

See discussions, stats, and author profiles for this publication at: <https://www.researchgate.net/publication/348961603>

Hospitality Industry Integrated Internal Stream Supply Chain: Applied Study on the Hotels in Egypt

Article · February 2021

CITATIONS

0

2 authors:



Emad Elwy Habib

October University for Modern Sciences and Arts

9 PUBLICATIONS 2 CITATIONS

[SEE PROFILE](#)



Yasser Tawfik Halim

October University for Modern Sciences and Arts

26 PUBLICATIONS 71 CITATIONS

[SEE PROFILE](#)

Some of the authors of this publication are also working on these related projects:



Predicting viewership analysis towards negative media [View project](#)



Production and operations Management [View project](#)

**Hospitality Industry Integrated Internal Stream Supply Chain:
Applied Study on the Hotels in Egypt**

Emad Elwy Habib, ehahib@msa.eun.eg

Yasser Tawfik Halim, ytawfik@msa.eun.eg

October University for Modern Sciences and Arts (MSA), Egypt

ABSTRACT

The last decade has witnessed major attention to supply chain integration as an innovative strategy specially throughout hoteling industry with a minor concern of the Egyptian research scholars. In Egypt, it grabbed the attention of various stakeholders having divergent hospitality goals across different hoteling operating systems. Using a limited survey distributed to 31 five star hotels in Great Cairo, Alexandria, and other regions (Aswan, Hurghada, and Sharm El-Shaikh) targeting 500 purchasing, customer service, operations and marketing & sales managers, only 363 responded with 72.6% responding rate. This research paper studied the critical dimensions of integrated hospitality internal stream services and/or products that affects hotels operating work flow for a successful implementation of the integration mechanism. Results revealed that hotels operations work flow was affected by the purchasing and customer service throughout the mediating variables of the integrated internal stream supply chain (sales, distribution and stock control). Moreover, the operations work flow was affected by sales and distribution but the stock control was statistically excluded in the presence of good customer service. Finally, the implementation of the model resulted in more validity in the other regions that Cairo and Alexandria as there are differences in apply the model on different territories of the same country so this means that the application will differ from country to another country, as the paper contributes to the supply chain management (SCM) literature review framing and foundations of methodology design.

WORD COUNT: 6693

TRACK: Operations, Logistics and Supply Chain Management

RESEARCH LIMITATIONS

The results of the research based on a limited survey that has been distributed to five star hotels, in Great Cairo, Alexandria, and other regions (Aswan, Hurghada, and Sharm El-Shaikh) throughout Egypt. Our research was targeting purchasing, customer service, operations, marketing and sales managers.

KEY WORDS

Hospitality, Internal Stream, Supply Chain, Operations.

RESEARCH PROBLEMS

The problem that faces most of the hospitality industry is how to integrate their internal stream supply chain to facilitate the internal operations management work flow. Thus, the research questions are:

1. Do purchasing and customer service from the proposed model significantly facilitate the operations management work flow of the Egyptian hospitality industry?
2. Does using the proposed integrated internal stream supply chain model facilitate the operations management work flow of the Egyptian hospitality industry?
3. Do purchasing and customer service significantly affect the operations management work flow of the Egyptian hospitality industry via mediating factors of the integrated internal stream supply chain?
4. Is there a significant difference in the applicability of the proposed integrated internal stream supply chain model between Cairo and Alexandria regions and the other regions mentioned in the research?

RESEARCH HYPOTHESES

1. Purchasing and customer service from the proposed model significantly facilitate the operations management work flow of the Egyptian hospitality industry.
2. Integrated internal stream supply chain model facilitates the operations management work flow of the Egyptian hospitality industry.
3. Purchasing and customer service significantly affect the operations management work flow of the Egyptian hospitality industry via mediating factors of the integrated internal stream supply chain.
4. There is a significant difference in the applicability of the proposed integrated internal stream supply chain model between Cairo and Alexandria regions and the other regions mentioned in the research.

INTRODUCTION

International tourist arrivals across the world were \$1,326 million in 2017 and are expected to grow +7% in 2018 with a total international hospitality and tourism receipts \$1,340 billion (UNWTO tourism Highlights, 2018). After a turbulent period from 2011 to 2016, the Egyptian Hospitality and tourism sector witnessed steady growth. The industry recorded a gradual growth in the number of arrivals and revenues in 2017 and 2018. Although visitors' numbers were not restored to their levels before 2011,

incidence rates rose across the country. Moreover, Cairo experienced the highest levels of occupancy since 2010. Markets continued its growth as traditional markets return, which raised optimism of the government and among investors that the sector will flourish throughout 2019 and beyond. According to the UN World Tourism Organization UNWTO, (2018) clarified that Egypt received about 8.5 million tourists during 2017, an increase of 55.1 percent, compared to the same period in the previous year. the Central Bank of Egypt (CBE, April, 2019) reported that the per available room (RevPAR) rate on the hotel market in Egypt increased by 34% during the first quarter of 2009 and the surplus in the services balance increased by 36.7 percent to \$ 7.3 billion from \$ 5.3 billion and the surplus in the travel balance rose to \$ 5.4 billion from \$ 3.8 billion, which came consistent with the report of World Council for Tourism and Travel, (March 2019), Hospitality and Tourism in Egypt witnessed a remarkable recovery. The report expected that the number of tourists coming to Egypt during the current year will reach 11.7 million (Radwan, 2017).

Supply chain management (SCM) is an integral part for achieving success in the current intensive competition. The current challenges have forced hospitality industry in Egypt to revise their operating strategies to achieve competitive advantage. The highly intangible nature of the hospitality industry makes the situation even more critical. Hospitality and tourism product/service offerings are perceived by customers as a series of value-added activities with different service components. So identifying ways and means to effectively manage these value added activities to meet and exceed the ultimate customer expectations would lead to sustainable competitive advantage (Crouch & Ritchie, 1999). One of the means to achieve competitive advantage is supply chain integration (Mentzer et al., 2001).

Hotels management targeting continually increasing productivity and performance improvement to optimize the internal stream seven rights as the delivery core competences: right product specifications flow and quality, to be delivered to the Right Place and location, with the right price, to right customer, with the right condition, at the right time and the right quantity (Qashlim, and Basri, 2018). Hotels have to be capable of establishing integrations with other Hotels forming a network of activities both operations and distribution from hotel to another. At the administrative level, there will undoubtedly be a desire to manage the industry carefully and flexibly (Arshinder, et al., 2008). Qashlim (2019) explained that the supply chain management concept (SCM) supports both internal and external hospitality needs, and permits cooperation and coordination among the network of hotels concerned targeting to maximize the benefits of implementing SCM Concept.

Now a days achieving “integration” that hotels need to pass through number of specific development stages. SCM functional silo originally developed was the first level of cross-functional integration. This then moved to full internal integration that included a smooth flow through the internal supply chain, and finally to external integration that included suppliers and customers. The main benefits were identified as improving customer service and reducing inventory and operating efficiency (Stevens and Johnson, 2016).

Today's world is more complex and turbulent. Affordable supply chains for many of the increase in the pursuit of growth and the provision of low cost resources. New mature supply chain strategies have emerged with new tools and technologies, with increasing environmental and ethical concerns (Pagell and Wu, 2009). Increased appreciation from SCM as a pillar for workplace performance (Johnson and Templar, 2011). It's a catalyst to adopt new practices in supply chain which raises the strategic innovative role of SCM within various types of organizations. While the competitive hospitality market

status has increasingly changed from the need to think and implement to the integrative supply chain. Supply chain places integration as one of the most prominent factors for creating a demand orientation supply chain strategy that improves hotels performance. therefore, based on the demand variation of various territories, integrated internal stream supply chain is going to be customized and adopted (Sheehan, et al., 2014).

LITERATURE REVIEW

Literally, there are two major innovative strategies to win hospitality: securing, product differentiation and cost advantage” (Porter, 2008). The chances of ensuring sustainable benefit are reduced by distinguishing products and /or services based on their life cycles. Even when the product and /or services based strategy prevails that there are short term opportunities Loomed on the horizon to maximize efficacy, still there has been difficulties to overcome the slight disruption because of some availability product and/or services that has a significant effect on the financial return. Therefore, being among a series of supply chain became either the driver or the decisive enabler of differentiation. The supply chain has always been a major cost driver of up to 75 % of the product and/or service cost outside the hotel context (Trent, 2004).

Stevens and Johnson (2016) that the supply chain affects the hotel's ability to mitigate operational risks, responsiveness, flexibility and efficiency are supply chain strategies that are highly demanded by customers. Accordingly, supply chain agility in terms of management, processes, structures, and systems impact directly the organization's capabilities to continually respond to customer needs, wants and demands. The role of the supply chain and focus on SCM that can support the organization to winning fierce hospitality competitiveness.

Huin et al. (2002) referred to the phrase "internal supply chain" through his writings that described working with the aim of breaking down barriers between jobs within organizations. To create a framework describing the main functions of the internal supply chain, “SCM” revolves around procurement, operations, transportation and sale of things. Sweeney (2012) discussed that most companies can be illustrated as in terms of five core functions: purchasing, manufacturing, warehousing, transport, selling, and referred to them in the name of the Interior or the supply chain within the hotels.

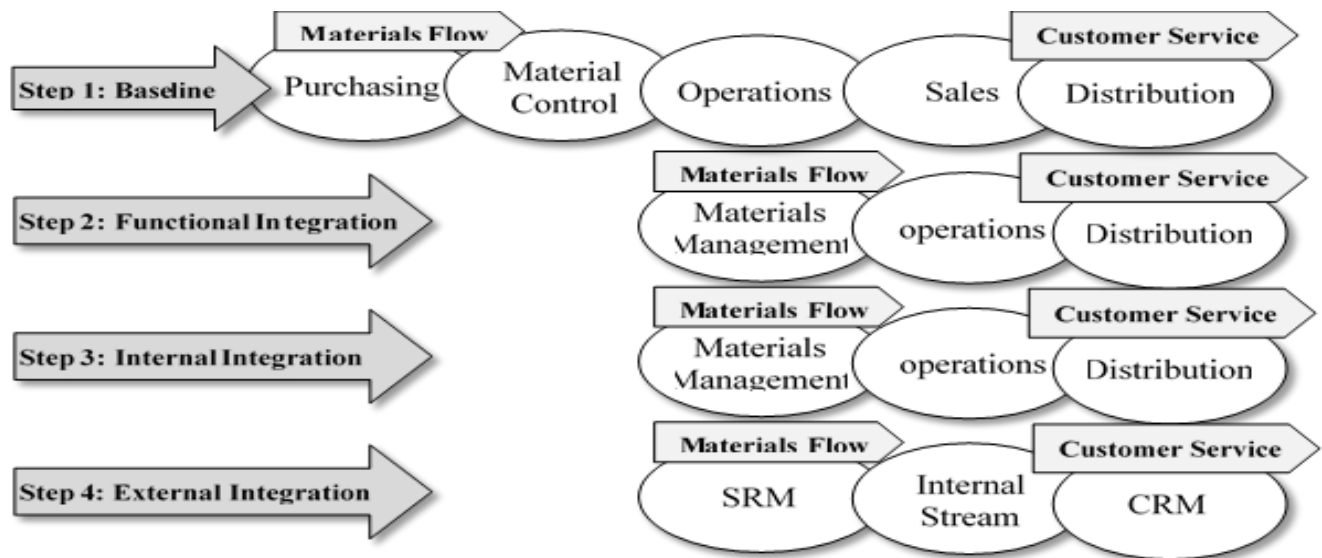
Chang, et al. (2015) noted that SCM means thinking outside the facility, strengthening ties between Jobs, and encompassing ways for them to be coordinated together. Acknowledging summing up parts and functions that call for more effective integration between purchasing planning and controlling, transformation, operations and production processes (Operations), warehouse management (inventory control), transportation management (distribution), and customer relationship management (sales and customer services), which expand and expanding the focus of hotels aligned with the early stages of various models of the historical development of SCM. High levels of internal integration can be considered a prerequisite for SCM can be demonstrated and affected by high levels of external integration. However, the desire for seamless integration is not consistent with SCM (Janvier-James, 2012).

SCM has emerged as recognition that the hotel's performance in dynamic market environments depends on greater integration in the value creation process. Supply Chain Integration is the process of linking decisions and actions across a comprehensive supply chain (consumption for consumption) to increase

the total value of all stakeholders. Supply chain integration (see Figure 1) requires balanced strategies, effective process management, and maintaining information flows exchanged between stakeholders in order to continuously improve the results of the entire supply chain (Stevens and Johnson, 2016). This means that the supply chain team is coherent within the hotel's four walls that not only include the usual supply chain functionality, but also includes other representations from other key functional areas such as information technology, finance, and marketing. This also means working with supply chain partners to achieve well-defined goals based on a shared understanding of the value that is created for stakeholders and customers (Janvier-James, 2012).

Customer orientation and creating value are the ultimate objective using supply chain management (SCM) among the hotels network. To achieve this objective, hotels must integrate operations activities internally with other hotels and network parties and relationships. The term process integration means coordinating and sharing resources and information for joint management of the process. Integration is the process of redefining and connecting part of the parcel to form a new form and parcel (Craft, 2006).

Fabbe-Costes and Jahre (2008) defined integration as "the type of cooperation that exists between departments required to achieve unity of effort through environmental requirements." This previous definition evokes the internal integration of the hoteling organization. The focus here goes beyond the internal hotel context to include external establishments and parties of the supply chain series. Hotels integrate their internal functions, broadening their perspective to understand the big picture of the larger system they belong to, as an initial stage to begin creating a more revealed understanding of the of supply chain integration wide scope.



Source: (Stevens and Johnson, 2016)

Figure (1): Achieving an integrative supply chain

THE PROPOSED MODEL FOR SUPPLY CHAIN INTEGRATION

The development of an integrated supply chain requires material flow management from three perspectives: strategic, tactical and operational. At each level, the use of facilities, individuals, financing, and systems as a whole must be coordinated and coordinated (see Figure 2 and Table 1). Process integration tends sometimes to be a very difficult task, as it needs appropriate training and preparation; willing and qualified hospitality partners, in addition to a possible readjustment of one or more of the organizational cultures for a cross cultural integration. However, the benefits of collaboration and information exchange can be important: reduce supply chain expenses, increase flexibility in responding to market fluctuation, reduction of the safety stocks along the supply chain, with higher quality standards, and reducing marketing time and resource use (Chopra and Mendel, 2001).

Supply chain management as a strategic concept seeks to balance the conflicting goals of key business functions; purchasing, production, operations, distribution, and sales within hotel boundaries (Shi and Liu, 2013). According to Janvier-James (2012) successful SCM requires a change from managing individual jobs to integrating activities into key supply chain operations. Schiele (2019) argued that procurement is the first distinguishable key in identifying strategic sources (procurement planning, supplier selection and contracting), and practical procurement processes (ordering materials, expediting and paying). The procurement department places orders when requirements become appropriate.

Running an integrated supply chain requires a continuous flow of information. However, in many hotels, management reached the conclusion that improving product flow cannot be achieved without implementing a process-to-work approach. The hotel industry can benefit from comprehensive and integrated supply chain management practices, by consistently providing reliable and quality services at the best costs. The focus on the supply chain management field of the organization's operations helped shape a broad spectrum of industries as a logistical force as part of its operations. If used in the hotel industry to help improve efficiency and reduce costs, hotel companies will not only save money, but also position themselves as a leader in the industry (Odoom, 2012).

Phan (2016) implied that purchasing is referred to acquiring goods or services at the right price, on time, at the right quantity, with the right quality and from the right source, and must pursue a strategic approach to purchasing, this improves effectiveness and efficiency in the hotels operations as well as increasing profit through effective transactions, cost reductions, sourcing, and standardized purchasing processes. Turga (2019) suggested a procurement to be a broader description of purchasing's objectives: To fulfil an organization's needs by supply a good flow of materials and services; ensure continuity of supply by maintaining effective relationships with existing sources and by developing other sources of supply either as alternatives or to meet emerging or planned needs; buy efficiently and wisely; and acquire the best value for every dollar spent; build a co-operative relationship with other departments and to spread out necessary information and advices in order to operate as a whole. Phan (2016) argued that modern perception toward purchasing is a strategic function for resources management and development. Purchase strategists have always been aiming to achieve economics and strategic congruence in purchase department with its hotels. Purchasing has been referred to as doing "the five rights": getting the right quality, in the right quantity, at the right time, for the right price, from the right source (Monczka, et al., 2015).

Rachad et al. (2017) stated that inventory management and stock control is one of the main functions of the supply chain. It is already considered a serious problem that greatly affects the performance of the hotels. Due to the complexity of the inventory and its resulting processes. The goal of the stock control and inventory manager is also to find the right balance between the optimum inventory level and the acceptable level of service. Burja and Burja (2010) provide a stock management analysis model as the basis for decisions regarding corporate supply, production and distribution activities regarding inventory status and dynamics.

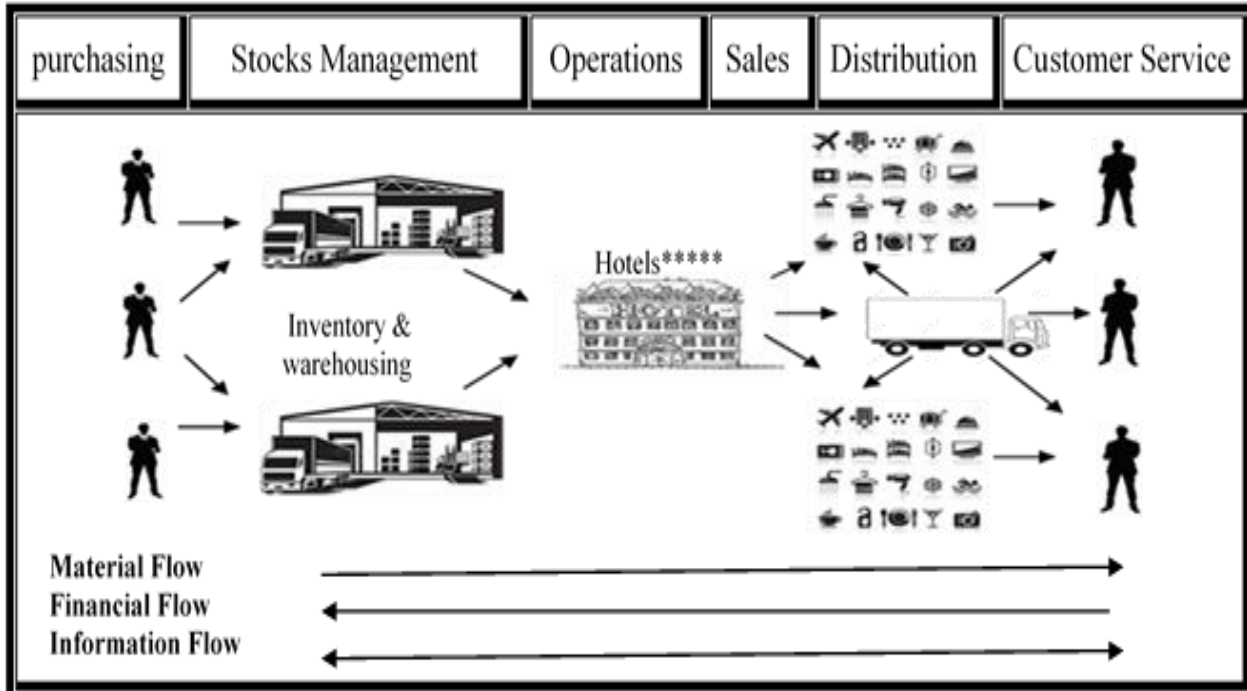
Kis and Theodoridis (2018); Dutton and Ashford (1993) provided leveraging infrastructure capacity, identifying the utilization rates for services insight into the utility of those services, affordability, and / or its effectiveness; availability rates determine the pull/push aspects in the communication outreach with clients; withdrawal rates; payment terms in communication; service level agreements and the achievement of a service goal level is a balance between the plan. Dooley (2005) discussed that The availability of inventory provides customer service. The Item Fill Rate (IFR) measures how often a particular product (often called a stock keeping unit or SKU) is available. The Economic Order Quantity (EOQ) model determines the lowest cost level for inventory to bear, as well as costs, estimating costs reflects inventory levels, as well as shipping time and costs or quantity discounts, reduce quantities purchased from suppliers, safety stock reduction and eliminate dead stocks and surplus.

Rachad, et al. (2017) realized that the relationship between stock out costs and inventory depends upon the accuracy of the demand forecast and the ability of the firm to recognize and react to a change in demand. Firms carry extra inventory to guard against uncertain events. Known as safety stock, the purpose of this inventory is to provide protection against stock outs and grants the continuous internal materials flow; Safety stock is costed just like regular inventory; it is an interest rate times the level of safety stock. The level of safety stock and average inventory guards against stock out depending upon the customer service level, the standard deviation of demand of the product, lead time, order cycle identification, days of supply, end-of-life shrinkage inventory, obsolete inventory, Warehouse receipts Inventory turnover rate, space utilization under a continuous review for the supply Policies and the classification of stocked items.

The role of distribution management is to get the right goods, to the right customer, at the right time. The Distribution Department is used as a strategy to reduce the transportation costs required to transport goods from its supplier network to the hotels for consolidation, before sending it to the customer (Zhang, et al., 2009). Odoom (2012) mentioned that hotels use its distribution management to supply a majority of its inventory to its stores, which helps provide replenishment faster.

Incorporating and integrating operations with suppliers granted that hotel properties is achieved to achieve the highest productivity and highest efficiency, with the least amount of delivery times, with delivery and shipment on time, high accuracy of shipping, less damaged shipments, accurate selection and lower transportation costs, as suppliers and vendors ship directly to internal stream warehouses, which operate as their own distribution centers, separate areas for complete pallets, cases, and selection of specific items for food orders, and hotels make sure and monitor picking operations frequently (Odoom, 2012). Gomes, et al. (2007) clarified that the effectiveness of hospitality service operations depends on Service quality; Service cycle time; unplanned stockroom issues Routing accuracy; Master schedule stability. Zhang, et al. (2009) added that operations in tourism and hospitality measures the adherence-to-schedule for the quick response; Yields; Setups/Changeovers, plant space and rooms

utilization; source-to-make cycle time; Planning process cycle time; Percent scrap/rework; Material usage variance and work in process inventories. Part of the supply chain management is sales and operations planning, which is the integration of inputs from the sales, operations and financial departments to develop intermediate supply and demand plans. It is also sometimes called aggregate planning. In addition to being based on information from various parts of the hotels, sales and operations planning affects jobs across the hotels. Sales and operations planning is especially useful for companies facing seasonal or other differences in demand for their products. As we have seen, Hotels has seasonal variations in demand from its customers (Chibili, 2017).



Source: the researcher’s opinion base on (Cook, et al., 2001; Halim, et el. 2011; Odoom, 2012; Stevens and Johnson, 2016; Kis and Theodoridis, 2018).

Figure (2) The Scope of internal stream of a supply chain

EMPERICAL STUDY

The results of the research based on a limited survey that has been distributed to 31 five star hotels, in Great Cairo, Alexandria, Aswan, Hurghada, and Sharm El-Shaikh, Egypt. Our research was targeting 500 purchasing, customer service, operations and marketing & sales managers 363 responded with 72.6% responding rate. It is recognized that further research is necessary to establish the exact nature of the causal linkages between the proposed integrated internal stream supply chain on hospitality industry model to enhance its operations management work flow of the Egyptian hospitality industry, in order to gain insights into practice elsewhere,

The proposed model as represented in table (1) has three folds the first one has purchasing and customer service constructs. The customer service constructs consist of (customer satisfaction, customer complaints, attitude, behavior, and expertise of employees, balancing service level agreements and service level target attainment). While the purchasing constructs consist of (Quantity of purchased goods, Material/component quality, Source-to-make cycle time, supplier delivery performance and Order compliance).

The second one represents Integrated Supply Chain with its three constructs (Stock Control, Sales and Distribution). The stock control construct includes (warehousing costs, reduced quantities purchased from suppliers, order cycle identification, warehouse receipts of inventory turnover rate, warehouse and space utilization, days of supply, order cycle identification, forecast accuracy, review the classification of stocked items, end-of-life shrinkage inventory, economic order quantity, review Supply Policies, obsolete inventory and material stock outs, Average inventory, safety Stock reduction and eliminating dead stocks and surplus).

Sales construct includes (occupancy and Average room rate Average room rate, average daily rate, average length of stay, volume and turnover Rate, maintaining and enhancing credibility and percent of Completed orders). Distribution construct includes (on-time delivery and shipment, shipment accuracy, delivery times, damaged shipments, pick accuracy and transportation costs).

The third and last fold represent operations Management work flow includes (service quality, master schedule stability, plant space utilization, planning process cycle time, percent scrap/rework, material usage variance, service cycle time, WIP inventories, adherence-to-schedule, yields, setups/changeovers, unplanned stockroom issues, routing accuracy, plant space utilization, source-to-make cycle time, overtime usage, and master schedule stability).

Table (1) The latent construct of the hotels integrated supply chain

Latent Constructs	Variables	
Purchasing (P)	1. Quantity of purchased goods. 2. Material/component quality 3. Source-to-make cycle time.	4. Supplier delivery performance 5. Order compliance
Customer Services (C)	6. Customer Satisfaction 7. Customer Complaints	8. Attitude, behavior, and expertise of employees 9. Balancing service Level Agreements and service Level Target Attainment
Stock control (S)	10. Warehousing costs 11. Reduce quantities purchased from suppliers 12. Order cycle identification 13. Warehouse receipts Inventory turnover rate 14. Warehouse and space utilization 15. days of supply 16. Order cycle identification 17. Forecast accuracy	18. Review the classification of stocked items 19. End-of-life shrinkage inventory 20. Economic order quantity 21. Review Supply Policies 22. Obsolete inventory and Material stock outs 23. Average inventory 24. Safety Stock Reduction 25. Eliminate dead stocks and surplus
Sales (S)	26. Occupancy and Average room rate Average room rate 27. Average daily rate 28. Average length of stay	29. Volume and turnover Rate 30. Maintaining and enhancing credibility 31. percent of Completed orders
Distribution (D)	32. On-time delivery and shipment. 33. Shipment accuracy 34. Delivery times.	35. Damaged shipments 36. Pick accuracy 37. Transportation costs
Operations (O)	38. Service quality 39. Master schedule stability. 40. Plant space utilization. 41. Planning process cycle time. 42. Percent scrap/rework. 43. Material usage variance. 44. Service cycle time	45. WIP inventories, 46. Adherence-to-schedule, 47. Yields, Setups/Changeovers, 48. Unplanned stockroom issues Routing accuracy, 49. Plant space utilization Source-to-make cycle time, 50. Overtime usage, 51. Master schedule stability.

Source: the researcher's opinion base on (Cook, et al., 2001; Halim, et al., 2011; Odoom, 2012; Stevens and Johnson, 2016; Kis and Theodoridis, 2018).

RESULTS AND DISCUSSION:

The overall objective is providing supply chain managers with new analytical, applicable, and comprehensive tool to helping them overcoming emerging problems that faces most of the hospitality industry that can be summarized in how to integrate their internal stream supply chain to facilitate the internal operations management work flow. The proposed model is visually represented in figure (3). This proposed model was designed using the views and opinions of service and industry decision makers, professional managers from different fields (Purchasing, customer service, operations, distribution, and marketing & sales), in addition to industry; executives throughout different territories (Cairo, Alexandria) and other areas (Aswan, Hurghada, and Sharm El Shaikh).

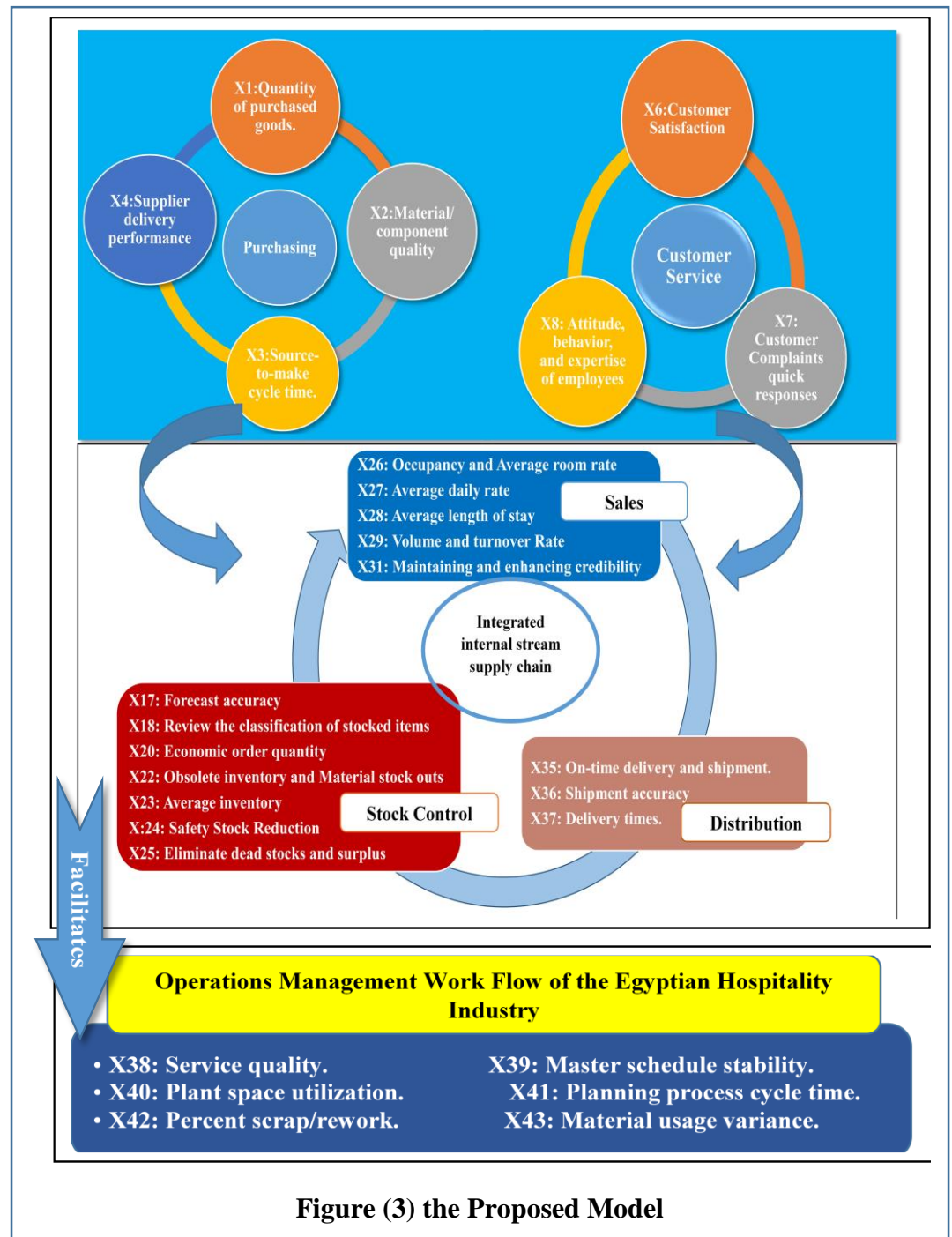


Figure (3) the Proposed Model

Table (2) Job titles and locations frequencies

JOB TITLES					
		Frequency	Percent	Valid Percent	Cumulative Percent
VALID	Purchasing	42	11.6	11.6	11.6
	Customer service	131	36.1	36.1	47.7
	Operations	110	30.3	30.3	78.0
	Marketing and sales	80	22.0	22.0	100.0
TOTAL		363	100.0	100.0	
LOCATION					
		Frequency	Percent	Valid Percent	Cumulative Percent
VALID	Cairo	93	25.6	25.6	25.6
	Alexandria	83	22.9	22.9	48.5
	Aswan	25	6.9	6.9	55.4
	Hurghada	70	19.3	19.3	74.7
	Sharm El Shaikh	92	25.3	25.3	100.0
TOTAL		363	100.0	100.0	

RELIABILITY OF DATA COLLECTION INSTRUMENTS:

Table (3) Reliability statistics

Cronbach's Alpha	N of Items
0.960	43

The Cronbach's Alpha test was employed to test the reliability of the questionnaire. Cronbach's Alpha was (0.960) more than 0.7 indicating that the results of the test are reliable and there is a homogeneity between factors.

CONFIRMATORY FACTOR ANALYSIS FOR RESEARCH CONSTRUCTS

The Confirmatory factor analysis (CFA) to be conducted in order to test the how well the construct is measured by the variables. This can help the researchers in testing the conceptually grounded theory clarifying how diverse measured items represent significant business measures. The merge of the convergent and discriminant validity tests with the confirmatory factor analysis gives a better understanding of the quality of the measures. The validity of the construct can be shown by the extent to which a set of measured items actually measures the construct.

The model fit is can be assessed in terms of ten indices: Normed Chi-Square with cut-off values less than (5), goodness-of-fit index (GFI), Adjusted Goodness of Fit Index (AGFI), Normed Fit Index (NFI), Relative Fit Index (RFI), Incremental Fit Index (IFI), Tucker-Lewis Index (TLI), Comparative Fit Index (CFI), Root Mean Square Residual Approximation (RMSEA), Root Mean Square Residual (RMR), The average variance extracted with cut-off values greater than (0.5), and the square root of the AVE of each construct should be much larger than the correlation coefficient of the specific construct with any of the other constructs (Fornell and Larcker, 1981). A model is considered to be satisfactory if CFI > 0.95, GFI

> 0.90 and RMSEA < 0.10 (Hair, et al., 2014). The researchers conducted the final Confirmatory factor analysis with the fit measured variables represents the constructs for six antecedents (purchasing, customer service, stock control, sales, distribution, and operations), as the following:

Table (4): Constructs and findings of Confirmatory Factor Analyses

Constructs		Estimate = λ	t-test	CR	AVE	HTM T
X1: Quantity of purchased goods.	← F1: Purchasing	0.673	---	0.865	0.618	0.878
X2: Material/component quality	← F1: Purchasing	0.795	19.095			
X3: Source-to-make cycle time.	← F1: Purchasing	0.860	14.012			
X4: Supplier delivery performance	← F1: Purchasing	0.804	13.609			
X6: Customer Satisfaction	← F2: Customer Service	0.715	---	0.841	0.639	0.859
X7: Customer Complaints quick responses	← F2: Customer Service	0.876	15.432			
X8: Attitude, behavior, and expertise of employees	← F2: Customer Service	0.800	14.295			
X17: Forecast accuracy	← F3: Stock Control	0.678	---	0.884	0.523	0.888
X18: Review the classification of stocked items	← F3: Stock Control	0.679	18.348			
X20: Economic order quantity	← F3: Stock Control	0.684	11.875			
X22: Obsolete inventory and Material stock outs	← F3: Stock Control	0.765	13.020			
X23: Average inventory	← F3: Stock Control	0.786	12.444			
X24: Safety Stock Reduction	← F3: Stock Control	0.722	12.319			
X25: Eliminate dead stocks and surplus	← F3: Stock Control	0.739	12.634			
X26: Occupancy and Average room rate	← F4: sales	0.797	---	0.881	0.599	0.895
X27: Average daily rate	← F4: sales	0.869	21.777			
X28: Average length of stay	← F4: sales	0.801	13.903			
X29: Volume and turnover Rate	← F4: sales	0.697	13.283			
X31: Maintaining and enhancing credibility	← F4: sales	0.694	13.292			
X35: On-time delivery and shipment.	← F5: Distribution	0.665	---	0.860	0.676	0.898
X36: Shipment accuracy	← F5: Distribution	0.914	14.386			
X37: Delivery times.	← F5: Distribution	0.866	14.196			
X38: Service quality.	← F6: Operations	0.797	---	0.919	0.656	0.928
X39: Master schedule stability.	← F6: Operations	0.872	21.904			
X40: Plant space utilization.	← F6: Operations	0.884	19.006			
X41: Planning process cycle time.	← F6: Operations	0.817	17.154			
X42: Percent scrap/rework.	← F6: Operations	0.754	15.384			
X43: Material usage variance.	← F6: Operations	0.727	14.676			

*** Significant at a level less than (0.001).

According to Table (4), the researchers can conclude the following:

All standardized regression weights (factor loading) are greater than 0.50, which means that all measured variables are statistically significant, i.e., the measured variables represent the constructs, i.e., this shows that there exist some common points of convergence (Hair, et al., 2014).

T-test for all measured variables is significant at a level of significance less than (0.001), which means that the importance of the observed variables in measuring the effect of purchasing and customer service on the operations management work flow.

The capability ratio (CR) shows the reliability of the results, which are greater than 0.70, which means that the variables did converge at some point (Hair, et al., 2014). As a result of Squared Multiple Correlations; the average variance extracted for all latent constructs is (0.619) (Average AVE), after excluding the variables: Order compliance within purchasing; Balancing service level agreements and service level target attainment within customer service; Inventory turnover rate, warehouse and space utilization, days of supply, end-of-life shrinkage inventory, warehousing costs, warehouse receipts, review supply policies, reduce quantities purchased from suppliers, order cycle identification within stock control; Percent of completed orders within sales; Damaged shipments, pick accuracy, transportation costs within distribution; Service cycle time, WIP inventories, adherence-to-schedule, yields, setups/changeovers, unplanned stockroom issues, routing accuracy, plant space utilization, Source-to-make cycle time, overtime usage, master schedule stability within operations among the six constructs, i.e., This shows that the latent variables had a high convergent validity (Hair, et al., 2014; Fornell and Larcker, 1981).

The average variance extracted (AVE) for the constructs of (F1) purchasing to (F6) operations): (0.618), (0.639), (0.523), (0.599), (0.676), (0.656) respectively, i.e., AVEs of all scales turned out to be greater than the cut-off values (0.50) or the threshold value.

Recently, it has been proposed the Heterotrait-monotrait ratio of the correlations (HTMT) approach to assess discriminant validity (Henseler, et al., 2015). HTMT is the average of the heterotrait-heteromethod correlations relative to the average of the monotrait-heterotrait method correlations. If the value of the HTMT is higher than this threshold, there is a lack of discriminant validity. Some authors suggest a threshold of (0.85) as mentioned by Kline (2011) whereas others propose a value of (0.90) (Teo and Noyes, 2011). (Table 4) shows that HTMT ratio less than (0.90.), which means the latent variables had a high discriminant validity except the construct of the operations (F6) although near to the cutoff point. The values should not exceed 0.90 to discriminate the variables from each variable.

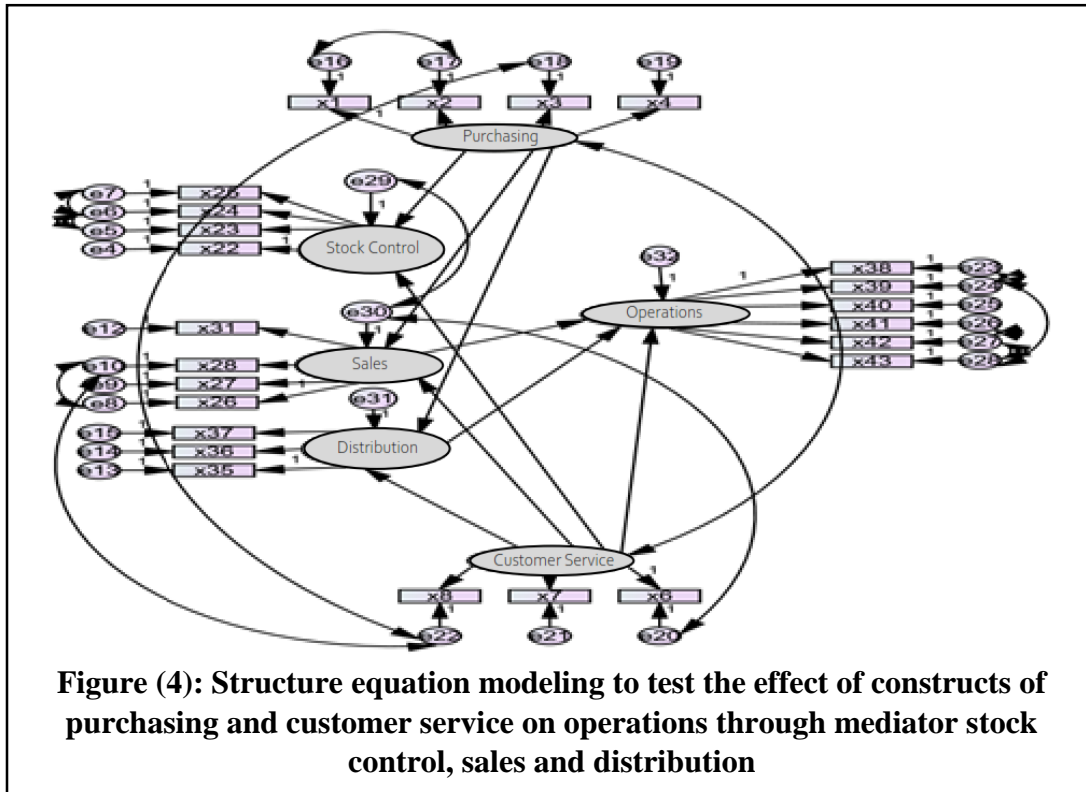
Table (5): Pearson correlation matrix

Constructs correlation		Purchasing	Customer Service	Stock Control	Sales	Distribution	Operations
Purchasing	Person Correlation	1					
	Sig. (2-tailed)						
	N	363					
Customer Service	Person Correlation	.634**	1				
	Sig. (2-tailed)	.000					
	N	363	363				
Stock Control	Person Correlation	.621**	.590**	1			
	Sig. (2-tailed)	.000	.000				
	N	363	363	363			
Sales	Person Correlation	.478**	.485**	.768**	1		
	Sig. (2-tailed)	.000	.000	.000			
	N	363	363	363	363		
Distribution	Person Correlation	.417**	.405**	.480**	.447**	1	
	Sig. (2-tailed)	.000	.000	.000	.000		
	N	363	363	363	363	363	
Operations	Person Correlation	.406**	.458**	.482**	.430	.484**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	
	N	363	363	363	363	363	363

*** Significant at a level less than (0.001).

HYPOTHESIS 1:

From table (5), the researchers revealed that there are significant positive linear relationships between the constructs of purchasing, customer service, on stock control, sales and distribution at significant level less than (0.001). There are significant positive linear relationships between the constructs of purchasing, customer service, on operations, at significant level less than (0.001). There are significant positive linear relationships between the constructs of stock control, sales and distribution, on operation, at significant level less than (0.001).



From table (6), the researchers revealed that: There is a significant positive effect of the constructs of purchasing and customer service on the construct of sales, at a significant level less than (0.001). **This validates the first part of the first research hypothesis**, with regression model as the following:

$$\text{Sales} = 0.219 \text{ Purchasing} + 0.390 \text{ Customer Service}$$

The exogenous variables were accepted, purchasing and customer service on the sales, in SEM explain (33.1%) from total variation of dependent variable (Integrated Supply Chain ‘Stock Control, Sales and distribution’), the rest percent due to either the random error in the regression model or other Independent sub-variables excluded from regression model. There is a significant positive effect of the constructs of purchasing and customer service on the construct of distribution at a significant level less than (0.001). **This validates the second part of the first research hypothesis**, with regression models as the following:

$$\text{Distribution} = 0.237 \text{ Purchasing} + 0.288 \text{ Customer Service}$$

Table (6): Regression Weights according to Maximum Likelihood Estimates

Path	Standar dized estimate	Unstandar dized estimate	S.E.	C.R.	Sig	
Sales	F1:Purchasing	.219	.328	.141	2.320	.020
Distribution	F1: Purchasing	.237	.315	.134	2.355	.019
Distribution	F2:Customer Service	.288	.309	.109	2.842	.004
Sales	F2: Customer Service	.390	.473	.119	3.989	***
Stock Control	F1: Purchasing	.309	.411	.125	3.302	***
Stock Control	F2: Customer Service	.428	.460	.102	4.493	***
Operations	F4:Sales	.191	.151	.046	3.286	.001
Operations	F5:Distribution	.269	.239	.052	4.630	***
Operations	F2: Customer Service	.316	.301	.066	4.599	***
X22: Obsolete inventory and Material stock outs	F3: Stock Control	.789	1.000			
X23: Average inventory	F3: Stock Control	.827	1.032	.063	16.295	***
X:24: Safety Stock Reduction	F3:Stock Control	.742	.918	.065	14.087	***
X25: Eliminate dead stocks and surplus	F3: Stock Control	.756	.925	.063	14.759	***
X26:Occupancy and Average room rate	F4: Sales	.865	1.000			
X27: Average daily rate	F4: Sales	.904	1.033	.047	22.035	***
X28: Average length of stay	F4: Sales	.801	.976	.064	15.306	***
X31:Maintaining and enhancing credibility	F4: Sales	.669	.776	.054	14.323	***
X35:On-time delivery and shipment.	F5: Distribution	.681	1.000			
X36:Shipment accuracy	F5: Distribution	.921	1.195	.082	14.539	***
X37:Delivery times.	F5: Distribution	.853	1.111	.078	14.279	***
X1:Quantity of purchased goods.	F1: Purchasing	.680	1.000			
X2:Material/component quality	F1: Purchasing	.794	1.246	.064	19.322	***
X3:Source-to-make cycle time.	F1: Purchasing	.862	1.545	.111	13.954	***
X4:Supplier delivery performance	F1: Purchasing	.807	1.493	.111	13.460	***
X6:Customer Satisfaction	F2: Customer Service	.716	1.000			
X7: Customer Complaints quick responses	F2: Customer Service	.881	1.297	.084	15.472	***
X8: Attitude, behavior, and expertise of employees	F2: Customer Service	.794	1.161	.082	14.188	***
X38:Service quality.	F6: Operations	.792	1.000			
X39:Master schedule stability.	F6: Operations	.876	1.238	.057	21.659	***
X40:Plant space utilization.	F6: Operations	.883	1.156	.063	18.473	***
X41:Planning process cycle time.	F6: Operations	.815	1.099	.065	16.821	***
X42:Percent scrap/rework.	F6: Operations	.746	1.021	.068	14.956	***
X43:Material usage variance.	F6: Operations	.724	.972	.067	14.401	***

*** Significant at a level less than (0.001).

The exogenous variable was accepted, purchasing and customer service on distribution, in SEM, explain (24.4%) from the total variation of dependent variable (Integrated Supply Chain ‘Stock Control, Sales and Distribution’), the rest percent due to either the random error in the regression model or other Independent sub-variables excluded from the regression model. There is a significant positive effect of the constructs of purchasing and customer service on the construct of stock control at a significant level less than (0.001). **This validates the third part of the first research hypothesis**, with regression models as the following:

$$\text{Stock Control} = 0.309 \text{ Purchasing} + 0.428 \text{ Customer Service}$$

HYPOTHESIS 2 AND 3:

There is a significant positive effect of the constructs of sales, distribution, and customer service on the construct of operation at a significant level less than (0.001). The exogenous variable was accepted, purchasing and customer service on stock control, in SEM, explain (48.10%) from the total variation throughout the mediating variable integrated supply chain (Stock Control, Sales and Distribution), the rest percent due to either the random error in the regression model or other Independent sub-variables excluded from the regression model. **This validates the second and third hypotheses**, with regression models as the following:

Operations = 0.191 Sales + 0.269 Distribution + 0.316 Customer Service

The exogenous variable was accepted, sales, distribution and customer service (rather than the stock control and purchasing) on operations, in SEM, explain (38.5%) from the total variation of dependent variable, the rest percent due to either the random error in the regression model or other Independent sub-variables excluded from the regression model.

Table (7): Standardized direct effects

Constructs	Customer Service	Purchasing	Distribution	Sales
Distribution	.288	.237	-	-
Sales	.390	.219	-	-
Operations	.468	.106	.269	.191
Stock Control	.428	.309	-	-

Table (8): Standardized indirect effects

Constructs	Customer Service	Purchasing
Operations	0.152	0.106

From tables (7,8), the researchers revealed that the most important exogenous observed constructs were direct effects on operations are purchasing and customer service by Standardized direct coefficients from (0.191 to 0.468). **This emphasis the validation of the third hypothesis.** The exogenous observed construct of customer service and purchasing directly effects on operations by Standardized indirect coefficients of mediating variables of the integrate internal supply chain from (0.106 to 0.152).

MEASURING THE GOODNESS OF FIT OF THE (SEM) MODEL

From table (9), the researchers noticed that all the goodness of fit measures of the model indicates that all indicators at acceptable limits or greater than cut-off values, especially GFI, AGFI, NFI, RFI, IFI, TLI, and CFI close to one and Normed Chi-Square with cut-off values less than (5). The fit measures indicate the goodness of fit of the structural model and its ability to measure the effect of purchasing and customer service on the operations with the same effect of Integrated internal stream Supply Chain as a mediator variable on the operations of hospitality industry. Both Root Mean Square Residual (RMR) and Root Mean Square Residual Approximation (RMSEA) less than (0.10), which indicates a close fit of the theoretical model to the actual model.

Table (9): The goodness of fit indices for the SEM

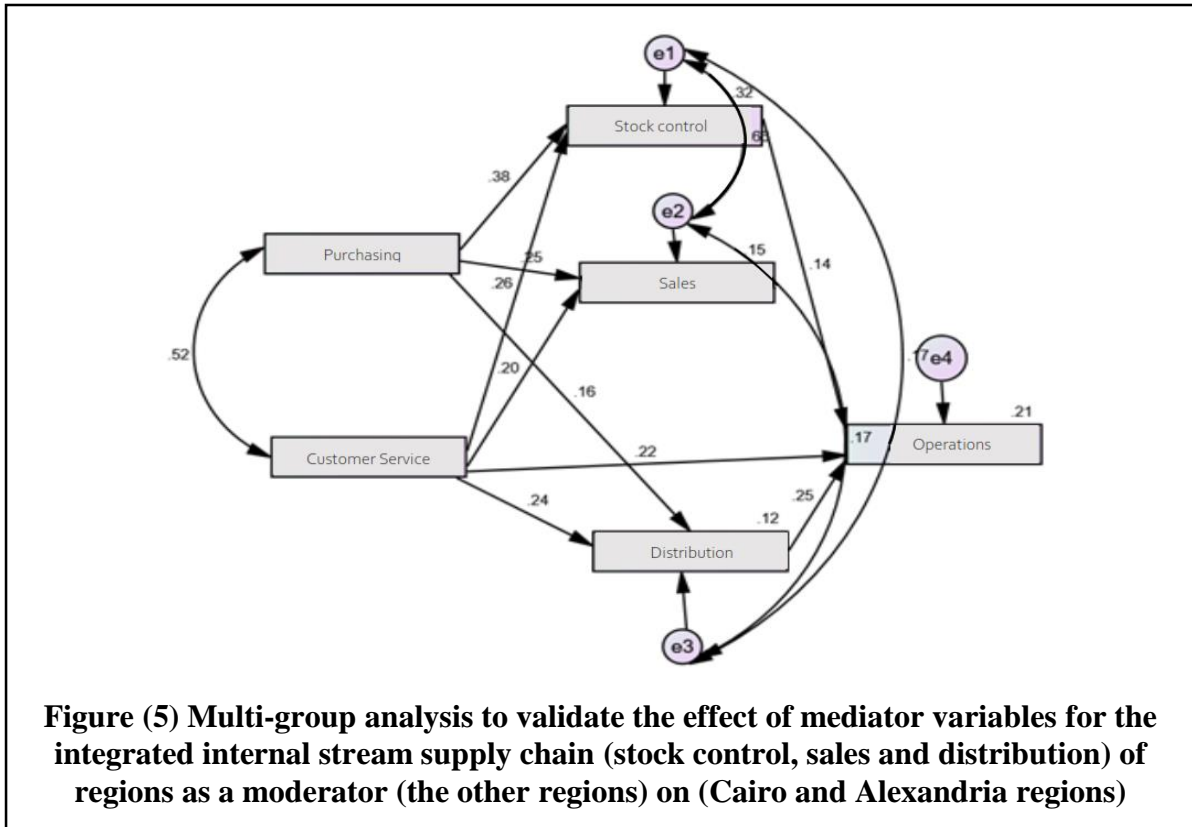
Chi-Square	619.644
Degree of Freedom	230
Level of Significance	.000
Normed Chi-Square	2.694
Root Mean Square Residual (RMR)	0.037
Goodness of Fit Index (GFI)	0.987
Adjusted Goodness of Fit Index (AGFI)	0.840
Normed Fit Index (NFI)	0.906
Relative Fit Index (RFI)	0.887
Incremental Fit Index (IFI)	0.939
Tucker Lewis Index (TLI)	0.926
Comparative Fit Index (CFI)	0.956
Root Mean Square Residual Approximation (RMSEA)	0.068

HYPOTHESIS 4:

Table (10): Regression weights according to maximum likelihood estimates regression weights: (Others - Default model)

		Standardized Estimate	Unstandardized Estimate	S.E.	C.R.	P	Label
Stock Control	Purchasing	.384	.368	.066	5.597	***	
Distribution	Purchasing	.158	.180	.088	2.038	.042	
Stock Control	Customer Service	.256	.219	.058	3.742	***	
Distribution	Customer Service	.240	.243	.079	3.093	.002	
Sales	Purchasing	.246	.260	.081	3.218	.001	
Sales	Customer Service	.197	.185	.072	2.576	.010	
Operations	Distribution	.246	.201	.055	3.619	***	
Operations	Customer Service	.216	.178	.060	2.986	.003	
Operations	Stock Control	.141	.137	.070	1.957	.050	

*** Significant at a level less than (0.001).



From table (10), the researchers revealed that there is a significant positive effect of the construct of the purchasing and the customer service on the stock control at a significant level less than (0.05) as the following:

$$\text{Stock Control} = 0.384 \text{ Purchasing} + 0.256 \text{ Customer Service}$$

The exogenous variables purchasing and customer service were accepted; in SEM that explain (62.5%) from the total variation of dependent variable (Stock Control of Integrated internal stream Supply Chain). There is a significant positive effect of constructs of purchasing and customer service on the distribution at a significant level less than (0.01) as the following:

$$\text{Distribution} = 0.1158 \text{ Purchasing} + 0.240 \text{ Customer Service}$$

The exogenous variables were accepted; in SEM that explain (34.6%) from the total variation of dependent variable (Distribution of Integrated Supply Chain). There is a significant positive effect of construct of purchasing and customer service on the sales at a significant level less than (0.01) as the following:

$$\text{Sales} = 0.246 \text{ Purchasing} + 0.197 \text{ Customer Service}$$

The exogenous variable was accepted, in SEM explain (46.3%) from the total variation of dependent variable (Sales of Integrated Supply Chain). There is a significant positive effect of the distribution construct at a significant level less than (0.001) with regression models for operations as the following:

$$\text{Operations} = 0.246 \text{ Distribution}$$

The exogenous variable was accepted, in SEM explain (74.4%) from the total variation of dependent variable (Operations).

Table (11): Standardized total effects (Other regions - Default model)

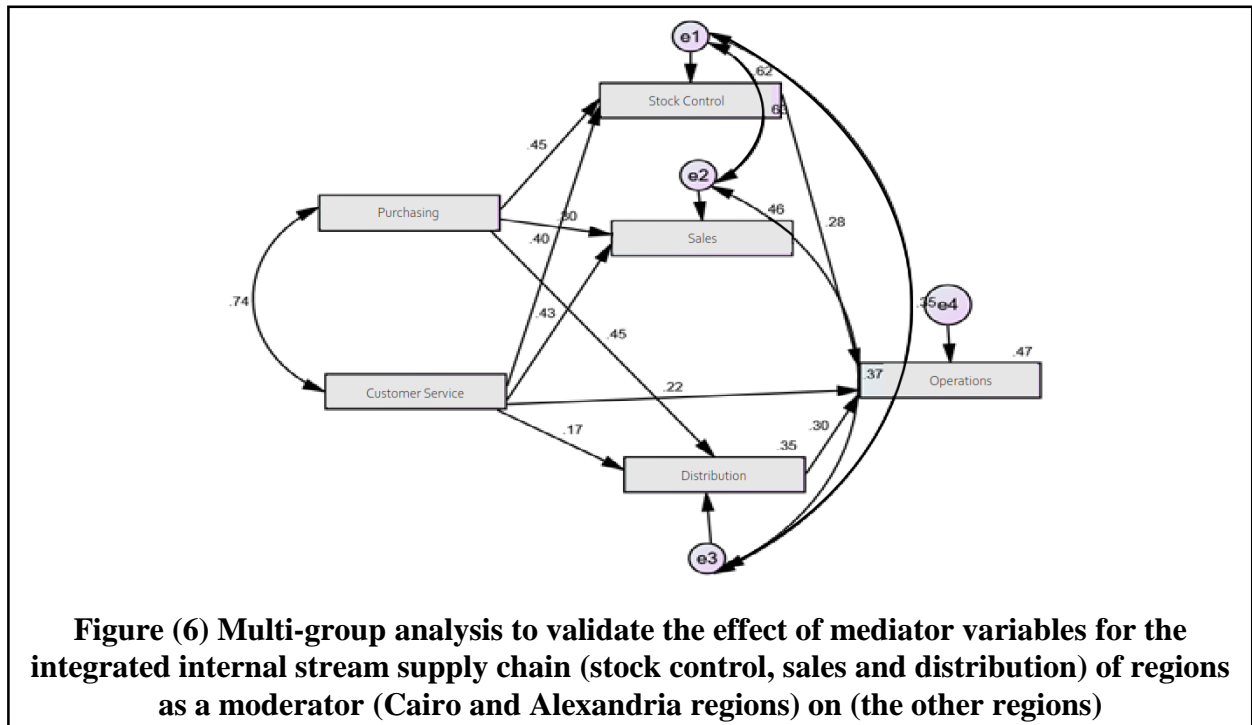
	Customer Service	Purchasing	Distribution	Stock Control
Distribution	.240	.158	.000	.000
Stock Control	.256	.384	.000	.000
Operations	.311	.093	.246	.141
Sales	.197	.246	.000	.000

Table (12): Standardized direct effects

Constructs	Customer Service	Purchasing	Distribution	Sales
Distribution	.240	.158	.000	.000
Sales	.256	.384	.000	.000
Operations	.311	.093	.246	.141
Stock Control	.197	.246	.000	.000

Table (13): Standardized indirect effects (Other regions - Default model)

	Customer Service	Purchasing
Operations	.095	.093



The researchers have concluded that the model is applicable on other regions are valid and that the constructs of the model showing the elimination of some variables that has no significant effect on the integrated internal stream supply chain.

Table (14): Regression weights according to maximum likelihood estimates regression weights: (Cairo and Alexandria - Default Model)

		Standardized Estimate	Unstandardized Estimate	S.E.	C.R.	P
Stock Control	← Purchasing	.447	.404	.065	6.266	***
Distribution	← Purchasing	.448	.479	.101	4.756	***
Stock Control	← Customer Service	.401	.337	.060	5.631	***
Distribution	← Customer Service	.174	.173	.093	1.851	.064
Sales	← Purchasing	.302	.298	.084	3.542	***
Sales	← Customer Service	.427	.390	.078	5.005	***
Operations	← Distribution	.299	.265	.065	4.051	***
Operations	← Customer Service	.221	.193	.074	2.630	.009
Operations	← Stock Control	.276	.288	.098	2.954	.003

*** Significant at a level less than (0.001).

From table (14), the researchers revealed that: There is a significant positive effect of the construct of purchasing and the customer service on the stock control at a significant level less than (0.05) as the following:

$$\text{Stock Control} = 0.447 \text{ Purchasing} + 0.401 \text{ Customer Service}$$

The exogenous variables purchasing and customer service were accepted; in SEM that explain (31.5%) from the total variation of dependent variable (stock control of Integrated Supply Chain). There is a significant positive effect of construct of purchasing and customer service on the distribution at a significant level less than (0.05) as the following:

$$\text{Distribution} = 0.448 \text{ Purchasing} + 0.174 \text{ Customer Service}$$

The exogenous variables were accepted; in SEM that explain (12.2%) from the total variation of dependent variable (distribution of Integrated Supply Chain). There is a significant positive effect of construct of purchasing and customer service on the sales at a significant level less than (0.05) as the following:

$$\text{Sales} = 0.302 \text{ Purchasing} + 0.427 \text{ Customer Service}$$

The exogenous variable was accepted, in SEM explain (14.9%) from the total variation of dependent variable (sales of Integrated Supply Chain). There is a significant positive effect of the construct at a significant level less than (0.001) with regression models for the following:

$$\text{Operations} = 0.299 \text{ Distribution} + 0.221 \text{ Customer Service} + 0.276 \text{ Stock Control}$$

The exogenous variable was accepted, in SEM explain (21.1%) from the total variation of dependent variable (operations).

Table (15) Standardized total effects (Cairo and Alexandria - Default Model)

	Customer Service	Purchasing	Distribution	Stock Control
Distribution	.174	.448	.000	.000
Stock Control	.401	.447	.000	.000
Operations	.384	.257	.299	.276
Sales	.427	.302	.000	.000

Table (16) Standardized direct effects (Cairo and Alexandria - Default Model)

	Customer Service	Purchasing	Distribution	Stock Control
Distribution	.174	.448	.000	.000
Stock Control	.401	.447	.000	.000
Operations	.221	.000	.299	.276
Sales	.427	.302	.000	.000

Table (17) Standardized Indirect effects (Cairo and Alexandria - Default Model)

	Customer Service	Purchasing
Operations	.163	.257

The researchers can conclude that the model applicable on the Cairo and Alexandria regions are valid and that the constructs of the model showing the elimination of some variables that has no significant effect on the Integrated internal stream Supply Chain.

MEASURING THE GOODNESS OF FIT OF THE (SEM) MODEL

Table (18): The goodness of fit indices of the SEM

Chi-Square	14.805
Degree of Freedom	4
Level of Significance	.005*
Normed Chi-Square	3.701
Root Mean Square Residual (RMR)	.008
Goodness of Fit Index (GFI)	.987
Adjusted Goodness of Fit Index (AGFI)	.864
Normed Fit Index (NFI)	0.986
Relative Fit Index (RFI)	0.894
Incremental Fit Index (IFI)	0.990
Tucker Lewis Index (TLI)	0.920
Comparative Fit Index (CFI)	0.989
Root Mean Square Residual Approximation (RMSEA)	0.087

From table (18), the researchers noticed the following: All the goodness of fit measures of the model indicates that all indicators at acceptable close to fit, especially GFI, AGFI, NFI, RFI, IFI, TLI, and CFI close to one, and Normed Chi-Square with cut-off values less than (5). The fit measures indicate the goodness of fit of the structural model and its ability to measure the difference in the applicability of the proposed model between (Cairo and Alexandria regions) and the other regions. Both Root Mean Square Residual (RMR) and Root Mean Square Residual Approximation (RMSEA) near to cut point (0.10), which indicates a close fit of the theoretical model to the actual model.

Table (19): Moderation test

	Chi-square	df	p-val	Invariant
Overall Model				
Unconstrained	14.805	4		
Fully constrained	33.873	13		
Number of groups		2		
Difference	19.068	9	0.025	NO
Chi-square Thresholds				
90% Confidence	17.51	5		
Difference	2.71	1	0.100	
95% Confidence	18.65	5		
Difference	3.84	1	0.050	
99% Confidence	21.44	5		
Difference	6.63	1	0.010	

By using Chi-Square Test statistic to measure the effect of moderator variable- regions- relationship between purchasing and customer service and operations, since the significance of chi-square test statistics less than 0.05 then, we conclude that there are significance differences between Cairo & Alexandria regions in comparison with the other regions. This emphasizes the **validation of the forth hypothesis** as the results indicate that the implementation of the model is much better in the Other regions than Cairo and Alexandria regions, and this is because of the sensitivity of workers in the hotel sector in those areas where it is the primary source of income, therefore, attention to quality of the internal stream supply chain operations for the provided variety of services increases in alignment with the nature of the regular European tourist by hospitality industry managers throughout these areas, which was reflected in the statistical results obtained by this study.

CONCLUSION

The researchers concluded that purchasing and customer service positively affect sales, distribution and stock control as sub-constructs of the integrated internal stream supply chain. Also the operations work flow was affected by sales and distribution but the stock control was statistically excluded in the presence of good customer service. On the other hand, the operations work flow was affected by the purchasing and customer service throughout the mediating variables of the integrated internal stream supply chain. Finally, the implementation of the model in the other regions (Aswan, Hergada, Sharm El Sheikh) is better than its implementation in Cairo and Alexandria.

REFERENCES

- Arshinder, K., Kanda, A. and Deshmukh, S.G., 2011. A review on supply chain coordination: coordination mechanisms, managing uncertainty and research directions. In *Supply chain coordination under uncertainty*, pp. 39-82. Springer, Berlin, Heidelberg.
- Burja, C. and Burja, V., 2010. Analysis model for inventory management. *Annals of the University of Petrosani, Economics*, 10(1), pp.43-50.
- Chang, W., Ellinger, A.E. and Blackhurst, J., 2015. A contextual approach to supply chain risk mitigation. *The International Journal of Logistics Management*, 26(3), pp.642-656.
- Chibili, M., 2017. Modern hotel operations management. Routledge.
- Chopra, S., Meindl, P. and Kalra, D.V., 2013. *Supply chain management: strategy, planning, and operation* (Vol. 232). Boston, MA: Pearson.
- Cook, J., DeBree, K. and Feroletto, A., 2001. From raw materials to customers: supply chain management in the service industry. *SAM Advanced Management Journal*, 66(4), pp.14-21.
- Craft, D.L., Halabi, T.F., Shih, H.A. and Bortfeld, T.R., 2006. Approximating convex Pareto surfaces in multiobjective radiotherapy planning. *Medical physics*, 33(9), pp.3399-3407.
- Crouch, G.I. and Ritchie, J.B., 1999. Tourism, competitiveness, and societal prosperity. *Journal of business research*, 44(3), pp.137-152.
- Dooley, F., 2005. Logistics, inventory control, and supply chain management. *Choices*, 20(4), pp.287-291.
- Dutton, J.E. and Ashford, S.J., 1993. Selling issues to top management. *Academy of management review*, 18(3), pp.397-428.
- Ellinger, A.E. and Ellinger, A.D., 2014. Leveraging human resource development expertise to improve supply chain managers' skills and competencies. *European Journal of Training and Development*, 38(1-2), pp.118-135.
- Fabbe-Costes, N. and Jahre, M., 2008. Supply chain integration and performance: a review of the evidence. *The International Journal of Logistics Management*, 19(2), pp.130-154.
- Fornell, C. and Larcker, D.F., 1981. Evaluating structural equation models with unobservable variables and measurement error. *Journal of marketing research*, 18(1), pp.39-50.
- Gomes, C.F., Yasin, M.M. and Lisboa, J.V., 2007. The effectiveness of hospitality service operations: measurement and implementation concerns. *International Journal of Contemporary Hospitality Management*, 19(7), pp.560-573.
- Hair J.F., Jr, William C. Black, Barry J. Babin, Rolph E. Anderson, 2014. *Multivariate Data Analysis*, 7th ed., pp.576-584, Pearson Education.
- Halim, Y.T., El Deeb, M. S., Habib, E. E., Bassim, M.A., 2011. Supply Chain Performance Evaluation Through Eva in Hospitality. In the 12th International Research Symposium on Service Excellence in Management, Proceedings of QUIS12, June 2-5, 2011, Printed and bound by Cayuga Press, Ithaca, NY 14850 USA, Published by Center for Hospitality Research School of Hotel Administration Cornell University United States of America ISBN: 978-0-578-08457-2.
- Henseler, J., Ringle, C.M. and Sarstedt, M., 2015. A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science*, 1(43), pp.115-135.
- Huin, S.F., Luong, L.H.S. and Abhary, K., 2002. Internal supply chain planning determinants in small and medium-sized manufacturers. *International Journal of Physical Distribution & Logistics Management*, 32(9), pp.771-782.
- Janvier-James, A.M., 2012. A new introduction to supply chains and supply chain management: Definitions and theories perspective. *International Business Research*, 5(1), pp.194-207.

- Johnson, M. and Templar, S., 2011. The relationships between supply chain and firm performance: The development and testing of a unified proxy. *International Journal of Physical Distribution & Logistics Management*, 41(2), pp.88-103.
- Kis, A. and Theodoridis, E., 2018, June. Key Performance Indicators for the Nato Centres of Excellence. In *International Conference Knowledge-Based Organization*, 24(1), pp.108-123. Sciendo.
- Mentzer, J.T., DeWitt, W., Keebler, J.S., Min, S., Nix, N.W., Smith, C.D. and Zacharia, Z.G., 2001. Defining supply chain management. *Journal of Business Logistics*, 22(2), pp.1-25.
- Monczka, R.M., Handfield, R.B., Giunipero, L.C. and Patterson, J.L., 2015. *Purchasing and supply chain management*. Cengage Learning.
- Odoom, C.K., 2012. Logistics and supply chain management in the hotel industry: Impact on hotel performance in service delivery, *UNLV Theses, Dissertations, Professional Papers, and Capstones*, 1339.
- Pagell, M. and Wu, Z., 2009. Building a more complete theory of sustainable supply chain management using case studies of 10 exemplars. *Journal of supply chain management*, 45(2), pp.37-56.
- Phan, P., 2016. Strategic purchasing practices: the case study of PAUL Bakery UK., p.9.
- Porter, M.E., 2008. The five competitive forces that shape strategy. *Harvard business review*, 86(1), pp.25-40.
- Qashlim, A. and Basri, B., 2018. Integration of Information System Based on Supply Chain Management (SCM) for Pharmaceutical Warehouse in Mamasa Regency. *ComTech: Computer, Mathematics and Engineering Applications*, 9(1), pp.1-8.
- Qashlim, A., 2019, June. Industry System Integration of Drug Distribution on Pharmaceutical Installation Based on Supply Chain Management. In *Journal of Physics: Conference Series* (Vol. 1244, No. 1, p. 012009). IOP Publishing.
- Rachad, S., El Idrissi Larabi, Z., Nsiri, B. and Bensassi, B., 2017. Inventory management in closed loop structure using KPIs. *International Journal of Applied Engineering Research*, 12(15), pp. 4864-4869, ISSN 0973-4562.
- Radwan, H.R.I., 2017. Managing Hotels during Economic Challenges: A Case Study on Hotels in Sharm El-Sheikh and Hurghada, Egypt. *Journal of Tourism and Hospitality Management*, 5(2), pp.84-100.
- Schiele, H., 2019. Purchasing and Supply Management. In *Operations, Logistics and Supply Chain Management*, pp. 45-73. Springer, Cham.
- Shi, X. and Liao, Z., 2013. Managing supply chain relationships in the hospitality services: An empirical study of hotels and restaurants. *International Journal of Hospitality Management*, 35, pp.112-121.
- Stevens, G.C. and Johnson, M., 2016. Integrating the Supply Chain... 25 years on. *International Journal of Physical Distribution & Logistics Management*, 46(1), pp.19-42.
- Sweeney, E., 2013. Supply Chain Integration: Challenges and Solutions. In *Supply Chain Management: Concepts, Methodologies, Tools, and Applications* (pp. 221-246). IGI Global.
- Teo, T. and Noyes, J., 2011. An assessment of the influence of perceived enjoyment and attitude on the intention to use technology among pre-service teachers: A structural equation modeling approach. *Computers & education*, 57(2), pp.1645-1653.
- Trent, R.J., 2004. The use of organizational design features in purchasing and supply management. *Journal of Supply Chain Management*, 40(2), pp.4-18.
- Turga, T., 2019. *Factors Affecting Procurement Performance of Organization: The Case of International Organization for Migration, Ethiopia Office* (Doctoral dissertation, Addis Ababa University).
- UNWTO, T.H., 2018. Edition Scientific Papers| Znanstveni prilozi Evaluating and Selecting... G. Kos, H. Carić, a. Pandža Kunčević, 2-18.
- Zhang, X., Song, H. and Huang, G.Q., 2009. Tourism supply chain management: A new research agenda. *Tourism management*, 30(3), pp.345-358.