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Transportation Infrastructure within GCC Countries: Validating Data by Action Research Methodology

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Three words define the research paper on development economics: investment integration and strategy-thinking that will translate to a trade-related infrastructure; development of transportation & logistics systems; and focus on sharing scarce resources to manage the opportunity cost in the Gulf Region. The signposts are clear for a GCC Rail Link, Intermodalism and Shipping, thus creating a production possibility frontier beyond the immediate boundaries of each GCC state. Will a change of mind and heart lead to harmonization of trade and transportation policies in the region that will benefit the greater number of stakeholders – the government, business enterprises and the people in this part of the world? Actions Research is a new methodology that will provide some clues to this development today.

Field of Research: Transportation and Logistics, Intermodalism and Action Research

1. Introduction

One of major influences today on business education and economic development is the impact of maritime logistics on states depending on the network of ports to optimize the free trade status in the GCC region The need for professional development is higher than before as this will prepare all players to take on the challenges in the business process that comprises: the shipping lines, NVOCC, ports, insurance, customs regulations and the end customers. This development will be based on an evolving intra-regional model in GCC countries where Dubai has set the trend for strategic business investment model– thus creating clusters for trade including those for logistics and transportation infrastructure in the region.

Building on the success of the professional program in Higher Colleges of Technology (HCT) under the Ministry of Higher Education in Dubai from 1996 to 2002, the paper will highlight the challenges confronted in the development process and economic diversification of the progressive emirate in UAE. This momentum let loose the creation of a logistics hub in Dubai and setting up of the Dubai Logistics City (http://www.dubailogisticscity.net) late in 2004.

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Prior to this development project of Dubai Logistics City, the author was involved in introducing a process of an innovative learning program for nationals who now direct the course of future in the country. This should be a good model for policy-makers and educational administrators in Kuwait as total dependence on oil as the driving force is exposed to all kinds of vagaries in the world market. Business specializations such as logistics will underline any economic development in global trade today.

The purpose of this conference paper is to present the findings concerning the interdependence of the oil rich countries in GCC region which are consolidating and harmonizing transport policies for seamless flow of goods, minimizing delays in customs administration, integrating the infrastructure for sea, air, and land transportation and investing in developing people as vital resource for gaining the commanding heights of the economy. The external forces driving these nation-states are the trade liberalization and being signatories to World Trade Organization (WTO).

Although the GCC countries have adopted a policy of globalization yet the approach and achievements of each of these countries varies – with some to have taken a big leap, while others closely following the business model with determined direction of a global player. " The high price of oil presents leaders of GCC states with a singular opportunity to diversify their economies beyond hydrocarbons. How they manage that opportunity has far-reaching implications not only for their own populations but also for the entire global economy." (Boer,2007). Harmonizing of minds and hearts of government has always posed a challenge to the development and fortunes of the GCC states.

The development variables in the transportation and logistics of two member states- Kuwait and Dubai of GCC group is the lack study for a specialization that will be key aspect of the future courses events in the region. The predominant mode for trade in the littoral states is the sea transportation, although there is a healthy trend towards inter-modal transportation for integrated management of supply chain management. The author will provide an overview of the study undertaken earlier, draw some conclusions from these findings, and highlight the implications for major logistics players and logistics stakeholders to provide the direction for future research.

2. Concept Development

In the sea transportation sector worldwide, the leading trend has always been towards mergers and acquisitions. Privatization of ports has gained ground with increased global competition where the accent has been on efficiency, organic growth and rapid transition to market economy.

"As the global economy continues to be increasingly integrated and the transit time required is getting shorter, the inter-modal freight activities around a major hub have become more complex and intense. Although these activities typically represent a very small portion of the global distribution network in terms of distance, they contribute significantly to the total transportation cost."

Providing Dubai (UAE), Saudi Arabia and now Kuwait with a business model, the study of world's busiest container ports such as Hong Kong and Singapore – serve as an example for the challenges and issues in managing the connection activities in hub cities. In particular, how cross border regulatory policies lead to very low utilization of resources. But can a relaxation of such policies lead to an operating model for GCC states for using a freight relay center for connection activities among countries with common borders. Container lines today are taking a huge step forward by transforming themselves from pure shipping services offering port-to-port services into fully integrated transport providers. The aim of these companies is to gain total control over the supply chain through the development and expansion of their container logistics operations. Examples include Maersk Logistics, P&O Nedlloyd and the ever-expanding APL logistics. This trend is facilitated by the advent of information technology in areas such as e-commerce, communications or automation that facilitate liner companies to expand their container logistics operations globally.

In an ever-competitive environment, the development and successful implementation of an IT strategy by a major liner company may guarantee its long-term success and survival by transforming it into a pace-setter rather than a pace-follower. Consequently, in-depth knowledge and critical evaluation of the development and the impact of container logistics and ICT strategies implemented by liner shipping companies is of utmost importance for a successful career and professional development in this segment of the shipping industry.

Closer to the GCC region is the aggressive takeover of P & O Nedlloyed by Dubai Ports World (DPW ranked sixth in the global ports league) for US$ 3.2 billion. As the announcement was made towards end of 2005, it sent shock waves across world shipping esp. those six ports in USA where the issue was even debated in a congressional meeting.

DPW's interest in P&O had been expected to stimulate an auction, with other Far East groups entering the fray including Temasek of Singapore and the Hong Kong-based Hutchison Ports, which owns Felixstowe and Harwich on the east coast. AP Moller-Maersk, the Danish shipping giant which recently bought P&O Nedlloyd, has also been seen as a potential bidder. But only DPW is thought to have tabled a serious offer.

Senior P&O management locked into talks to hammer out a deal. P&O operates 29 container terminals, including Southampton and Tilbury on the Thames and ports on the east coast of the US. It has been given the go-ahead to construct a 1.5 billion deep-sea container terminal at Shellhaven, named the London Gateway. A takeover of P&O would mean yet another well-known UK name disappearing under foreign ownership after Deutsche Post's purchase of Exel, Saint-Gobain's acquisition of BPB and Telefonica's agreed bid for O2. It would also mark another deal in the UK ports sector.

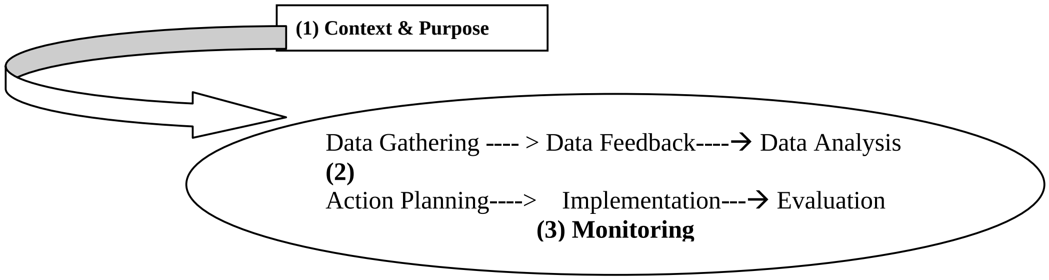
The property magnate John Whittaker bought Mersey Docks and Harbour this year, while PD Ports, the owner of Teesport in the northeast, has received an approach from the Australian bank Westpac. P&O's ports business and its valuable portfolio of waterside land is seen as the main attraction for DPW. But the takeover will inevitably place a question mark over its ferries business, which has been pruned dramatically to stem losses.

3. Research Methods

Two of the earlier researches ([i] Logistics Research 2002 and 2003) conducted by the author of this paper for logistics and supply chain management followed conventional methods of literature review, direct interviews and web surveys. The present paper uses a new research methodology defined as Action Research in Supply Chain that relies on collaborative improvement within the extended manufacturing / service enterprise, integrating environmental and social standards into supply chain management, supply chain diagnostics to confront theory and practice in supply chain management and the approach to seaport efficiency.

Research in supply chain management is on the rise in practical and academic fields. In this context, a wide range of research methodologies is applicable. Surveys, modeling and case studies are often found in literature. Varian states on research modeling that ‘look for ideas in the world, not in journals - model your paper after your seminar - look at the literature later, not sooner – stop when you’ve made your point.” Actions research (AR) is less used compared to these other methodologies, and when looking at the field of operations management, there is no change in this statement. A review of conference proceedings of Translogistique Canada between 2002 and 2006 complies with Coughan & Coghlan (2002) found low but *increasing incidence* of applications of action research. There is no doubt that the situation in the field of supply chain management is much better. The action research has the potential to contribute to knowledge and practice (for example Kaplan 1998, Coughan & Coghlan 2002). Wood Harper (1985) argued that action research is thought to be most effective for technique development or theory building and Westbrook (1995) described action research as an approach that could avoid the main deficiencies associated with traditional research methodology.

Action research is applicable with highly unstructured problems, which can be dealt with in an exploratory research design. Coughlan & Coghlan (2002: 247) recommend use of action research “ when the research question relates to describing an unfolding series of action over time in a given group, community or organization (our findings on Hub-and-Spoke Systems in Dubai Flower Centre and sea transport of perennials like roses); understanding as a member of a group how and why their action can change or improve the working time of some aspects of a system (for time-sensitive cargo or perishables) and understanding the process of change or improvement in order to learn from it." Please see illustration of Action Research Cycle as below –



3.1 Problems and perspectives of Action Research for Collaborative Transportation and Inter-modal Logistics Systems are as follows:–

(a) The goals in a collaborative transportation in supply chain are the orientation to various customer needs. For example, the demographics in the GCC countries are more or less different according to the customer needs.

(b) Cooperation along the supply chain as it transcends all physical and geographical boundaries to underline the role of logistician without boundaries.

Detecting customer needs can be perceived as a complex, unstructured situation where a mapping of major variables is required. For example, new products or product service combinations are tested and may be developed together with partners in the supply chain. This is a typical situation where action research projects seem appropriate.

Supply Chain Management Goals

Authors	**Supply Chain Characteristics**
Boutelier (1999)	Partnership, Individualization, Pull, Postponement, Planning
Otto / Kotzab (2001)	Compression, Speed, Cooperation, Integration, Optimization, Individualization, Core competence, Reducing information asymmetries
Seuring (2001)	Individualization, Integration and Effectiveness. Efficiency

Important for a good action research project is clear agreement with the client organization about the aim of the research project to avoid misunderstandings. This is justified in our research findings that follow now. According to Martin Muller, Supply Chain Management as a young field of research is a good area of application for action research projects.

4. Findings

The possible use of action research (AR) on shipping, logistics and cluster management was studied extensively for supporting two logistics projects one at Aston University for thesis on Logistics in Emerging Economies completed in 2002 and the other project for feasibility of setting up the Dubai Flower Centre (DFC www.dubaiflowercentre.com at the University of Hull UK). This will test the hypotheses of whether the findings could have been improved the final outcome that was researched with traditional research techniques. In both the cases, the outcomes will be different with varying focus. This experience will provide the area that will be the future research in other countries in GCC most notably in Kuwait and Saudi Arabia.

Given the crucial role of relationships with SCM (Supply Chain Management), the approach underlying AR (Action Research) – that the foundation for understanding lies in interpreting relationships (Nasland, 2002) – is especially congruent with the collaborative improvement needs of SCM.. The application of AR has the potential not only to provide insight around relationships but also to re-enforce and to enhance relationships.

4.1 Research Findings on Logistics in Emerging Economies (LEE)

4.11 In our first research findings on Logistics in Emerging Economies (LEE), conclusion drawn in 2002 was validated by the announcement of the Dubai Government to development of Logistics City by 2004. The Action Research could have further validated the findings to the final conclusions again and thus add new dimension to the research project of LEE. However, it should be noted that the future direction in the author's research would be to make full use of Action Research for intermodal transportation and port development with all facts, events, norms and rules as shown below.

Research methods of Action Research (Moser, 1977:26)

		Kind of Involvement		
		Absence from the panel	**Presence at the panel**	**Survey of the panel**
	Facts	• Statistical enquiry of scocio-economical data • Standardized / open questionnaires • Analysis of content • Quasi-experiment • Informal tests	• Quasi-experiments • Structured / unstructured observation	• Standardized / open interviews • Survey of experts • Analyses of content • Analyses of literature • Analyses of sources • Analyses of documents
	Events	• Analyses of content for repeating events • Interviews for rating events by self/external assessment	• Recording of processes with media for observation • Protocols • Process reflection with fixation in written form • Crises experiments	• Survey of affected peopl's assessment • Survey of experts • Analyses of documents • Analyses of literature • Interpretations of sources
	Norms / Rules	• Sociometry • Analyses of content • Quasi-experiments • Standardized / open questionnaires • Semantic differential	• Structured / unstructures observation • Quasi experiment • Crises experiments • Group-dynamic reflection • Role playing	• Standardized / open interviews • Rating of experts • Role playing • Analyses of literature • Interpretation of sources • Analyses of documents

The research findings are cumulated over a three-phase process highlighted on Research Methodology. The data was secured over five months in the following manner –

- Pilot Questionnaire of closely-knit and friendly Cargo Community of Dubai.
- Online Questionnaire – Administered twice with a gap pf 3 weeks between each to improve response rate.
- Events Focused on Logistics in Dubai – The Logistics Conference on *"Logistics in Emerging Economies"* (October 22-23, 2002) organized by Global Resources, an event management company and the other shipping conference by Dubai Shipping Agents Association (DSAA) on *Learning is a Never Ending Experience* (November 3, 2002) where 350 people interacted in the presentation made by the researcher on the questions designed for this purpose and BIMCO Conference (www.bimco.dk) on January 8, 2003 where the researcher presented a method of mapping skills in the maritime industry under the logistics of

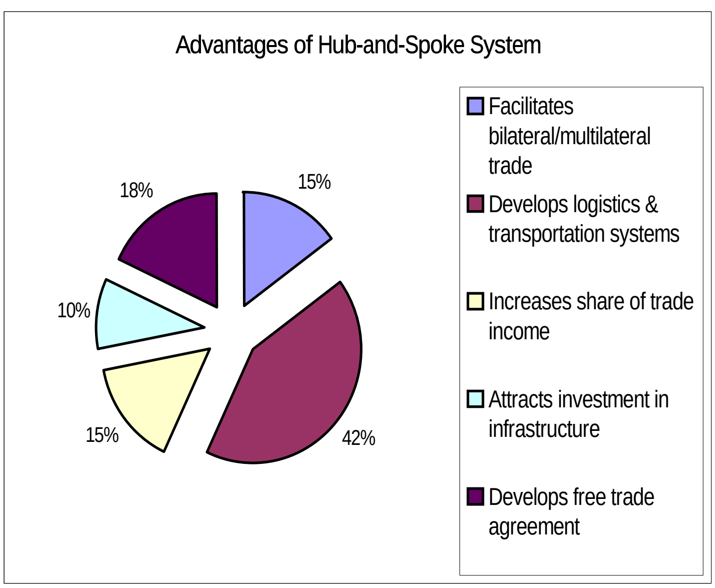
the emerging economy to diverse audience (90+) from Middle East who gathered in Dubai.

- One –to- One Personal Interview Clusters in the Logistics Community post-Logistics Conferences and Events – who were primarily speakers at this event. Twenty-four people provided additional data that addresses the three research questions on the trends in UAE Transportation & Logistics Sector; ability of companies in UAE to adapt to these trends and significant impact on the local culture and way of people working that provides an index to the future of this region.

The findings are based on responses to 17 questions designed to analyze the trends in Transportation & Logistics sector in UAE and how Dubai and UAE is adapting to them with consequential impact on the local business culture.

The questionnaire was refined in the light of the comments elicited from closed cargo community who were members of the Supply Chain Logistics Group. To validate and increase the response to the online questionnaire, it was administered twice – firstly, to random sampling of 100 companies located in the free zones of UAE and secondly, stratified sampling of 150 companies but this time extended also to those in the GCC as well as it was becoming obvious that the implementation of GCC Customs Union effective from January 1, 2003 will have profound impact on the hub-and-spoke system integrated into the logistics strategy of the countries in the region. The response rate to the online survey went up from 32% to 57% in the second stratified sampling.

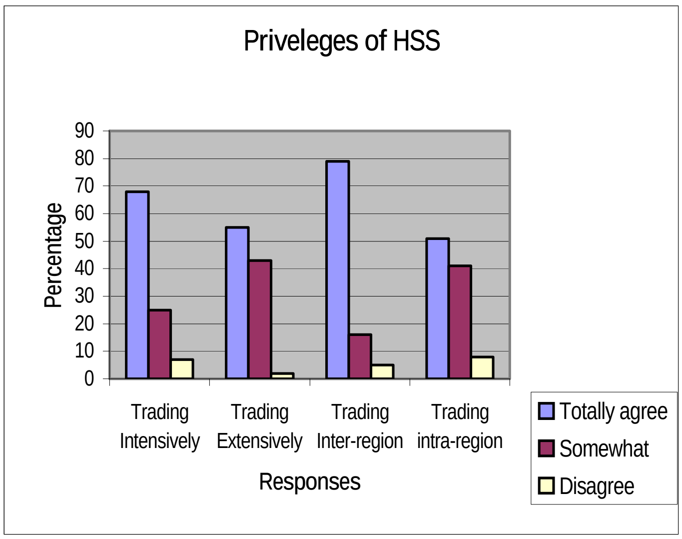
The launching of the FIRST Logistics Conference in Dubai on October 22-23, 2002 (website[ii]) made the findings even more interesting especially on the logistics trends, strategy and business culture. It also provided a cluster of 24 senior people in the logistics community who were interviewed on one-on-one basis to support the trends in transportation and logistics sector of Dubai and UAE.



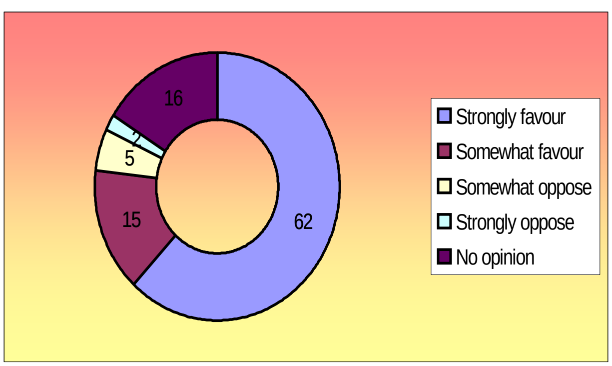
4.12 **Identify the advantages of the Hub-and-Spoke System (HSS).**

RESPONSES – 42% felt that HSS develops logistics and transportation system. This impacts the trend in the transportation and logistics sector of UAE.

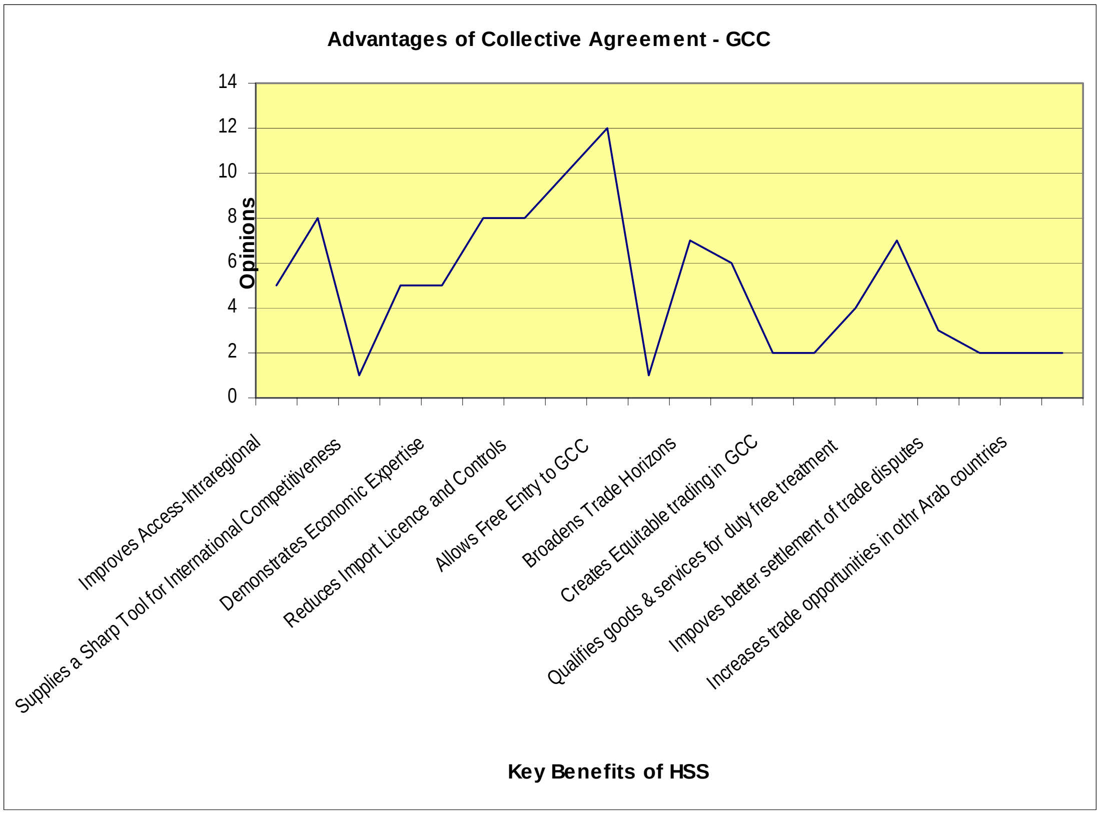
18% of the respondents felt that HSS also develops the free trade agreement. This was also spot on the new Customs Union initiatives of the GCC countries. Again 15% that the trading volume will increase due to the HSS system especially this was a noticeable trend in the emirate of Dubai. 10% also stated that HSS will attract foreign investment and several free zones have shown growth in the numbers of the companies taking position in this strategic part of the GCC region. The number of multinational companies in Jebel Ali Free Zone has gone up from 1800 to 2300 companies – a growth of 22%. This data supports the leading trends under research question 1 in the logistics of UAE and Dubai that is focused to become the hub of the region.



4.13. **Do you agree or disagree that HSS provides privileges of trading extensively and intensively, both interregional and intra-regional?**
RESPONSES – It was beyond doubt that 62% of respondents felt that HSS allowed trading extensively and 80% underlined that it was interregional. This also supports the government initiatives to build on the logistics trend (research Q.1) by implementing trade policies that harmonizes the customs tariff in the customs union to be made effective from January 1, 2003.



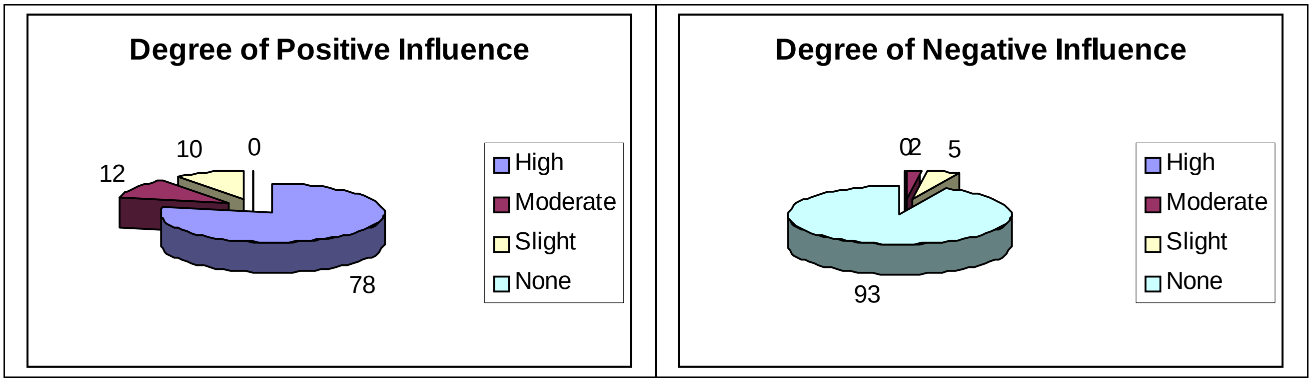
4.14. **To what extent do you favour or oppose a policy allowing free trade with all countries of the world as a member of the Hub-and-Spoke System?**
RESPONSES – 62% of the respondents favour free trade with all countries under HSS. This is quite significant, as the International Monetary Fund (IMF) Congress will held in Dubai and Middle East for the first time in October 2003. The IMF will take particular interest in Dubai becoming an active global economy. Only 7 % had opposed the free trade system and 15% expressed no opinion. The data supports the research question 3 where changes are effected in the local business culture of the region.



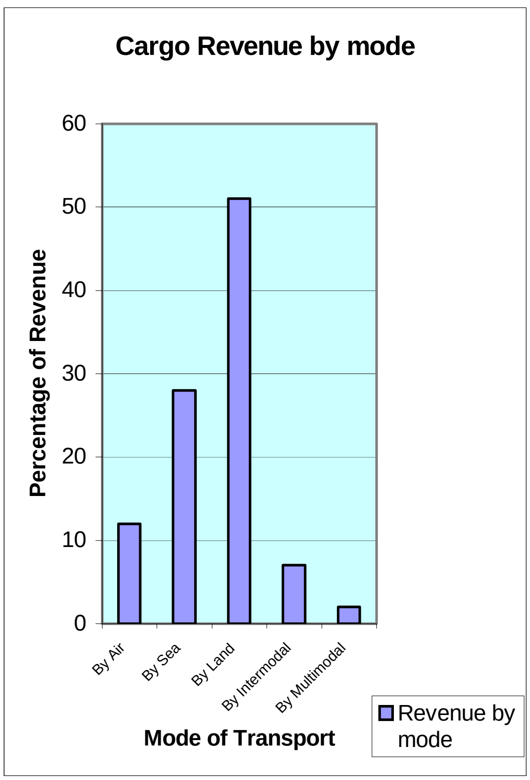
4.15 **Are you able to leverage the advantage of a collective agreement being as member of GCC vis-à-vis the member country (your end customer or supply partner)? Identify the key benefits that you have in being a part of the HSS.**

RESPONSES – This presents the trend under research Q.2 that is developing well to support the transportation and logistics sector in Dubai and UAE. The responses of the trading community encourage international competitiveness, rationalize customs tariffs under the customs union, improve the trade horizons, reduce bureaucratic controls of the government in UAE and improve method of settling disputes with other GCC states. All these developments are positive aspects of the trading culture in Dubai and the GCC region.

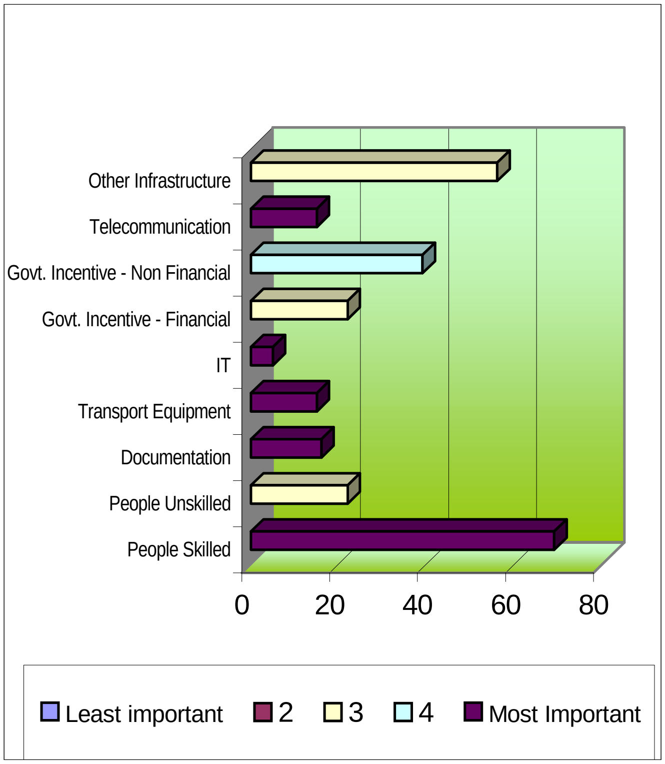
4.16 **To what degree have the establishment of free trade zone and city concept in Dubai influenced the nature of your global business operations? Has the influence been positive or negative?**



RESPONSES – The overwhelming majority of the trading community endorsed the positive influence of the free trade zones and city concept that is actively pursued by the government of Dubai – 78% stated that the influence was positive and nearly all agreed that there was no negative influence of this strategy in the growth of transportation and logistics sector. This data confirms the opinion of many companies and business in general of how well they have adjusted (research Q. 2) to the trends in transportation and logistics of the region.



4.17 To what degree has the HSS increased your revenues from shipping cargo?
RESPONSES: Predominantly, revenue from land transportation (51%) had increased due to effective use of hub-and-spoke system. There was greater emphasis on sea-road as well as air-road transportation system. Sea transportation (28%) also supported the intermodal movement of cargo through the HSS. Transshipment was the main source of revenue for the emirate of Dubai. (Data supports research Q. 1 and 2 with integrated transport and logistics solutions.)

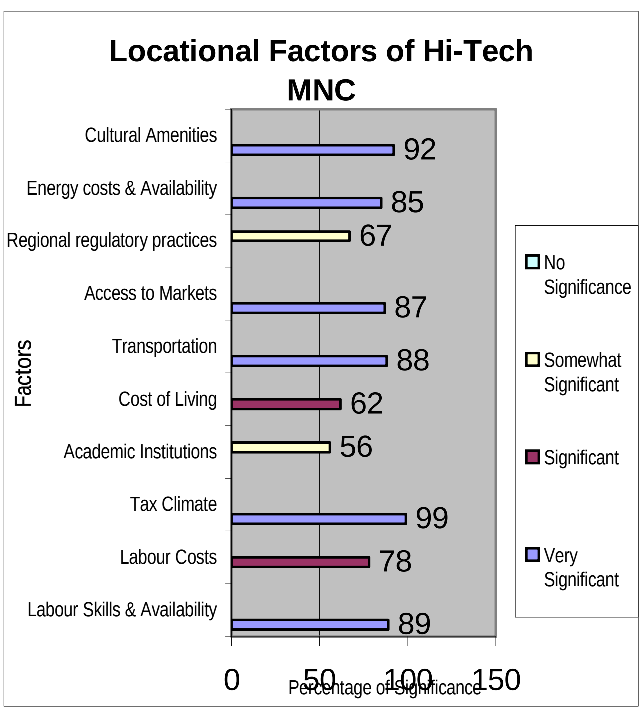


Q. 8- **Which of the existing resources within HSS do you rate as critical to success of your business?**

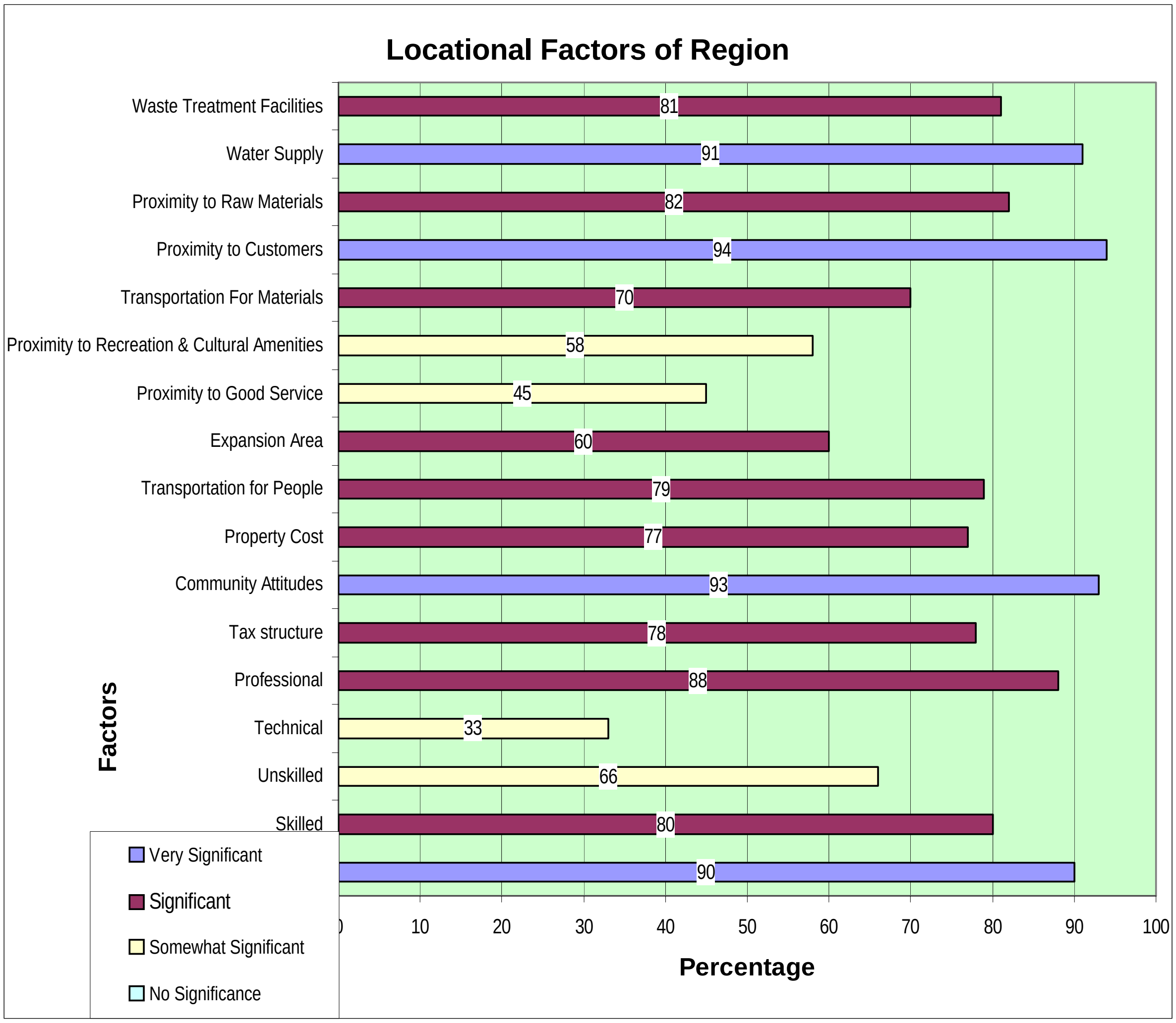
RESPONSES – Skilled people available at relatively lesser prices from the Indian subcontinent and the Arab region has been rated as most important factor of success to the businesses in UAE. It was followed by government incentive – financial 22% and non-financial 39% was rated in order of importance. Simplified user-friendly documentation also added value to the success of the companies in Dubai and UAE. This data comprehensively endorses the government policies that are supportive of research Q.2 and 3 making companies operating from this region to be more active.

4.18 **What are the factors that influence your decision in the regional location of a hi-tech company in the free trade zone?**

RESPONSES: The most significant responses were the tax climate that encouraged many multi-national companies (MNC) establishing their regional headquarters in Jebel Ali Free Zone Authority in Dubai. The number of companies in this free trade zones is increasing and the figure as of now is 2,300 MNCs. Curiously enough, cultural amenities stood at 92 %; followed by transportation(88%); Access to markets stood at 87% (beyond the boundaries, the potential of the region was 1.6 billion) and



Energy costs & availability reached 85% of very significant. Obviously, any data on resource mobilization and factor allocation is key aspect of the decision of companies coming to his region and has shaped the destiny of many as effective players in the Hub-and-Spoke System. This supports research Q. 2 and 3 that is continuous adaptation to the trends in the region and evolving a culture based on resource availability.

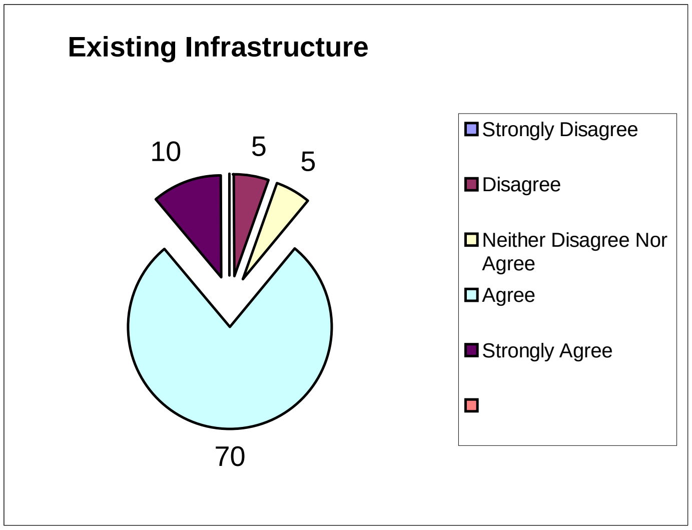


4.19 **What are the factors that influence the location choice of hi-tech companies within a trading region or country?**

RESPONSES**:** As anticipated, three factors of location that dominated the survey responses were – Availability of Labour (90%), Community Attitudes towards business (93%), Proximity to Customers (94%) and Water Supply (91%). All of them shaped the trends in the desert region, thus addressing research Q 1 and 2.

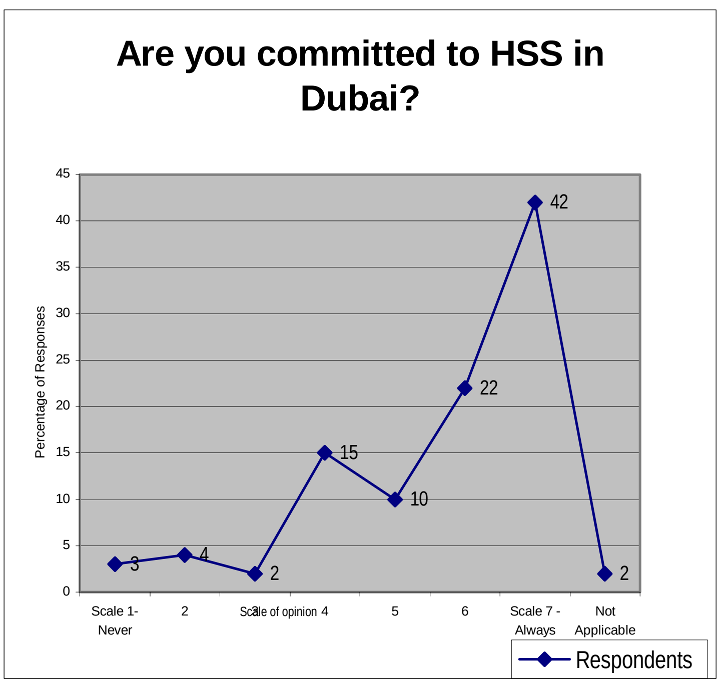
4.20 **Is your company able to optimize over the distance traveled covering the origin and destination of the cargo under the HSS?**

RESPONSES: Almost every respondent under the survey agreed that they were able to optimize over the distance traveled under the HSS and the existing infrastructure supported this movement of cargo especially the land transportation in spite of the terrain being declared as one difficult to travel, although camel and the dhow still play a very important part in the multimodal transportation system and the supply chain. Ably supporting the research Q2 where adaptation of the transportation system to harsh desert regions of the world where the camel and the dhow play their part in the movement of the cargo.

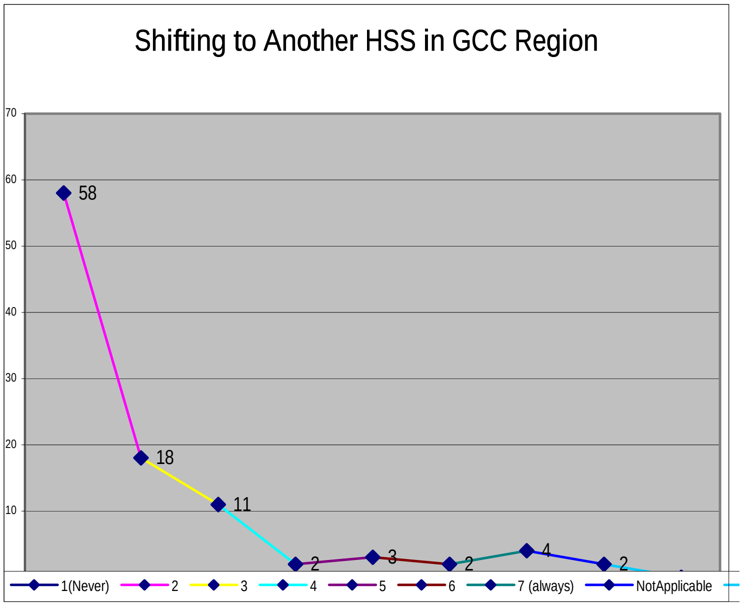


4.21 **Are you committed to HSS in your country?**

RESPONSES: On the seven-point scale, the respondents mostly preferred to stay in the same country of HSS as they were able to leverage significant advantages. 74% of all respondents said that they will be committed to HSS and it is indicated in the graph showing gradual increases on the scale from 10% + 22% + 42% = 74%. This speaks volumes for the answers to the research Q 2 and 3 – the power of aggregation greatly influenced by the factors of location in the previous findings above.

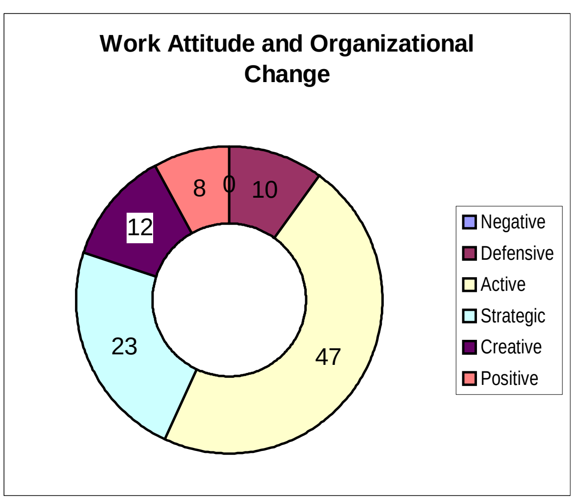


4.22 **Are you planning to shift to another HSS in the GCC region?**
RESPONSES: Here again the respondents have show distinct preference of not shifting to another hub or country in the region supporting the initiatives of the government to provide a conducive environment for growth and expansion of business. 87% (58+ 18+11) of multinational companies were not having plans of shifting to another part of the trading region in GCC. They endorsed Dubai as the most preferred destination for investment and business development. Again this is a corollary to the above findings that provides the answers to research 2 & 3.



4.23 **What is your reason for shifting to another HSS other than that in your country / region?**
RESPONSES: It did not draw any comment and was left blank in most cases of the survey responses. So it is a commitment to stay in Dubai and UAE where every MNC established its business operations. Negative responses thus showing how firmly companies in the region are committed to the hub of the region. This data provides the answers to research Q 1 – on the trends of the region.

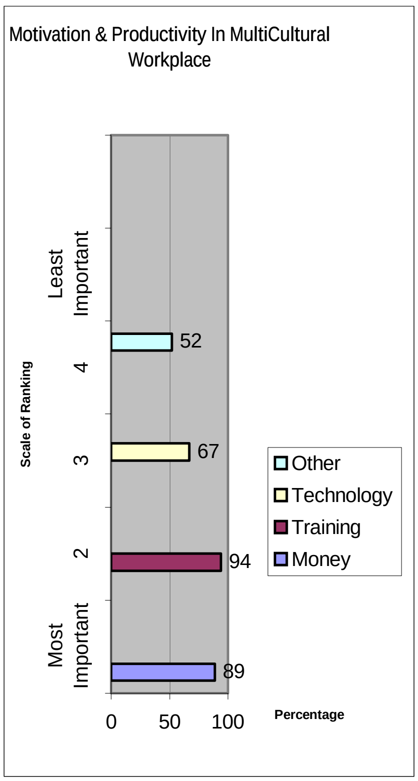
4.24 **Under the HSS, you are leading a team that transforms the business and supply chain process through right work attitude. Identify your attitude towards change in the organization that facilitates productivity at work?**
RESPONSES: 47% of the companies surveyed stated that they would be ACTIVELY undertaking research and planning to deal with likely scenarios that effect work attitude and organizational change. Although most of the MNC adapted to local Arabic culture that was perceptible in news reports and other company activities. In order to use the HSS effectively, the MNCs stated that they must fully deploy a STRATEGIC posture to work attitude and organizational change that brought significant benefits to all workers. They developed a



coherent and dynamic response to all aspects of management systems. Overall, the approach also included POSITIVE aspects to work attitude, as they were a part of the team that makes changes happen to support new developments and technology within the company organization. This data provides answers to research Q. 2 and 3.

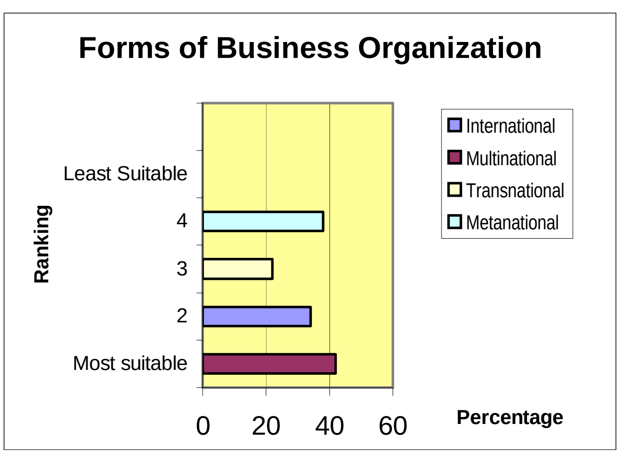
4.25 **In a diverse work environment where the building blocks of HSS are made, what type of motivation are used to sustain work productivity in multi-cultural trading practices?**

RESPONSES: This response underscores the importance of training in a logistics community – which is a missing link in the productivity puzzle. 94% of the respondents endorsed a need for continuous training in logistics that has been neglected by all academic institutions. The researcher was involved with Higher Colleges of Technology (HCT) as a faculty for six years but even this initiative was snuffed out of existence by the national institution of higher learning in UAE and elsewhere in the region. Even at the workplace there was hardly any structured training that is being provided by leading business houses in UAE and the GCC region. Moenyas factor of motivation came second (89%) as this was recognition for knowledge and skills in logistics often gained over many years on the job. The real productivity at the workplace lies in needs-based training, seminars and conferences in Logistics supporting professional development at the workplace either for nationals or other expatriates. This data overewhelming provides the answer to research Q 3 where it is clearly underlined that training is essential to change behaviours and attitudes of people working within the company – a part of the hub and spoke system.



4.26 **What is the form of your business venture that is found most suitable to work?**

RESPONSES: The framework for implementing the types of organization that would succeed in the local business culture was identified by the repondents still as MULTINATIONAL (42% most suitable – a scale of one) , where a company has head offices in several regions, one standrad global



product and market. In the MENA (Middle East and North African Region), Dubai has emerged as most favoured destination of capital and technology because of openness and ease of doing business. Next in importance came the INTERNATIONAL (34% - suitable under scale of two) form of business where a branch of major domestic company – a subsidiary in a foreign market is established. But the future of the region will be the METANATIONAL form of business where companies source goods, technology,information & capital from around the world, but business activity tending to be centred in certain cities or city required in few parts of the world. Though the companies find this not so suitable now, it will be gradually realizing this under the new drive to city concept of Dubai and UAE as the hub of the region. This data provides direction to research Q 2 of how companies adapt to the global influences of transportation and logistics. And the day is not far off when the desired form of global entities will be transforming in rapidly chaning economy.

5. PCFC (Ports, Customs, Free Zone Corporation) Support For Professional Development

The PCFC has endorsed the events, workshops and conferences developed by TransLogistique Canada earlier in Dubai but for the purpose of current research it will still be a preferred supplier of professional education from Gulf University in Kuwait (GUST Logistics Forum) through participation of senior management of DPW through their executive presence in these professional activities since 1996. Several of the management staff in PCFC were former (national) students in the program on Global Trade and Transportation exclusively developed and localized for the needs of the country under Higher Colleges of Technology or GUST, Ministry of Higher Education.

5.11ntra-Regional Shipping Model

Let us look at the intra-regional shipping model where Kuwait will have a stake in the joint sharing of resources as one of the active participants among GCC Customs Union. The author's experience of over two decades in various working cultures of the world has been transformed in an academic environment through the community colleges both in Canada, United Arab Emirates and now Kuwait.

Although the attention and focus is on Dubai and United Arab Emirates, which have laid alternative strategic plans to diversify the national income other than that from oil it has proved now that trade can drive the economy too and underlined that it is risky to place the entire growth of the country on single finite wealth (mineral oil) of the nation. Not to say the least is the visionary leadership, intuitive judgment and the stability of the desert kingdom for last 30 years. The country ploughed back its oil wealth into developing modern transportation infrastructure that could easily be the cynosure of the developed world.

Since national resolve is made on switching strategy from oil to trade, UAE and Dubai in particular has carefully nurtured trade, manufacturing and other services. This will be a good learning curve for Kuwait Ports and Customs.

6. Conclusion: The Future Research Using AR

As Dubai has provided a viable business model and growth strategy, especially in port management with its ability to compete and manage foreign ports in Cochin and Turicorin (India), Jeddah (Saudi Arabia), Djibouti, Romania and Libya, it is easy to reduce the port performance measurement to three broad categories: physical indicators, factor productivity indicators and financial indicators. However, an integrative supply chain approach is seldom adopted, although a change process towards supply chain integration is taking place in practice and new appropriate performance measurements are required.

Action Research (AR) enables researchers to participate in this change process, although it requires a close relationship and collaboration between practitioners and researchers. So it is postulated that AR will present port managers and other experts with a model of port performance appropriate to the role of ports in a logistics and supply chain context.

The contemporary role of ports (whether it is Dubai or elsewhere in GCC states) often extends from providing services to ships and cargo at the traditional sea/land interface (intermodal should be the focal point of future research), to being a good location (as the hub-and-spoke research has proven for Dubai) for value-added logistics services and standing as a perfect networking site where members of different supply chains can meet and interact. The underlying point here is that the competition will be based between global supply chains rather among global corporations. However, it is beginning to dawn with GUST[iii] management that a valid curriculum for port logistics and channel management has yet to be developed and successfully applied although institutional alliance with University of St Missouri, St Louis (UMSL), USA will enable such a development in near future.

“The direction for investment in education is clearly written on the wall – the petrodollars could usher in reforms to build modern economies that create value through productivity rather then distributing wealth earned from a depleting resource” (Boer and Turner, 2007). GCC’s windfall from oil wealth from $2 trillion to $3 trillion over the next decade presents a great opportunity now. “GCC schools at all levels are failing to produce students with the skills and attitudes a modern productive economy requires” (Boer and Turner 2007). It is apparent that looming skills shortages for logistics and supply chain management has gripped the developed world let alone those in the GCC and Middle East region. “Simply buying more equipment or hiring more teachers won’t solve the problem, because the GCC already has some of the world’s lowest student-teacher ratios. Instead, governments must focus on improving the quality of teaching by setting up better training programs for teachers and paying them enough to make those jobs desirable. School curriculums must reflect the future demands of a modern private economy.” (Boer and Turner, 2007)

The Canadian Government supported a major research study on skills shortage for the supply chain sector in 2006. Some similar initiative must be taken by all in GCC state for business specialization that will be redefined by the development economics of the region. The CEO of Dubai Logistics City in Dubai had announced a beginning of such a market study and expressing grave concern on skills shortage in the logistics industry..[iv]

The logistics approach regularly adopts a cost trade-off analysis between functions, processes and even supply chains (Ruston et al., 2000) and this could be beneficial to port efficiency by directing port operations toward relevant value-added logistics activities. Similarly, supply chain partnership between members and other market players in international logistics suggests that issues of performance and competitive benchmarking should be examined at the level of supply channel rather than at the level of the firm or industry. It is strongly advocated for developing ports in Kuwait, Saudi Arabia, Qatar, Oman and Bahrain by benchmarking world largest ports in operation and also takes the cue from a successful neighbour as Dubai Ports World. (DPW). Please see the model below applying logistics and SCM concepts to port performance measurement. Under Bichou and Gray (2005), the model was discussed with participants to assess its validity and feasibility. Responses varied in many aspects, although most port participants considered the model valid as a “first initiative” that looks at port efficiency from the perspective of logistics and SCM.
This model will be followed, with use of AR in the future research for an inter-modal shipping and logistics in the GCC region. Further investigations and testing of AR methodology in the context of port logistics and SCM are required

Interim Model for Port Performance Measurement

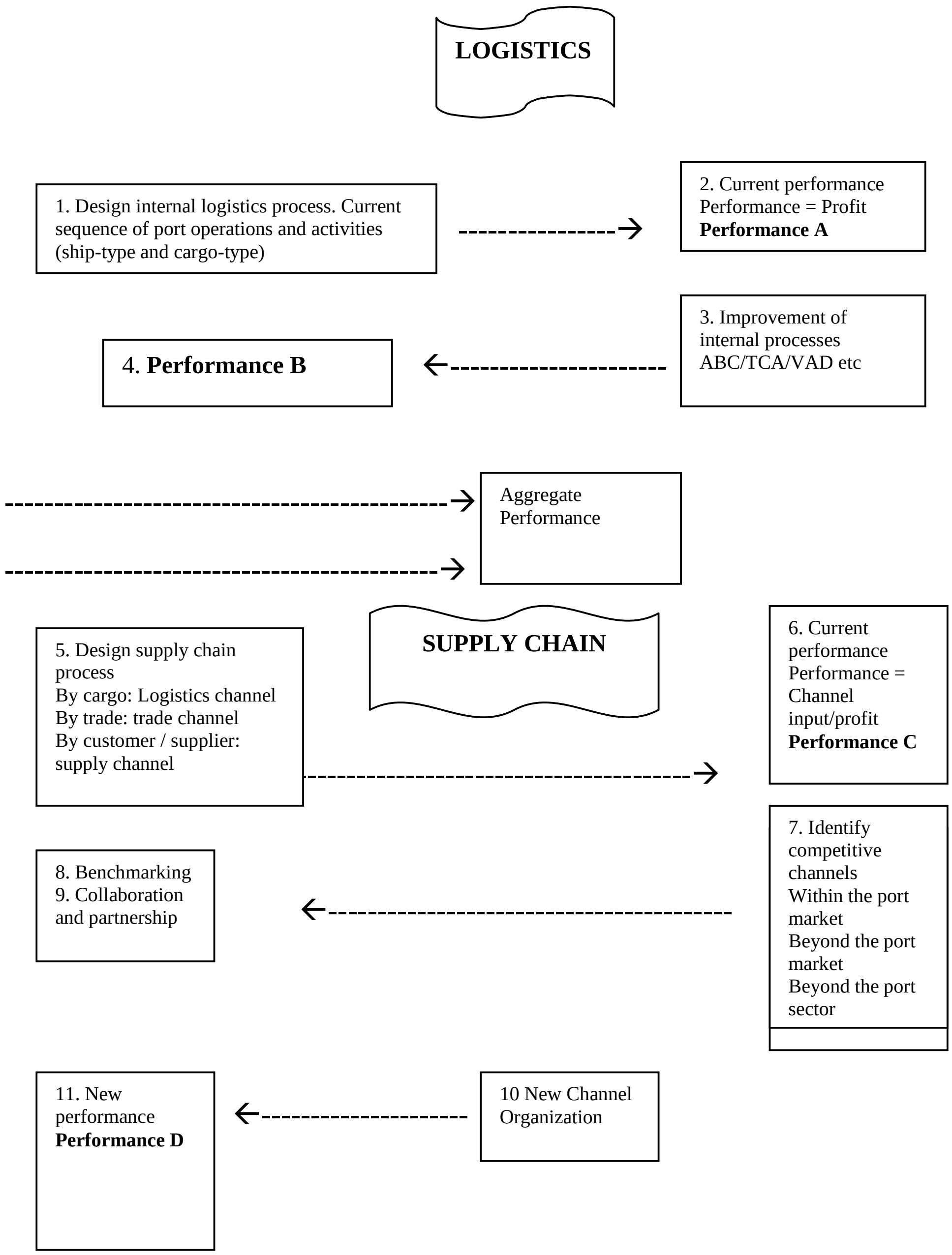


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Table – 1
Fact file: Kuwait

Location:

Middle East, bordering the Persian Gulf, between Iraq and Saudi Arabia

Total land area:

17,820km2

Climate:

Dry desert; intensely hot summers; short, cool winters

Airports:

7

Heliports:

5

Roadways:

5749km (total)

Population:

2,418,393 (includes 1,291,354 non-nationals)

Labour force:

1.136 million (non-Kuwaitis represent about 80% of the labour force)

Languages:

Arabic (official), English widely spoken

Source: CIA World Factbook

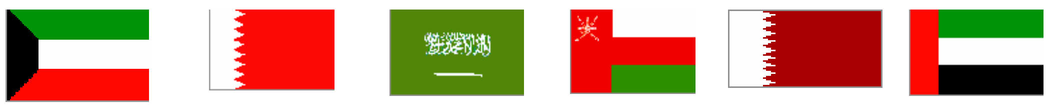
Table 2
Snapshot of Infrastructure in UAE

- There are 9 modern seaports in the UAE.
- Each Emirate has its own seaport, with Dubai and Sharjah having two each.
- The largest ports of the UAE, which receive 80% of the imports, are those of Abu Dhabi, Dubai, and Sharjah.
- From 1988 to 1996, the traffic at the UAE ports increased at an annual average of 8%.
- The UAE accounts for almost half of the shipping capacity in the Gulf with 168 deep-water berths.
- Activities in Rashid and Jebel Ali Ports accounted for 2.25 million containers in 1996, with an increase of 8% compared to 1995.
- Jebel Ali's Port is ranked 13th in the world.
- Fujairah's Port is ranked second in the world after Singapore as a containers' station.
- There were 738,074 direct telephone switchboard lines at the end of 1996.
- The UAE is ranked 7th worldwide in the use of paging services.
- The Internet subscription reached 25,000 by the end of November 1997.
- By the end of 1996, the public phone booths have increased to 16,771 from 12,078 in 1995.
- By the end of 1996, the direct telephone switchboard lines increased by 65,744 (8.9%) lines from 672,330 and totaling 738,074.
- For every 100 people in the UAE, there are 31 telephone lines, which places the UAE in the lead of the Gulf region.
- The number of mobile phones reached 193,222 in 1996 compared to 128,495 in 1995.
- Pager subscribers reached 246,023 in 1996.
- There are six International Airports in the UAE.
- The Emirate of Abu Dhabi has two airports, one in Al Ain and another one in the capital city, Abu Dhabi. Etihad Airways started operations in 2004..
- Sharjah has the longest aviation history in the UAE, with aviation activities as early as 1932. This emirate has shown the way for low cost airline with the setting up of Air Arabias
- Gulf Air and Emirates Airlines are the two national airlines in the UAE.
- There are 56 post offices in the UAE (1997).

Source: UAE Trade Directory 1998

TABLE –3

	Kuwait	Bahrain	Saudi Arabia	Oman	Qatar	United Arab Emirates
Area (sq.km)	17,800	706	2,250,000	309,500	11,500	83,600
Population	2,270,865	642,972	20,665,000	2,287,642	544,031	2,776,000
GNP (million $)	29,705	6,620	139,383	15,596	12,180	52,125
Export (million $)	12,140	1,583	50,756	4,968	4,010	23,295
Import (million $)	7,616	2,430	28,032	5,701	2,496	38,510
Source: Gulf Cooperation Council Secretariat – August 6, 2002						



GCC countries comparison

Table – 4

Transport & Communication in Dubai

	1998	1999	2000
Paved Highways (km)	4,155	4,339	4,171
Vehicles (000's)	445	496	588
International Airports	1	1	1
Air Freight (000's Tons)	263	474	562
Passenger Traffic (000's)			
Air Arrivals	10,024	12,527	13,345
Air Departures	11,922	13,357	14,345
Land Arrivals	892	937	1807
Land Departures	891	948	1,984
Commercial Seaports	2	2	2
Sea Freight (Thousand /Tons)	36,424	39,702	44,327
Telephone Lines *	346,384	368,185	390,665
Mobile Telephone	183,523	312,882	523,838
Telex Working Lines	1,338	1,107	953
Facsimile Lines	9,496	8,890	8,385
Post Office*	19	19	21
Postal Agencies	60	61	59
Letter Boxes	45,700	58,800	83,534
Internet Dial-up	31,074	55,543	88,531
Air Mail (000's) Dispatched	83,451	74,517	65,800
Airmail (000's) Received	57,369	54,860	51,200

Source:UAE Year Book 2000 – Ministry of Information & Culture
* Emirates Telecommunication Company – ETISALAT

[i] Suresh,P.2002 *Logistics in Emerging Economies: A Case For Dubai as a Trading Hub* Aston University, UK
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[ii] Translogistique Canada Website www.translogistique.org
[iii] Gulf University of Science and Technology www.gust.edu.kw/glf
[iv] Profitt. M., What the CEO of Dubai Logistics City thinks of logistics labour shortage http://www.arabianbusiness.com/index.php?option=com_content&view=article&id=8389&Itemid=1