of the tourism industry. As such, several theoretical perspectives in the precinct of supply chain management were employed to explain the consequences of effective supply chain management in the tourism industry. The findings of this study implied that good service quality can be complemented with the information communication technology to improve the quality of supply chain management in the tourism industry of Malaysia. Conclusively, the role of supply chain

management in the tourism industry is imperative in multifaceted ways which include global acceptance and optimization of service quality.

III. PROBLEM STATEMENT

Conventionally, collecting accurate data on quality of service of the service sector has always been challenging due to the intangibility of services that are provided to customers. Hence, bringing about the requirement shift from natural capital to human capital. The increase in demand is solely responsible for the gradual development in the labor intensive industry as opposed to goods manufacturing industries. Thus, this explains why most service companies often start as small-medium enterprises (SME). Ostensibly, the inherent small size of SME has practically and theoretically resulted into little or no attention of the practices of supply chain management by SMEs, particularly SMEs are service-based firms. In lieu of focusing on the importance of supply chain management, the management of SMEs often prefers exalting all its energy on output quality and sales quality.

The conventional practices of supply chain are not without inherent challenges posing detriments that are articulated in business terms as the saturation of firm growth. The absence of an all-encompassing structure of supply chain implies that service firms would only be communicating with the upstream and downstream using just one tier of the supply chain structure. This implies that service providers are oblivious of both the source and quality control of their raw materials. Impliedly, customers would only be able to give an overview feedback rather than a detail account.

Additionally, another detriment of the absence of a complex structure of supply chain is that effective information between the upstream and downstream is hindered. Consistently, for the actualization of a sustainable economic growth in Malaysia, there is a dominating need for a more sophisticated, organized and complex method for material flow as well as information flow between the upstream and the downstream of the service-based SMEs in Malaysia. In essence, the implication of having a complex path for transferring material and information in the service sector in Malaysia includes, the ability to offer quality service, to keep abreast with material quality control and above all to ensure timely service delivery.

IV. LITERATURE REVIEW

The essence of adopting an integrated, coordinated, monitored and organized method to supply chain management through is mainly to prevent effective communication barriers and redundancies among business stakeholders [4]; [7]. The purpose of practicing supply chain management is to optimize connections, anchor effective interaction and preventing logjams in the supply chain circle and among the elements of business chain [2]; [3]. In other words, the process of identifying, processing and transporting required input such as tangible products and product suppliers can best explained the practice of supply chain management [1]. In the context of service industry, supply chain management can be described as the process of purchasing and transferring service from one element to another element of the business chain [23]; [8]. Meanwhile, contrary to the practice of supply chain management in the goods industry, a number of direct and indirect service providers that are known also known as service integrators are responsible for the complexity of supply chain management in the service industry [4]; [2]. For instance, the convention of service supply chain practice involves the customer, the service, the service provider and an initial service provider [8]; [23].

Conceptually, supply chain are identified in three forms globally namely; serial service supply chain, parallel service supply chain and hybrid service supply chain [4]; [24]. Serial service supply chain is the conventional supply chain whereby service flows from initial service provider to downstream in a straight flow across several elements in the supply chain before eventually getting to the customer. Figure 1 below, depicts the graphical representation of the conventional supply chain.

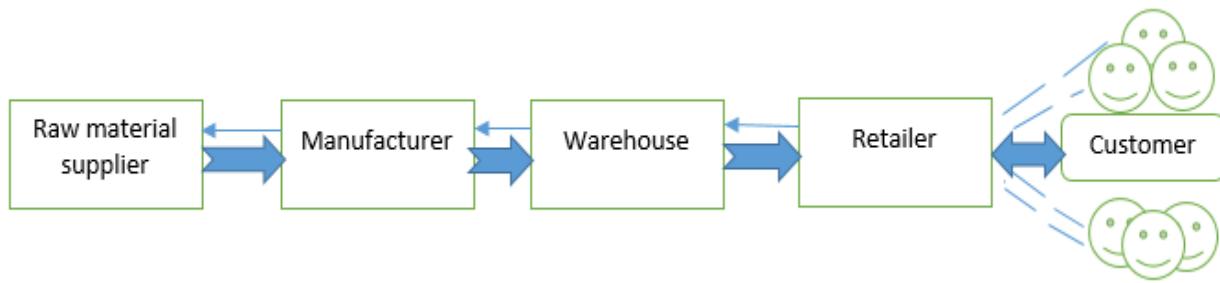


Figure 1: Schematic diagram of conventional supply chain (Sidola *et al*, 2012)

Parallel service supply chain entails battery of independent service providers from the same organization with similar functions but employs different supply and logistics to transport service to the same target population. Parallel service supply chain inherently has the advantage of reaching the customer in a shorter time. Although, this kind of supply chain incurs a higher and inconsistent cost of operating [4]. On the other hand, the hybrid service supply chain harness between both the conventional supply chain system and the parallel supply chain system [2]. Hybrid service supply chain system gets service across to customer more quickly, using the parallel system and using the conventional system to maintain material quality control through a unitary and strictly controlled standard suppliers. The decision to choose among the three supply chain systems is often informed by the firm's concern on quality of delivery, cost, timely delivery and maximization of logistic spaces [24]. Although, firm's consideration varies on the importance of timeliness and quality review in determining productivity and quality delivery [23]. Hence, the application of appropriate quality tools in determining the effectiveness of operation and measuring organization's productivity is important [4].

The five forces model propounded by [12] opined that purchasing is an important strategy that boost the competitive advantage of an organization. In the same light, [6] reviewed that strategic purchasing involves the process of planning, implementing, evaluating, controlling and operating purchasing decisions. This is done through taming all activities of the purchasing function toward opportunities in line with the capabilities of the organization as the strategy for achieving long-term goals. Against this backdrop, supply chain management (SCM) being a significant contingency to every organization's success, has received ample attention of researchers and practitioners alike. Contrary to the simple meaning implied by the word SCM, the scope of SCM in practice goes beyond logistic and resource planning activities [9]. Series of empirical attempts have been made to provide a widely acceptable definition for SCM. For instance, [10] defined SCM as the process of networking and interacting between different firms for the purpose of transferring and delivery product, service to customers and supply of raw materials. In the same vein, Harland elucidated that SCM is a process of managing business and relationships from within the internal elements of an organization, suppliers, customers and ultimately with the whole supply chain. Lastly, in the words of Tan, Kannan, and Handfield SCM involves the management of materials from the basic supply of raw materials up till the supply of final product. In summary, SCM can be explained as the connection between the organization, suppliers, technology and customers in order to optimize capabilities and improve competitive advantage. In other words, SCM is a function of management philosophy that broadens and bridging the conventional relationships and activities within an enterprise and other trading partners for the purpose of improving productivity and service delivery quality.

Effective communication is an important factor in tourism. According to [13], communication and suppliers' relationship management are central to effective service delivery in the tourism industry. More so, effective communication is considered as the determinant for supply chain management practices. This is because, maintaining an effective two-way communication between the upstream and downstream elements of an organization lead to higher competitive advantage [13]. The ability to communicate timely and accurate information that are related to procurement issues leads to productivity in time, cost and quality [14]. The importance of suppliers' relationship management cannot be undermined when discussing organization effective performance of SCM [13]. When the relationship between an organization and the supplier is smooth and flawless, the implication can be seen on the level of customer satisfaction and the organization's financial development [15]. Service quality (SQ) in the context of SCM can explained as the distinctive difference in the perception of the individual elements involved in a supply chain about the entire expectations and performance of the supply chain as whole [16]. A model proposed by [15] advanced the relationship between SQ, SP and SCM.

Sequel to the discussions and reviews presented above, this present study proposes the following hypotheses and will be subjected to empirical testing. The first two hypotheses are related to the relationship between strategic purchasing and supply chain management practices (Hence, communication and suppliers' relationship). Logically, communication is believed to be the anchoring cord to every partnership and it could fosters confidence between partners in a relationship [17]. Studies have reported significant relationship between SP and communication. Most of the studies in this realm unanimously advanced that SP significantly influence effective communication among supply chain elements [13]. Consistently, both theoretical and empirical relationship have been established on the relationship between SP and communication [18].

The second hypothesis in this study is regarding the relationship between SP and suppliers' relationships. Some research found that the relationship between SP and supplier's relationship is solely dependent on the proximity of the elements that makes up a supply chain, which sometimes rely on a long-term ongoing relationship among firms involved in the supply [13]. Hence, sharing crucial information is enhanced for the success of this relationship [20]. Scores of empirical justifications on the significant relationship between SP and suppliers' relationship are presented in extant literature [19].

The effective supply chain system work efficiency is the criteria to select the supply chain. Most of the firm usually focus on quality of cost, delivery, maximization and shortest lead time for the logistic department. Beside some firm consider accomplishment critical path lead study to determine the component of the supply chain which required more responsiveness to confirm the flow is steady. An example of critical path study can be exemplified to as in **Figure 2:**

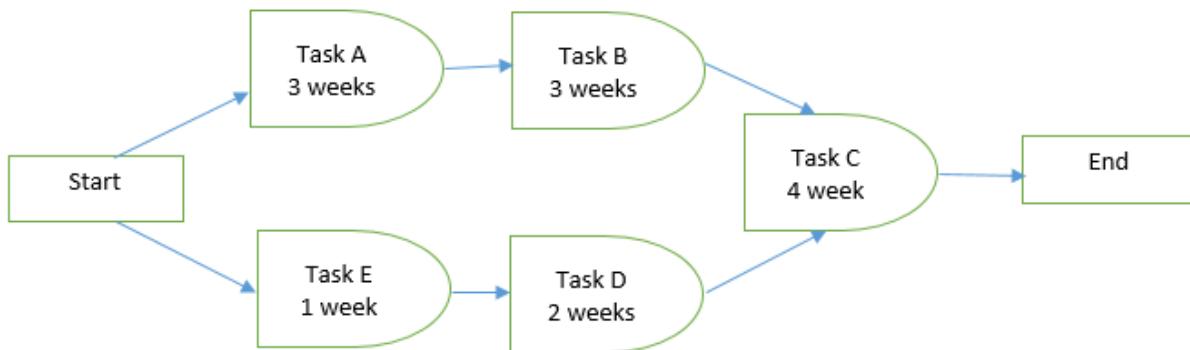


Figure 2: Critical path method (Barrow, 2013)

Critical path technique demonstrates all jobs to be passed out to complete a listed activity and how long the total action will be compelling. It is the way through the system that will take the lengthiest amount of period. An interruption on any component falls in the critical path results a slack or float [26]. Info flow from each barrier to another, forward or backward, is more organized and eases following activity.

V. OPERATION MANAGER AND SUPPLY CHAIN MANAGEMENT

Distribution and production is as significant as time management. It is suitable class tools application is vital in defining the efficiency of process in the organization. Supply chain managers and operation manager have diverse method in quality management [5]. This types is Operation managers and supply chain managers employ distinct approach in quality management [5]. Foster has identified quality tools that is preferred in supply chain over operations as shown in Figure 3. presents quality tools that are preferable in supply chain as proposed by Foster *et al* (2011).

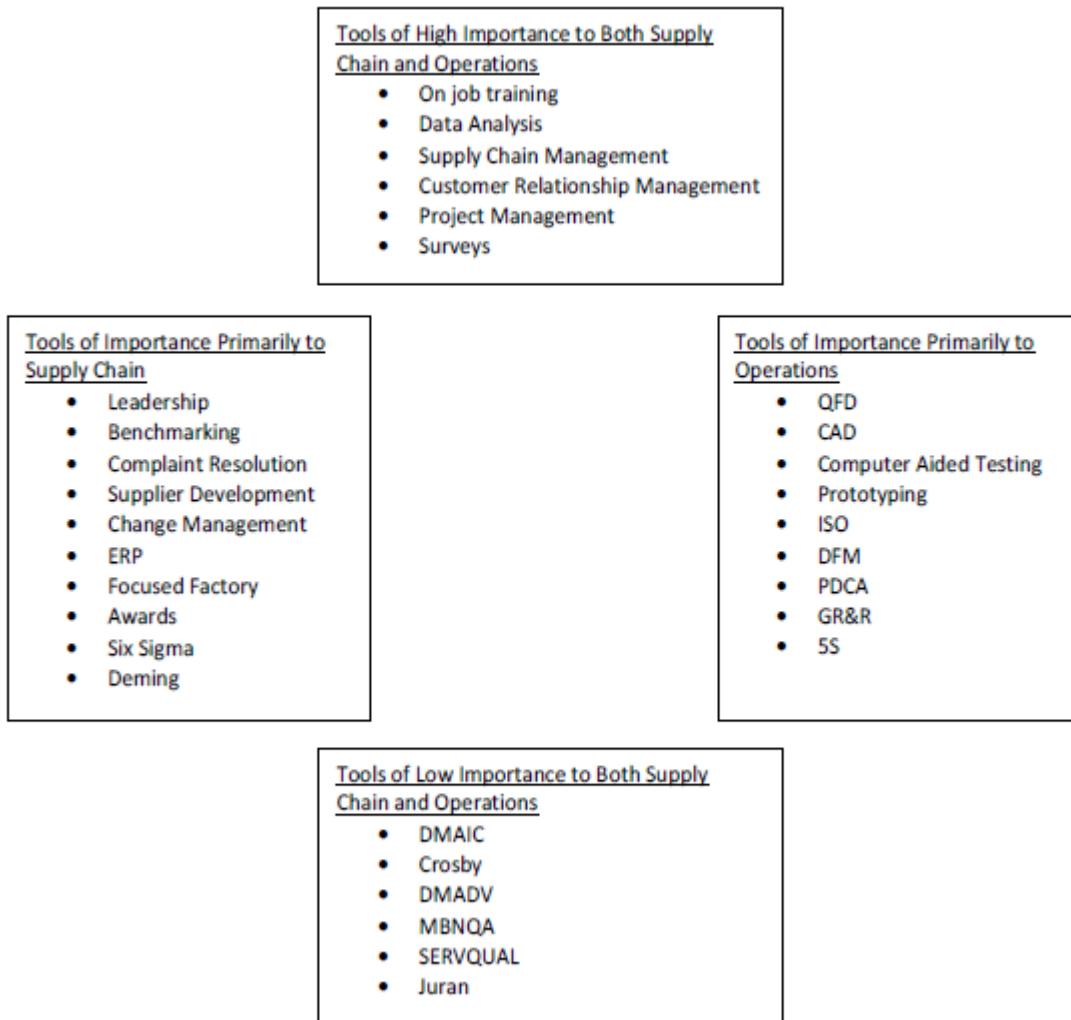


Figure 3: Depicts tools that are considered important to both supply chain and operations managers (Source:Foster *et al*, 2011).

VI. METHODOLOGY

A. Sample

For the purpose of subjecting the proposed hypotheses to empirical analysis, a survey questionnaire was distributed among 190 sample size selected in motels and hotels in the city of Kuala Lumpur, Malaysia.

The respondents of the self-administered questionnaire include supply chain managers, purchasing managers, procurement managers, and general managers. 87 usable and valid questionnaires which amount to 44.5% were retrieved from respondents for analysis.

B. Measurement instruments

In this study, Strategic purchasing is measured using the validated and standardized items developed by [21] and [6]. The adopted items have been validated for the tourism industry by [13].

5 items were used to measure strategic purchasing. Communication was measured with 4 items adopted from [21] and [6]. The items was validated for tourism industry by [13]. Suppliers' relationship was measured with 5 items adopted from Paulraj et al. (2008), which have been validated from tourism industry by [13]. Service quality was measured with 6 items adopted from. The items have been validated by [13] for tourism industry. All of the measurement instruments were based on the 7-point Likert Scale.

C. Reliability and validity

The result of the Cronbach's Alpha obtained from SPSS shows that the entire items adopted for measuring the understudied variables are reliable. The values of the Cronbach's Alpha obtained are above the acceptable level suggested [22] the validity of the items is confirmed by conducting a Confirmatory Factor Analysis (CFA) and the result indicate satisfactory validity.

VII. RESULT

The correlational study for the variable involved in this study. All variables reached the significance level of $p<0.01$.

In order to study the proposed hypotheses Structural Equation Modeling (SEM) using AMOS 18.0 was established. According to the theory strategic purchasing was found to be positively and significantly related to communication, suppliers' relationship, and service quality. Results proved that both communication and suppliers' relationship are positively and significantly related to service quality.

VIII. APPLICATION OF SUPPLY CHAIN MANAGEMENT IN MALAYSIA'S SERVICE SECTOR-WHAT IS NEEDED?

Business managers must understand the properties and the rule of thumb that the practice of supply chain management rely on, before it can be successful practiced in an organization. Hence, understanding the principles of practicing supply chain management is as important as practicing it [25]. Practicing effective supply chain management in service firms does not guarantee a total prevention of pitfalls and flaws. However, operational flaws can be curtailed with the proper application risk management tools.

Conventionally, quality control, material shortage and inventory management are the commonplace challenges faced by most service firms. Considering the numerous theoretical and empirical justifications that have been proffered, service firms can start considering the adoption of Material Resource Planning (MRP) systems to control quality in the supply of raw materials and monitor inventories. Other service firms in which they do not require any tangible raw material to provide the service failed in resource planning. In essence, service firms are different from the manufacturing firms in the importance of input of labor and inputs from suppliers being the major determinant factor to customers' satisfaction [1]. However, one the distinctive difference between service firms and manufacturing firms is that service firms do not need extensive procurement, complex logistic planning and other physical manipulations. Information manipulations and relationship developments with low capital investments are the major focus of service firms. Impliedly, developing information logistics, such as employing sophisticated ICT systems and getting equipped with fast and ubiquitous technologies are more important to service firms than physical or logistic manipulations.

Timeliness of service delivery is another key factor in any industry. Manufacturers ensures timely and cost-effective delivery of goods by preventing logjams, inventories or by negotiating the price of raw materials. Contrarily, in the service industry, effective relationships and accurate flow of information are used to ensure timely and cost-effective delivery of service. According to [1], collaborating with complementing partners in service industry help reduce firm's cost. Figure 3 presents a graphical example of partnership collaboration and effective information flow management in service industry.

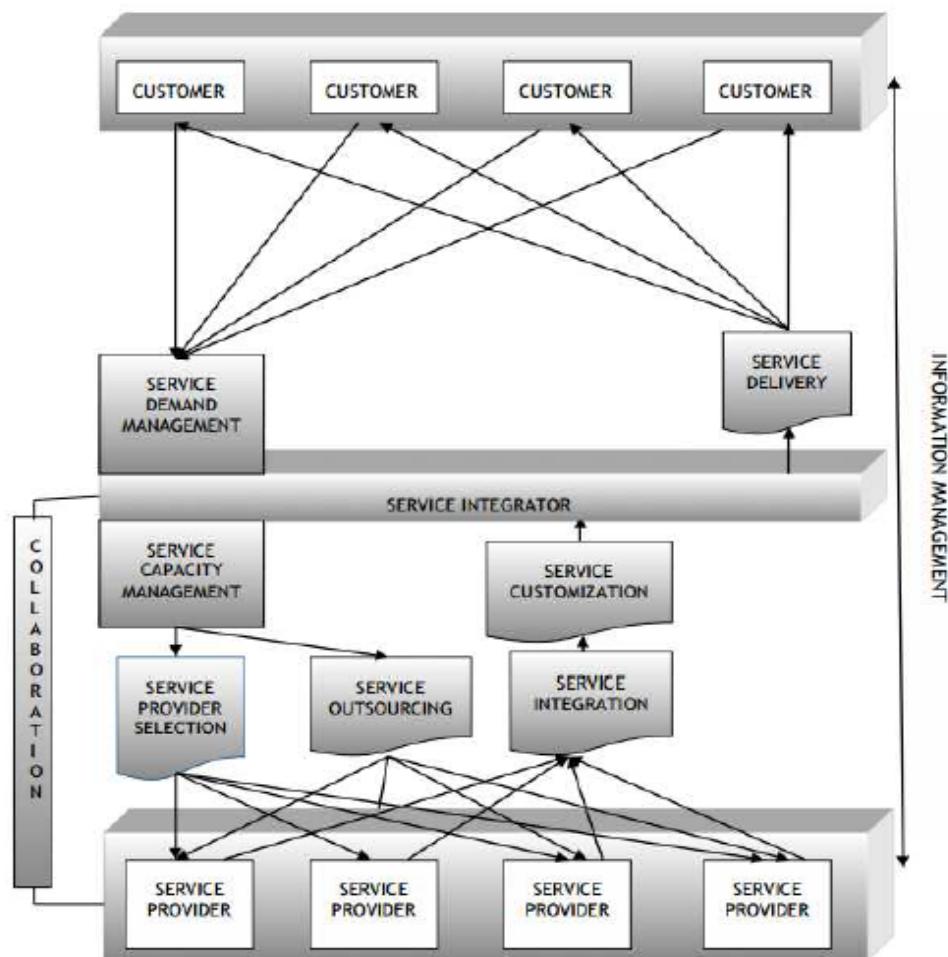


Figure 4: Framework of Supply Chain for Service industry (Source: Sahuja & Jain, 2012)

IX. MALAYSIA'S SERVICE SECTOR READINESS IN SUSTAINABLE SERVICE SUPPLY CHAIN MANAGEMENT

The Malaysian service industry is yet to benefit from the potentials of practicing effective supply chain management. Malaysia is not alone in this, disorganized practices of supply chain management is common among most developing nations. Hence, more time and resources are required to uplift the practices of supply chain management in the Malaysian service industry.

However, logistics companies and system developers need to improve both hardware and software of supply chain management systems, especially with the ceaselessly increase in the customers' demand for higher satisfaction of services. Service firms such as aftersales branches of product lines, telecommunication firms, entertainment firms, medical firms, and food and beverage firms are recommended to never relent in keeping their supply chain management systems up to date. High capital firms are also recommended to employ vertical integration of supply chain management systems to increase their control of supply qualities and inventory management.

Arguably, vertical integration of supply chain management have proven to be effective in achieving complementary systems which developing it by service industry take more than necessary time and recourses. The supply chain management currently practiced by both the service firms and manufacturing firms in Malaysia is not impressive as it does not guarantee sustainability. As such, Both the service and manufacturing firms in Malaysia may opt to adopt one of the globally distinguished systems of supply chain such as SAP and Oracle to modernize the current practice of supply chain management in Malaysia.

X. DISCUSSION AND FUTURE WORK

This study explores and examines the practices of supply chain management in the hotel industry in Malaysia. The dearth of academic findings in this realm motivated the surge of this present study. As such, this study examines the nature of supply chain management practices in the hotel industry in Malaysia and examine influence of supply chain management on service quality.

Corroboratively, the findings presented in this study is consistent with previous study [13]. This study emphatically established a significant relationship between the practices of supply chain management and service quality in the Malaysian hotel industry. The findings presented of this study imply that the supply chain managers in the Malaysian hotel industry understand the importance of supply chain management practices.

Hotel industry in Malaysia has been one of the tourist attraction drawing the influx of tourist from around the globe. Thus, ensuring quality deliverance of hoteling service would most definitely go a long way to improve both the financial and non-financial performance of hotels in Malaysia. The implication of the findings presented in this study is that practicing effective supply chain management significantly influence service quality of the hotel industry.

Limitation in academic research is unavoidable. For this study, the inability to include other variables such as financial performance is an example of this study's limitation. Future studies are recommended to consider the impact of practicing supply chain management on financial performance. Future researchers are also encouraged to consider extend the model proposed in this study into other industries.

XI. CONCLUSION

Creating sustainable environment through innovation of service is an example of the many ways practicing successful supply chain management benefits the service industry. The Malaysia's service sector is still lagging behind with regards to the benefit of practicing successful supply chain management. Striking a balance between operation management and supply chain management would lead to an impressive performance of organization. Conclusively, employing the approach of supply chain systems from manufacturing industries in the service industries need so adaptations. Meanwhile, employing a developed systems virtually will accelerate the development of service supply chain management. Lastly, technological advancement serve as catalyst to information transfer, hence justifies the reason why supply chain management should be developed in the service sector.

REFERENCES

- [1] Taylor, E. (2014). *Differences in Supply Chain Designs for a Manufacturing Industry vs. a Service Industry*. Demand Media.
- [2] Agus A. (2015). Supply Chain Management: The Influence of SCM on Production Performance and Product Quality. *Journal of Economics, Business and Management*, Vol. 3, No. 11, November 2015.
- [3] Chadha, S., K., & Gagandeep, (2013). Empowering Quality Management Systems Through Supply Chain Management Integration: A Survey of Select Hospitals in Chandigarh, Mohali and Panchkula. *The IUP Journal of Supply Chain Management*, 10(2), 44 - 53.
- [4] Raghavendra A.N. & Nijaguna G. (2015). Supply chain in hospitality industry: IMPACT ON SERVICE QUALITY IN McDONALD'S RESTAURANTS, BANGALORE. *Global journal of commerce & management perspective*.
- [5] Foster, S.T., Wallin, C., & Ogden, J. (2011). Towards a better understanding of supply chain quality management practices. *International Journal of Production Research*, 49(8), 2285 - 2300.
- [6] Carr, A. S. & SMELTZER, L. R. (1997) An empirically based operational definition of strategic purchasing. *European Journal of Purchasing & Supply Management*, 3, 199-207.
- [7] Kaufman, R. (1997). Nobody Wins Until the Consumer Says, 'I'll Take It'. *Apparel Industry Magazine*, 58, 14-16.
- [8] Sakhija, S., & Jain, V. (2012). Service Supply Chain: An Integrated Conceptual Framework. *CIE42 Proceedings*. 216
- [9] Croom, S., ROMANO, P. & GIANNAKIS, M. 2000. Supply chain management: an analytical framework for critical literature review. *European Journal of Purchasing & Supply Management*, 6, 67-83.
- [10] Ellram, L. M. (1991) Supply chain management: the industrial organization perspective. *International Journal of Physical Distribution and Logistics*, 21, 13-22.
- [11] Soubbotina, T. P. (2000). *Beyond Economic Growth: An Introduction to Sustainable Development* (2nd ed.). Washington D.C.: The World Bank.
- [12] Porter, M. (1980). *Competitive Strategy*, New York, The Free Press.

- [13] Fantazy, K. A., KUMAR, V. & KUMAR, U. (2010). Supply management practices and performance in the Canadian hospitality industry. *International Journal of Hospitality Management*, 29, 685-693.
- [14] Paulraj, A., LADO, A. A. & CHEN, I. J. (2008). Inter-organizational communication as a relational competency: antecedents and performance outcomes in collaborative buyer-supplier relationships. *Journal of Operations Management*, 26.
- [15] Stanley, L. L. & WISNER, J. D. (2001). Service quality along the supply chain: implications for purchasing. *Journal of Operations Management*, 19, 287-306.
- [16] Seth, N., DESHMUKH, S. G. & VRAT, P. (2006). A framework for measurement of quality of service in supply chains. *Supply Chain Management: An International Journal*, 11, 82-94.
- [17] Anderson, J. C. & NARUS, J. A. (1990). A model of distributor firm and manufacturer firm working partnerships. *Journal of Marketing*, 54, 42-58.
- [18] Chen, I. J., PAULRAJ, A. & LADO, A. A. (2004) Strategic purchasing, supply management, and firm performance. *Journal of Operations Management*, 22, 505-523.
- [19] Chen, I. J. & PAULRAJ, A. (2004). Understanding supply-chain management: critical research and a theoretical framework. *International Journal of Production Research*, 42, 131-163.
- [20] Ellram, L. M. & HENDRICK, T. E. (1995). Partnering characteristics: a dyadic perspective. *Journal of Business Logistics*, 16, 41-64.
- [21] Paulraj, A. & CHEN, I. J. (2005). Strategic supply management and dyadic quality performance: a path analytical model. *The Journal of Supply Chain Management*, Summer, 4-18.
- [22] Nunnally, J. C. (1978) Psychometric theory. McGraw-Hill, New York, 23-45.
- [23] Balasubramanian k. &Drake D.E. (2015). Service Quality, Inventory and Competition: An Empirical analysis and mobile money agents in Africa. *Manufacturing & Service Operations Management; manuscript no. MSOM-15-289*.
- [24] Gold, S., R. Hahn, S. Seuring. (2013). Sustainable Supply Chain Management in Base of the Pyramid Food Projects: A Path to Triple Bottom Line Approaches for Multinationals? *International Business Review* 22(5) 784–799.
- [25] Cox, A. (1999). A research agenda for supply chain and business management thinking. *Supply Chain Management: An International Journal*. 4(4), 209 - 212.
- [26] Barrow, C. (2013). *The 30 Day MBA* (3rded.). London: KoganPage.