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Supply Chain Management in Saudi Arabian Service Organizations - Goals and challenges

Dr. G. S.Vijaya[1], Dr. Shafiq Ahmed[2]
[1]College of Business Administration, Al Yamamah University, Riyadh, Kingdom of Saudi Arabia
[2]Industrial Engineering Department, College of Engineering, King Saud University, Riyadh, Kingdom of Saudi Arabia

Abstract: Supply chain management plays a very important role in the service organizations. In this paper, an attempt has been made to explore the challenges faced by the Saudi Arabian service organizations. An attempt has been made to understand Primary and secondary challenges, Primary, secondary and tertiary factors and Primary and secondary goals of various service Industries in Saudi Arabia.
Keywords: Productivity, Goals, Challenges, Factors, Customer satisfaction, financial challenge.

I. INTRODUCTION

To be highly successful in today's global competitive market, it is necessary that business organizations continuously strive for developing a high level of interaction and co-ordination along the supply chain and improve in the area of quality, time to reach the market, satisfy the customers, improve performance and increase profitability. Due to emerging competition in the dynamic markets of globalized economies across the world, business organizations have realized that the business process of satisfying the demand of the customer is of critical importance. It is also understood that a functional approach to the business process would not help any more in developing competitiveness. Due to this recognition there has been a paradigm shift in the outlook. Organizations have woken up to the realization that today the focus of competition has shifted from products to supply chains, i.e., the supply chain of one company competes with that of another, to deliver superior customer value. Hence effective and efficient management of the supply chain has become critically important for any business.

Supply Chain management is the blend of skill and knowledge that goes into enlightening the way an organization discovers the raw components it needs to make a product or service and deliver it to the customers. Supply-chain management plays an essential role in confirming goods, and services are delivered on time to customers.

II. LITERATURE REVIEW

Companies involved in supply chains are increasingly introducing business-to-business ICT solutions to support their relationships that may range from transactional exchanges to collaborative partnerships (Klein and Rai, 2009). According to Lee & Corey (1995), Supply chain Management consists of the integration activities place among a network of facilities that procure raw materials, transform them into intermediate goods and then final products, and deliver products to customers through a distribution system.

Supply chain management is key focus area in the current scenario of global competitive market. In this market the company or organization having the quality in supply chain will only survive (Ashwini Sharma et.al, 2012). In service industry, service providers have an incentive of getting quality inputs from customer-suppliers and customer-suppliers have an incentive of getting better quality outputs from the service provider. Supply chain management needed for various reasons: improving operations, better outsourcing, increasing profits, enhancing customer satisfaction, generating quality outcomes tackling competitive pressures, increasing globalization, increasing importance of e-commerce and growing complexity of supply chain (Stevenson, 2002).

"Service supply chain" is a network of inter connected organizations that utilizes resources and transforms their inputs (skills and knowledge) into the service offering to enhance the delivery of a flexible customized solution (Ellram, 2004; Sengupta, 2006; Niranjan, 2007 and Baltacioglu, et al., 2007).According to Binder and Clegg, 2007; Basole and Rouse, 2008, "Enterprises create and deliver products and services through increasingly global and complex supply chains". It is the collection and interaction of these elements that impact system-level qualities, properties, characteristics, functions, behavior, and performance (Cloutier et al., 2010).

According to Shang & Seddon, 2000 and Harris 1996, "the internal business process starts with the receipt of a customer order and finishes with delivery of the product or service to the customer which reflects how effectively material and labor resources are used to provide service and includes improvement in the efficiency of manufacturing process, improve inventory management, increase

delivery efficiency, increase flexibility, increase information systems support and improve new product development".

Based on the literature survey, challenges goals and factors for the present study was identified. The literature review also reveals that there is the lack of research in the area "Supply Chain management in service organizations in Saudi Arabian context". In this present study service sector is focused as our existence and livelihood depends on service sector.

III. RESEARCH METHODOLOGY

The research is both explorative and descriptive in nature. The main empirical evidence is drawn from the interviews with few of the employees who are working in various service organizations in Saudi Arabia. The interviews were semi-structured and lasted for some time.

Questionnaire is used as a tool for data collection in this study. The Questionnaire used in this study is adopted which was designed by Khan, et al; 2013. A random sample of 52 respondents working in various service sectors both men and women range age range from 24 to 48 were randomly selected for the study in the selected service organizations located in Riyadh, KSA. These participants belongs to small, medium and large organizations. The type of organizations under study is as shown in Table 1.

Type of the Organization	Sample Size	Percentage
Other	16	30.77%
Banking	10	19.23%
Education	6	11.54%
Healthcare	6	11.54%
Investment	6	11.54%
Govt.	4	7.69%
Retailor	2	3.85%
Real Estate	2	3.85%

Table No. 1: Type of Organizations under study

The research data details are shown in Table No.2

Population under study	Equal or Less than 30 Employees (Small) 31 and 100 employees (Medium) More than 100 employees (Large)
Population census	52 census from various service organization in KSA
Geographical location	Riyadh, Kingdom of Saudi Arabia
Time Frame	July 2015- August 2015
Respondent Profile	Managers and Engineers working in various service sectors in Riyadh
Percentage Response	70%

Table No.2: Research data

The Operations of these respondents' organizations were located in Riyadh, GCC, Middle East and worldwide. 54% of the respondents had the operation of their organizations in Riyadh, 33% worldwide, 9% in Middle East and 4% in GCC as shown in chart No.1. Size of the organization is identified on the number of employees working in those organizations.

Data was collected from the participants by administering the tools individually. Before data collection, the researcher developed rapport with the respondents and explained the objective of the study. Each participant was given the questionnaire and the instruction to give their responses as accurately as possible. Subsequently the scoring and analysis were made using appropriate scoring procedure of the respective tool.

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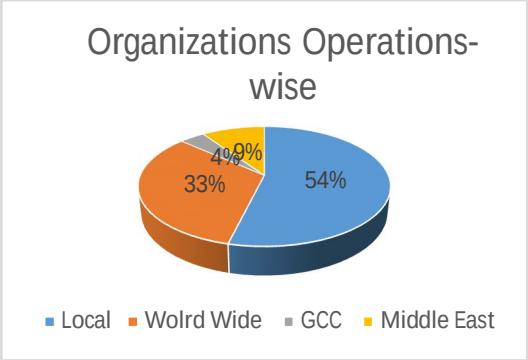

Chart No.1: Sample size according to the Operations

The main objectives of this research are:
1. To understand the challenges faced by Saudi Arabian Service organizations in adopting supply chain technology

2. To understand whether there is variation in adopting challenge levels in Banking, Education, Healthcare, Investment and Government sectors in Saudi Arabia.

The following hypotheses is formulated in order to carry out the study.

Null Hypothesis 1: There is no significant difference between the identified challenges in different types of service organizations.

With respect to every types of organizations, two challenges called as primary and secondary challenges are identified.

Null Hypothesis 2: There is no significant difference between the various identified goals belonging to the different types of service organizations.

With respect to every types of organizations, two goals called as primary and secondary goals are identified.

Null Hypothesis 3: There is no significant difference between the various identified factors belonging to the different types of service organizations.

With respect to every types of organizations, three important factors called as primary, secondary and tertiary goals are identified.

IV. DISCUSSION AND RESEARCH FINDINGS

Because competition is increasing, companies must learn to answer more quickly to customers' wishes as well as changes in the market. Challenges were identified based on the literature review and discussion with the respondents in various organizations. Five challenges were identified and the respondents were asked to rank all the challenges that they faced according to their organizational situations. Financial challenges (30.77%) were identified as Primary challenge in all the organizations as shown in Table No.3. Skilled workforce (34.62%) was identified as secondary challenge in all the organizations as shown in Table No.4.

Challenges	Percentage
Complexity of System	23.08%
Infrastructure of Company	5.77%
Skilled Work Force	23.08%
Financial Challenges	30.77%
Resistance to Change	7.69%
other challenges	9.62%

Table No.3: Primary Challenge

Volume 4 Issue III, March 2016
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Complexity of System – Supply chain management system has to be implemented according to the type of the service organization. Each system has its own complexity which has to be understood and adopted. The complexity fluctuates as lot of uncertainties occurs in the organizations.

Challenges	Percentage
Resistance to Change	15.38%
Infrastructure of	15.38%
Complexity of System	1.92%
Skilled Work Force	34.62%
Financial Challenges	32.69%

Table No.4: Secondary Challenge

Infrastructure of Company - The infrastructure of companies keeps on changing as depends on aspects like location, size of the organization, and so on.

Financial Challenges- Getting rich is not rocket science. Managing the resource with minimum input and maximizing is the order of the days. Optimal utilization and profit maximization is one of the major financial challenge of the day.

Skilled Work Force – According to International labor office, Geneva, 2010 " a skilled workforce is required for strong, sustainable and balanced growth of a country". Recruiting and managing skilled work force in the organization is not an easy situation.

Resistance to Change-Supply chain management adoption brings lot of change which is continuous in the organization. People usually resist when a new change is implemented.

With the challenges that has been identified, possible goals has to be identified and reached. Goals identified in this study are the desired accomplishments over a period of time which are as tabulated in Table No.5. Primary goals are cost effectiveness (40% in Banking and 66.67% in Education sectors), customer relationship (33.33% in Healthcare, 33.33% in Investment), Technology adoption (100% in Retailor sector and Real estate sector) and staff development (50% in Government sector). Secondary goals are Technology adoption (70% in Banking), Staff development (66.67% in Health care), system complexity (33.33% in Education) and cost effectiveness (66.66% in Investment, 100% in Retailor sector50% in Real estate) and staff development (50% in Government sector).

Organizations	Primary Goal	%	Secondary Goal	%
Banking	Cost effectivene	40	Technology adoption	70
Healthcare	Customer relationship	33.33	Staff development	66.67
Education	Cost effectivene	66.67	System complexity	33.33
Investment	Customer relationship	33.33	Cost effectiveness	66.67
Retailor	Technolog y adoption	100	Cost effectiveness	100
Government	Staff developme	50	Staff development	50
Real Estate	Technolog y adoption	100	Cost effectiveness	50

Table 5. Primary and Secondary goals

Primary and secondary challenges faced by selected sectors are as tabulated in Table No. 6. The primary challenges are complexity

Volume 4 Issue III, March 2016
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of system (40% in Banking and 100% in Real estate), financial challenge (20% in Banking, 66.67% in Health care, 33.33% in education and 33.33% in Investment), Resistance to change (33.33% in Healthcare), Skilled workforce (33.33% in Education, 33.33% in Investment, 100% in Retailor and Government sectors). Secondary challenges are Infrastructure (40% Banking), Skilled workforce (66.67% in Healthcare and Education, 33.33% in Investment, financial challenges (33.33% in Retailor sector, 100% in government and Real estate sectors)

Organizations	Primary challenge	%	Secondary Challenge	%
Banking	Complexity of system Financial challenge	40 20	Infra structure	40
Healthcare	Financial challenge Resistance to change	66.67 33.33	Skilled workforce	66.67
Education	Financial challenge Skilled workforce	33.33 33.33	Skilled workforce	66.67
Investment	Financial challenge Skilled workforce	33.33 33.33	Skilled workforce	33.33
Retailor	Skilled workforce	100	Financial challenges	33.33
Government	Skilled workforce	100	Financial challenges	100
Real Estate	Complexity of system	100	Financial challenges	100

Table 6. Major and secondary challenges faced by selected sectors

Factors	Factor name	Primary Factor (%)	Secondary Factor (%)	Tertiary Factor (%)
1	Management System	15.38	3.85	19.23
2	Process knowledge	17.31	9.62	-
3	Marketing tools	3.85	3.85	11.54
4	Qualified work force	23.08	17.31	7.69
5	Technical tools	3.85	15.38	15.38
6	Security enhancement	3.85	15.38	11.54
7	Financial support	15.38	23.08	11.54
8	Delivery factor	7.69	-	7.69
9	Customer service	9.62	11.54	15.38

Table No.7: Primary, Secondary and Tertiary Factors

Primary, secondary and Tertiary factors were identified as Management system, Process knowledge, marketing tools, qualified workforce, technical tools, security enhancement, financial support, delivery factor and customer service are identified as the

factors according to the various service industry category and the overall percentage of factors identified in this research is as shown in Table No.7

The hypotheses were tested using ANOVA and Chi-square test.

Hypothesis 1 is tested for Primary challenges and Secondary challenges using Analysis of Variance (ANOVA) and the results are as shown in Table No.8 and Table No.9 respectively.

ANOVA						
Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F critical*
Between Groups	85.71	7	12.24	1.60	0.16	2.20
Within Groups	367.14	48	7.65			
Total	452.86	55				
Level of significance						0.05

Table No.8: Primary Challenge analysis using ANOVA

ANOVA						
Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F critical*
Between Groups	85.71	7	12.24	1.53	0.18	2.20
Within Groups	383.14	48	7.98			
Total	468.86	55				
Level of significance						0.05

Table No.9: Secondary Challenge Analysis using ANOVA

Hypothesis 2 is tested for Primary and Secondary Goals using Analysis of Variance (ANOVA) and the results are as shown in Table No.10 and Table No.11 respectively.

The major Goal identified in various industries was tested using ANOVA

Source of Variation	*SS*	*Df*	*MS*	*F*	*P-value*	*F critical*
Between Groups	75.00	7	10.71	1.50	0.18	2.18
Within Groups	400.00	56	7.14			
Total	475.00	63				
Level of significance						0.05

Table No. 10: Primary Goal Analysis using ANOVA

Source of Variation	*SS*	*Df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	75.00	7	10.71	1.33	0.25	2.18
Within Groups	450.00	56	8.03			
Total	525.00	63				
Level of significance						0.05

Table No.11: Secondary Goal Analysis using ANOVA

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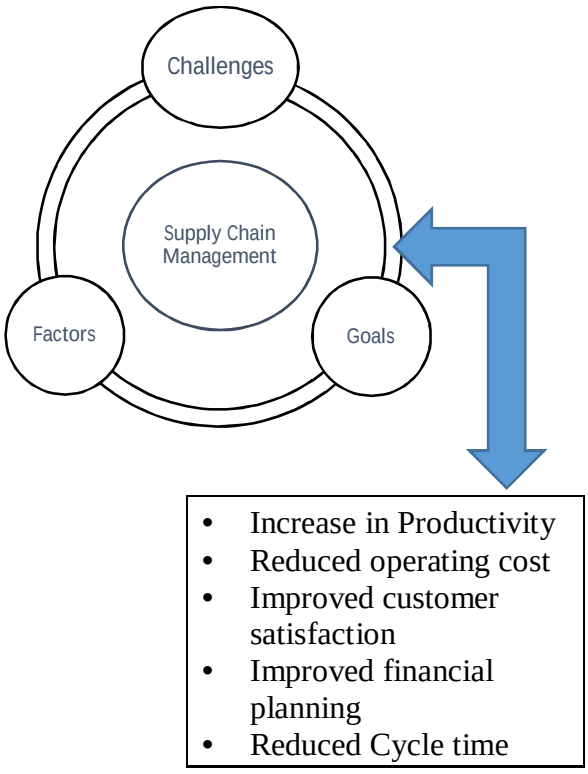
Hypothesis 3 is tested using chi-square test and the result is tabulated in Table No.12

I represents Primary Factor, II represents Secondary factor, and III represents Tertiary factor).

Results for the factors	I	II	III
Critical Value	74.46	66.33	66.33865
Chi-Square Test Statistic	109.62	118.11	101.1689
p-Value	2.45E-05	1.23E-07	1.72E-05
Null hypothesis	Rejected	Rejected	Rejected

Table No.12: Primary, Secondary and Tertiary Factors: Analysis using Chi-square Test

Emerged Model



Emerged Model (Source: Personal Interviews, Personal Experience of the Researchers, and Interpretation of Primary Data)

The overall objective of the service organizations are to increase the overall Productivity in their organizations. Reduced Operating cost includes labor cost reduction, inventory cost reduction and administrative expenses. Today Supply Chain management systems have proved that they can produce goods at the flexibility of make-to-order approach without reducing the cost and time benefits of made-to-order operations and this will go a long way in improving customer satisfaction. Reduced cycle time includes measurable cycle time reductions in activities that support customers, employees and suppliers.

The main identified goals for this study were management system, process knowledge, marketing tools, qualified work force, technical tools, security enhancement, financial support, delivery factor and customer service.

V. CONCLUSION

In today's competitive market place, there is a need for business organizations to ensure continual improvement. In this paper and attempt has been made to understand the challenges faced by service organizations in Saudi Arabia. The findings from the study indicates that every type of organization faces their own challenges, which is different from other. There is difference in the goals which the organization prioritizes and different factors are identified by different service sectors because of the type they provide and according to their customer's requirements and expectations.

Supply chain management in a service organization involves people process and technology. The established model can be tested in other service sectors to understand the challenges in the supply chain management area. This study is an aid to the emerging research area wherein the model can be tested in any Service organizations of Saudi Arabia and other GCC countries.

The Gulf Cooperation Council (GCC), is a political and economic alliance of six Middle Eastern countries—Saudi Arabia, Kuwait, the United Arab Emirates (UAE, Qatar, Bahrain, and Oman).

VI. ACKNOWLEDGMENT

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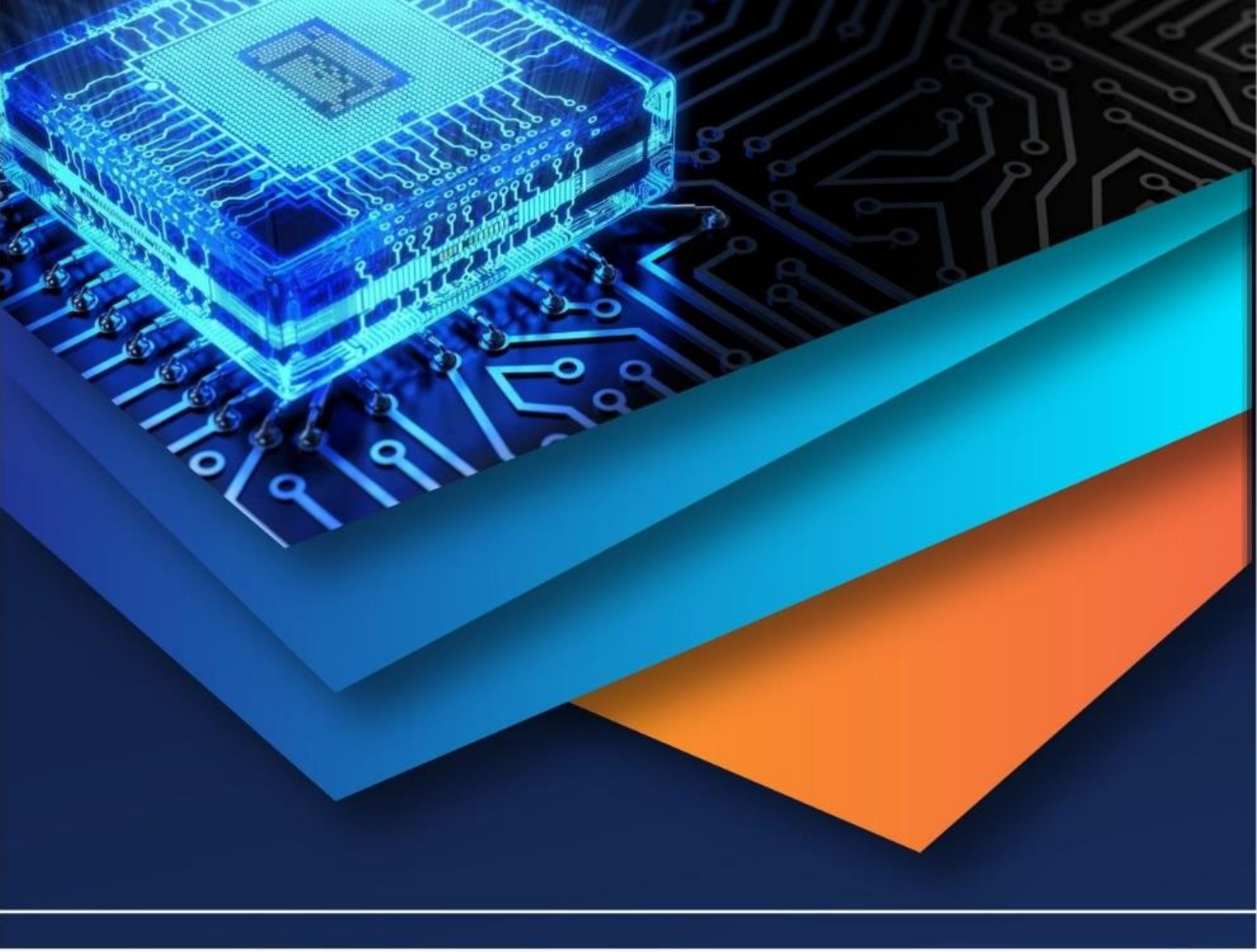

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