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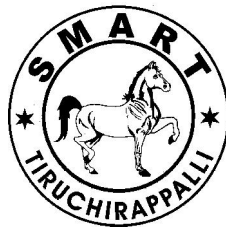
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THE IMPORT ACCOMPLISHMENTS IN MAJOR PORTS OF INDIA THROUGH CONTAINERS BY LOGISTICS OPERATORS

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Abstract

India has around 6,000 kms of natural peninsular coastline strategically located on the crucial East-West trade route which links Europe and Far East, with 12 major ports and about 180 minor and intermediate ports. Most of the major ports were established in the last few decades after independence. Besides, major ports like Kolkata and Mumbai were established more than hundred years ago during the British colonial rule. The author has analyzed the import performance of India's twelve ports and forecasts the future trend of their import performance for ten more years.

I. Introduction

Ports, as important maritime institutions, have continued to evolve with the changing demands of the global shipping trade and they are more than just a stop-over points for ships to load and unload cargo. They have emerged as highly sophisticated and integrated systems which provide full range of services for the shipping industry and are increasingly getting integrated into logistics value chain which extends from origin of cargo to its final destination. A brief account of the profile of major Indian ports and regulatory framework is presented below.

Development of Port Sector in India

The seaports of India have played a historical role in the development of maritime trade and economy in India. Indeed, maritime trade in India has been and continues to be almost synonymous with India's overseas trade, accounting for over 95 per cent of India's total cargo volume. The structure, composition and direction of India's overseas trade has, however, been undergoing important changes over the last five decades since India's independence, in line with the broader macro-level changes in the economy. The last ten years of economic reforms in general and globalization in particular, have accelerated the process of change towards a more diversified commodity composition of

trade. India has about a dozen major ports. The table 'Berth available in the twelve major ports in India' shows ship berthing facilities at these of ports. As evident from **Table - 1**, the number of berths is not exactly proportionate synonymous with traffic handled. Productivity varies vastly at these ports.

Future of Indian Ports

Will Indian port sector really see the emergence of private sector as a major player in the port sector in future? Will major ports be fully corporatised and bring about greater rationalization and transparency in functioning? Are minor ports in India poised to take a lead over major ports in performance? Is there enough room for new green field port projects in Indian port sector? Several of these questions loom large, as the Indian port sector is increasingly coming under the impact of wide ranging port reforms and private sector investments, in line with larger transformations underway in many global ports.

II. Need for the Study

Seaports across the world are witnessing rapid changes in the cargo handling technology and tools. The trend in global shipping has tended to increasingly favor deployment of large-sized and faster vessels, requiring deeper drafts at ports and highly efficient modes of cargo discharge to minimize detention time.

Absorbing these technology changes in the operation of Indian ports not only demand large infusion of capital but also demand new structures of operational and business management. The scientific and technological developments make the world a global village which enhances trade between importers and exporters. The study aims at analyzing the import performance of India's major ports and giving suggestions for improving the quality of services. It will throw light on container handling at the Indian ports.

III. Scope of the Study

The present study covers various components of the import performance of India's twelve major ports. The study highlights the potential of major ports in India, import performance, commodity wise operational analysis of india's twelve major ports. Among all the modes of operations, majority of ports import through containers for speedy and safety reaches.

IV. Objectives of the Study

The present study proposes to analyze the following objectives empirically.

1. To give an overview of Indian ports, with special reference to twelve major ports.
2. To study the operational efficiency of major ports in India.
3. To study the commodity and mode wise import performance of major Indian ports.
4. To highlight the various problems faced by the port authorities
5. To suggest ways and means for effective import operations to enrich India's maritime trade.

V. Methodology of the Study

In the present study, an extensive use of secondary data was made. The study was based on descriptive and analytical approaches.

Secondary Data

The secondary data were gathered from the records of Indian ports' association web site, internet services, libraries in Bangalore, Tuticorin, Chennai and Coimbatore.

VI. Frame Work of Analysis

The data collected were analyzed by applying the tools viz -

- Mean, Standard Deviation, Cumulative Variance and Cross Growth Rate were used to analyze the import performance of twelve major ports.
- Trend analysis was calculated by using regression model.

VII. Period of the Study

The secondary data for a period of **ten years (From 1993-1994 to 2003-2004)** were collected and used for the present research.

VIII. Performance of Indian Major Ports

Freight Forwarders' performance on import of goods with the help of containers was studied for a period of 10 years from 1993-1994 To 2003-2004. For this purpose, 12 major ports operating in India were selected exclusively for Freight Forward operations through containers. They are Kolkata Port, Haldia, Paradip, Visakhapatnam, Chennai, Tuticorin, Cochin, New Mangalore, Mormugao, Mumbai, JNPT and Kandla. The details of container traffic engaged in import of goods are highlighted in the following paragraphs. While analyzing the operational efficiency of major ports in India, it is observed that Indian port capacity is very low when compared to Singapore, Dubai and Colombo.

While analyzing country wise vessel performance, Greece is the major operator with 3153 vessels whereas India's vessel operations are just 429.

The Freight Forwarders in the study area completely depend on feeder services instead of large (mother vessels) sized ships. Hence, the high capacity vessels are unable to enter into Chennai and Tuticorin ports. They are always very much worried about the shipping line and the control hub which is located at Colombo, because Colombo port is not the safest port due to sudden out break of internal wars. Further, the cost of storage of goods in the warehouse is also very high because shipping line operations are made only once in a week.

Total Container Traffic (In Tonnage)

The import performance of ports depicted in **Table -2**, shows that JNPT port recorded the highest volume of average operations at 4981 thousand tonnes. The average performance of container operation in the study area for imports shows 2075 thousand tonnes in Chennai port and 543 thousand tonnes in Tuticorin ports.

Trend analysis of import performance, shown in **Table -3**, clearly shows that uniform development was noted from the year 1993-1994 to 2003-2004. Year by year there was steady growth in the operation of containers traffic by the Freight Forwarders. An attempt has been made to forecast the future trend in freight forwarding operations, especially in the import performance through containers in different ports (**Table -4**). For this purpose, 10 years data were used to forecast and the next 10 years trend up to 2014-2015 was identified by applying the regression analysis. The efficient total operations through containers by the Freight Forwarders witnessed a steady growth from 5396 thousand tonnes to 23866 thousand tonnes.

Total Container Traffic (In TEU's)

The import performance of ports, shown in **Table -5**, shows that JNPT port recorded the high volume of average operations at 495 thousand TEU's, 172 thousand TEU's in Chennai port and 71 thousand TEU's in Tuticorin ports.

Trend analysis of import performance, depicted in **Table – 6**, shows that uniform development was noted for the period 1993-1994 to 2003-2004. There was steady growth in the operations of containers traffic by the Freight Forwarders. An attempt has been made to forecast the future trend in freight forwarding operations, especially in the import performance through containers in different ports. For this purpose 10 years data were used to forecast the next 10 years trend up to 2014-2015 by applying the regression analysis.

It is clear from **Table -7** that the future trend analysis shows a positive growth every year and reached a peak level during the 2014- 2015 with 72.1 percentage of growth. To sum up the performance of the import of goods through containers, a tremendous growth was observed during the study period 1993-1994 to 2003-2004. Among the 12 major ports, JNPT and Mumbai performed excellently and Chennai and Tuticorin also performed equally well on par with Mumbai port.

Total Container Vessel Traffic at Major Ports

The container vessel traffic at major ports was studied and found that JNPT and Mumbai recorded an outstanding performance and it is followed by Chennai, Tuticorin and Cochin ports (**Table-8.**)

An attempt has been made to forecast the future trend in freight forwarding operations, in the total container vessel traffic in different ports (**Table – 9**). For this purpose, 10 years data were used to forecast the next 10 years trend upto 2014-2015 by applying the regression analysis. It is clear that the future trend analysis shows a positive growth every year and reached a peak level during the 2014- 2015 with 61.2 percentage of growth.

IX. Suggestions

1. Better connectivity should be developed between the road, rail and the sea.
2. Chennai and Tuticorin ports should be equipped with advanced equipments to improve the turn around time.
3. Chennai and Tuticorin Port should equip themselves to handle bigger mother vessels like panamax and post panamax by way of increasing the draft.
4. Terminal handling charges should be economical in all the major ports in India.
5. The Multimodal Transport Operators (MTO), Bill of Lading (BOL) should be regularized by the Indian government and the same Bill of Lading should be allowed for all kinds of logistics movement.
6. Government of India should take more effort to train the Freight Forwarders towards the Supply Chain Management-enabled operations. It helps to improve the export and import activities with an effective and efficient manner with least time and operating cost.
7. The documentation processing in the ports should be made online to minimize the time spent on it.

X. Conclusion

The recent policy of LPG by the Government of India paved the way to earn good financial position and enhance the economic status. Though various problems are studied and highlighted in this research, the Researcher specially notes that the Chennai and Tuticorin ports perform excellently with small vessels. But these ports are not fit to operate with mother vessels due to the limited depth in the sea level. Hence the Government of India should come forward to provide adequate financial aid to construct world class port in Chennai and Tuticorin instead of depending on Colombo port.

Scope for Further Research

The boundaries of port performance, logistic operations and freight forwarding are unlimited and ever expanding as per market dynamics. Major ports of India in logistic operations offer ample scope for further research in the following topics.

1. A study on agency performance on logistic operations.
2. An empirical analysis on financial performance of major Indian ports.
3. A study on export accomplishments in major ports of India.
4. A study on containerization of major ports of India.

Text References

1. Christopher, Martin (1994) “ Logistics and supply chain management” Longman: Pitman.
2. Christopher, Martin (1998) “Logistics and supply chain management : Strategies for reducing cost and improving services” – 2nd Edition – London : Prentice Hall (Financial Times), ISBN: 0-273-63049-0.
3. Dobler, D., Lee, D. and Burt, D. (1990) Purchasing and Materials Management, 5th Edition, McGraw-Hill, New York.
4. Ferrell, Robert W.; Customer oriented Planning: D.B. Taraporewala & Sons.
5. Gattorna, J.L. and Walters, D.W., Managing the Supply Chain – A Strategic Perspective, Macmillan Press, London, 1997, pp.60-78, 99-110.
6. Hartley, John “(1993) “Electronic data interchange: gateway to World-class Supply Chain Management” – Hyderabad, University Press, ISBN : 81-7371-04.
7. Ross, David F., “Distribution, Planning & Control”, Chapman & Hall.
8. Tyndall, “Gene Supercharging supply chains:new ways to increase value through global operational excellence/Gene Tyndall... (et al.)” – USA: Wiley, ISBN: 0-471-25437-1.

Journal – Research Paper References

1. Ansari, A. and Modarress, B., “Just-in-Time Purchasing”, The Free Press, 1990.
2. Ohmae, K. “Competitive advantage in the information age”, Northern Telecom, Annual Report 1994..

Websites

1. <http://www.ipa.nic.in>
2. <http://www.supplychainaccess.com/pubs/ERA-isource.htm>
3. <http://www.CRMDaily.com>
4. <http://www.best-in-class.com>
5. <http://www.bpubs.com>
6. <http://www.accenture.com>

Table - 1
Berths Available in the Major Twelve Ports in India (As on 31.03.2007)

(Based on Reassessment of Existing Port Capacities)							
As on 31-3-2007							
PORT	POL & OTHER LIQUID	IRON ORE	COAL (Thermal)	FERTILIZER	CONTAINER	GEN.BREAK BULK CARGO	TOTAL
KOLKATA	7	-	-	-	6	20	33
HALDIA	3 + (2 BJs)	1	2	-	2	7	15 + (2 BJ)
PARADIP	2	1	2	2	-	7	14
VISHAKHAPATNAM	4	1	-	1	1	14	21
CHENNAI	2	1	-	-	3	15	21
ENNORE	-	-	2	-	-	-	2
TUTICORN	1	-	2	-	1	9 + (B Zone)	13 + (B Zone)
COCHIN	3	-	-	1	2	10	16
NEW MANGALORE	4	1	-	-	-	6	11
MORMUGAO	1	1 + Transhippers	-	-	-	2	6 + Transhippers
MUMBAI	5	-	-	-	4	38	49
JNPT	2	-	-	2*	6	2	12
KANDLA	5 +2 SBM	-	-	-	-	12	17+ 2 SBM
TOTAL	39+ 2 SBM + 2 BJs	6 + Transhippers	8	6	25	146 + B Zone	230 +2 SBM + 2 BJs + B Zone + Transhippers

Source : Indian Ports Association.

Note : BJ – Barge Jetty. (*) Berths are being converted as container berths
SBM = Single Buoy Mooring

Table - 2
Total Container Traffic (Imports) at Major Ports (Tonnage)
from 1993-94 to 2003-04 (Figures In ‘000)

Year	Kolk ata	Hadia	Para dip	Visakha Patnam	Chen nai	Tutic orin	Coch in	New Mangalore	Mormu gao	Mum bai	JNPT	Kandla	Total
93-94	639	33	0	16	661	120	48	0	2	2697	912	268	5396
94-95	833	24	0	49	922	226	165	4	2	3271	1369	331	7196
95-96	879	6	0	25	1037	280	194	0	6	3506	1861	366	8160
96-97	879	19	0	55	1105	271	248	0	13	3916	2182	421	9109
97-98	1006	89	0	51	1351	374	275	0	12	4175	2661	494	10488
98-99	1159	51	0	88	1471	428	357	0	18	3938	3795	394	11699
99-00	1272	68	0	130	2018	708	403	0	33	3542	5006	431	13611
00-01	1194	148	0	110	2956	629	753	4	19	2597	6730	481	15621
01-02	899	549	3	143	3100	919	682	7	21	2496	8531	588	17938
02-03	924	651	8	105	3682	926	996	26	29	2332	9582	688	19949
03-04	1110	839	3	80	4522	1101	1062	35	41	2104	12169	800	23866
Mean	981.3	225.2	1.3	77.5	2075.0	543.8	471.2	6.9	17.8	3143.1	4981.6	478.4	13003.0
S.D	186.7	301.7	2.5	41.9	1289.8	331.4	347.0	12.1	12.7	724.9	3774.4	158.4	5797.1
CV	19.0	134.0	199.1	54.1	62.2	60.9	73.6	174.7	71.0	23.1	75.8	33.1	44.6
CGR	5.1	34.2	-	15.8	19.1	22.3	32.5	-	31.6	-2.2	26.6	10.5	14.5

Table - 3
Trend Analysis of Import of Container Traffic in Tonnage from 1993-94 to 2003-2004
(Figures in '000)

Year	Actual Value	Trend Value
1993-94	5396	4419.2
1994-95	7196	6136.0
1995-96	8160	7852.7
1996-97	9109	9569.5
1997-98	10488	11286.2
1998-99	11699	13003.0
1999-00	13611	14719.8
2000-01	15621	16436.5
2001-02	17938	18153.3
2002-03	19949	19870.0
2003-04	23866	21586.8

Table -4
Future Trend Analysis of Import of Container Traffic in Tonnage
from 2004-2005 to 2014-2015
(Figures in '000)

S.No.	Year	Future Trend Value	Percentage
1	2004-05	23303.5	8.0
2	2005-06	25020.3	15.9
3	2006-07	26737.0	23.9
4	2007-08	28453.8	31.8
5	2008-09	30170.5	39.8
6	2009-10	31887.3	47.7
7	2010-11	33604.1	55.7
8	2011-12	35320.8	63.6
9	2012-13	37037.6	71.6
10	2013-14	38754.3	79.5
11	2014-15	40471.1	87.5

Table - 5
Total Container Traffic (Imports) at Major Ports (in Teus) from 1993-94 to 2004-05
(Figures in '000)

Year	Kolkata	Hadia	Paradip	Visakha Palnam	Chennai	Tuticorin	Cochin	New Mangalore	Mormugao	Mumbai	JNPT	Kandla	Total
93-94	49	2	0	5	81	24	34	1	1	227	78	27	529
94-95	57	2	0	6	101	28	41	1	1	263	103	25	628
95-96	70	1	0	4	114	34	46	0	1	286	149	34	739
96-97	70	2	0	6	127	44	54	0	1	317	193	38	852
97-98	77	10	0	6	146	50	59	0	2	329	222	42	943
98-99	77	4	0	7	146	48	63	0	2	274	316	33	970
99-00	82	5	0	10	163	69	62	0	2	239	417	39	1088
00-01	82	12	0	10	183	79	68	1	2	191	561	47	1236
01-02	62	37	0	12	182	104	72	2	2	168	751	65	1457
02-03	66	45	1	10	217	104	80	3	5	163	910	80	1684
03-04	78	54	2	10	282	126	85	3	5	153	1087	89	1974
04-05	89	53	0	21	322	145	92	5	5	159	1158	101	2150
Mean	71.6	18.9	0.3	8.9	172.0	71.3	63.0	1.3	2.4	230.8	495.4	51.7	1187.5
S.D	11.6	21.6	0.6	4.6	72.0	40.3	17.7	1.6	1.6	63.6	391.2	25.7	526.0
CV	16.2	114.1	248.6	51.2	41.8	56.6	28.0	121.1	67.1	27.5	79.0	49.7	44.3
CGR	5.6	34.7	-	13.9	13.4	17.8	9.5	15.8	15.8	-3.2	27.8	12.7	13.6

Source : Indian ports association (<http://www.ipa.nic.in>)

Table - 6
Trend Analysis of Import of Container Traffic in Teus from 1993-94 to 2004-2005
(Figures in '000)

Year	Actual Value	Trend Value
1993-94	529	407.1
1994-95	628	549.0
1995-96	739	690.9
1996-97	852	832.8
1997-98	943	974.7
1998-99	970	1116.6
1999-00	1088	1258.4
2000-01	1236	1400.3
2001-02	1457	1542.2
2002-03	1684	1684.1
2003-04	1974	1826.0
2004-05	2150	1967.9

Table - 7
Future Trend Analysis of Import Container Traffic (In TEU's) -
from 2005-2006 to 2014-2015 (Figures in '000)

S.No.	Year	Trend Value	Percentage
1	2005-06	2109.8	7.2
2	2006-07	2251.7	14.4
3	2007-08	2393.6	21.6
4	2008-09	2535.5	28.8
5	2009-10	2677.4	36.1
6	2010-11	2819.3	43.3
7	2011-12	2961.2	50.5
8	2012-13	3103.1	57.7
9	2013-14	3245.0	64.9
10	2014-15	3386.9	72.1

Table - 8
Total Container Vessel Traffic at Major Ports from 1993-94 to 2003-04
(Figures In No's)

Year	Kolkata	Hadia	Paradip	Visakhapatnam	Chennai	Tuticorin	Cochin	New Mangalore	Mormugao	Mumbai	JNPT	Kandla	Total
94-95	222	60	0	39	279	165	277	11	27	805	388	104	2377
95-96	246	42	0	40	381	181	265	0	22	763	356	106	2402
96-97	288	95	0	63	395	182	277	0	30	863	408	130	2731
97-98	341	234	0	68	446	238	312	0	29	812	422	133	3035
98-99	310	268	1	93	422	266	377	0	31	696	656	113	3233
99-00	268	203	0	123	381	298	359	2	52	598	942	215	3441
00-01	255	226	3	104	339	442	347	30	50	472	1264	194	3726
01-02	241	352	5	119	289	488	433	63	54	388	815	263	3510
02-03	294	423	17	134	420	474	433	58	80	316	1544	289	4482
03-04	307	457	23	112	467	516	381	49	62	298	1678	295	4645
Mean	277.2	236.0	4.9	89.5	381.9	325.0	346.1	21.3	43.7	601.1	847.3	184.2	3358.2
S.D	37.0	144.5	8.3	34.7	62.9	140.4	62.1	26.3	18.8	217.3	496.9	77.2	779.9
CV	13.4	61.2	168.4	38.8	16.5	43.2	17.9	123.4	43.0	36.2	58.6	41.9	23.2
CGR	3.0	20.3	-	10.1	4.8	10.9	2.9	14.5	7.9	-8.6	14.2	9.9	6.3

Source : Indian Ports Association

Table -9
Future Trend Analysis of Total Container Vessel Traffic
from 2004-2005 to 2014-2015 (Figures In '000)

S.No.	Year	Trend Value	Percentage
1	2004-05	4729.8	5.6
2	2005-06	4979.2	11.1
3	2006-07	5228.6	16.7
4	2007-08	5477.9	22.3
5	2008-09	5727.3	27.8
6	2009-10	5976.7	33.4
7	2010-11	6226.1	39.0
8	2011-12	6475.5	44.5
9	2012-13	6724.9	50.1
10	2013-14	6974.2	55.7
11	2014-15	7223.6	61.2