

The Export Performance In Major Ports Of India Through Containers By Custom House Agents

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INTRODUCTION

Containerization started in India in the year 1973 in a limited way with the creation of short-term container handling facilities at Mumbai Port Trust (MbPT) and Cochin Port Trust (CoPT). Since then, the container traffic has been recording remarkable growth particularly since 1992-1993, in tune with the growing use of containers for all types of cargo in the international trade. The port operations start with the ship reaching the port area. The ship has to call upon the port where it wants to dock, to get the permission to anchor on the port. The ship will get the permission only on submission of the Import General Manifest (IGM) to the customs (through the port authorities). IGM is the list of material which will be unloaded at the said port with details like the loading port, consignor, consignee, quantity, etc.

After the ship submits the IGM, it has to clear the port dues before it gets docking facilities. Normally, the shipping company's agent in India does this, before the ship actually reaches the port area. Port area is the area in the sea, designated to the port. The accounts department of the port gives the clearance to the traffic department, who will thereafter allocate a berth to the ship. Thereafter, the port gives the anchorage permission to the ship and sends a pilot onto the ship. The pilot is a person who actually maneuvers the ship into the shore. A pilot is required because it is difficult to navigate in the port area, which at times has rocks, etc., at the bottom, unlike the high seas (ocean). Also, there is a problem of silting at the seabed in the port area, and only the pilot knows the channel from where the ship can be brought into the shore.

Once the ship reaches the shore, the actual port operations start. Port operations are basically unloading and then loading the cargo from and onto the ship. The stevedores handle this. Stevedores are the people who handle the cranes and other equipment on the ships and those supplied by the port authorities, for the unloading and loading operations. Once this is over, the shipping agent, on behalf of the shipping company, has to give an Export General Manifest (EGM) to the Customs (through the port authorities). This is the same as IGM except for the fact that this list is for the cargo loaded on the ship for exports. Once the port gives clearance, the pilot will navigate the ship into the high sea.

NEED FOR THE STUDY

Ports the world over, including in India, are ever more drawn into the vortex of a quickly changing business atmosphere in the international maritime trade. There are basically three fundamental forces driving the business of ports. Some of the major ports in India have been customary in the era of dominance of bulk and break bulk trade that dominated the decade of sixties and seventies and need to readapt themselves to new global trade patterns. The emerging global trade is witnessing a dramatic increase in the containerized mode of cargo delivery and demand, substantial build-up of box handling capacity at the Indian ports and improvement of logistics efficiencies in port operations. While several international ports like Hong Kong, Singapore, Port Klang, Colombo etc., have successfully adapted themselves to international trans-shipment of container trade, the Indian port sector will have to find ways to capitalize on opportunities for growth in India's own container trade. A substantial scope, however, exists for absolute growth in Indian ports' traffic volumes as also logistical re-organization of existing patterns of port-to-hinterland linkages formed in the past.

The study aims at analyzing the Export performance of India's Major ports and gives suggestions for improving the quality and services. It will throw light on container handling at the Indian ports for undertaking the export of various goods and bulk materials.

SCOPE OF THE STUDY

The present study covers the various components of the Export performance of India's major twelve ports. The study highlights the various potentials of the major ports in India, i.e. export performance, Commodity and mode

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wise operational analysis of India's twelve major ports. Among all the mode of operations, majority of the ports studied exported by using containers for speedy and safety delivery of goods.

OBJECTIVES OF THE STUDY

The present study is aimed to empirically analyze the following objectives:

1. To give an overview about the Indian ports with special reference to twelve major ports.
2. To highlight the procedure followed at the major ports towards the export of goods and commodities.
3. To study the commodity and mode wise export performance of the major Indian ports.
4. To focus and analyze the future trend of the export performance through containers of major ports in India.
5. To suggest ways and means for effective export operations to enrich India's Maritime Trade.

METHODOLOGY OF THE STUDY

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

SECONDARY DATA

The secondary data was gathered from the records of Indian Ports Association website and libraries in Bangalore, Tuticorin, Chennai and Coimbatore.

FRAMEWORK OF THE ANALYSIS

The data collected were analyzed by applying the tools viz -

- Mean, Standard Deviation, Cumulative Variance and Cross Growth Rate have been used to analyze the export performance of twelve major ports.
- Trend analysis has been calculated by using Regression model.

PERIOD OF THE STUDY

The secondary data for a period of **Fourteen Years (From 1993-1994 to 2006-2007)** was collected and used for the present study.

MAJOR FINDINGS OF THE STUDY

TOTAL EXPORTS AT MAJOR PORTS THROUGH CONTAINERS

The details of Container traffic engaged in Export of goods is highlighted in the following Table No. 1.

TABLE NO. 1 : TOTAL CONTAINER TRAFFIC (EXPORTS) AT MAJOR PORTS (IN TONNAGE)
FROM 1993-94 TO 2006-07 (Figures in '000)

Year	Kolkata	Hadia	Paradip	Visakha Patnam	Chennai	Tuticorin	Cochin	New Manga	Mormu gao	Mumbai	JNPT	Kandla	Total
93-94	760	54	0	65	945	285	378	15	8	2716	1165	462	6853
94-95	928	59	0	77	1097	427	535	4	11	2997	1560	467	8162
95-96	1072	45	0	69	1271	478	602	0	13	3242	2208	595	9595
96-97	1072	99	0	111	1459	630	719	0	21	3716	2896	758	11481
97-98	1116	294	0	95	1651	741	601	0	18	3922	3389	805	12632
98-99	812	376	1	84	1471	785	620	0	19	3160	4234	521	12083
99-00	845	366	0	132	1959	925	844	0	17	2615	5673	703	14079
00-01	817	658	7	168	2813	941	1037	16	25	1766	7547	806	16601
01-02	511	973	4	177	2757	1280	1217	30	37	1188	9953	1164	19291
02-03	574	1199	25	191	3536	1375	1074	58	61	811	13282	1537	23723
03-04	636	1436	57	197	4106	1586	1063	61	62	712	15616	1604	27136
04-05	1070	1220	31	370	4718	1961	1163	71	61	568	15398	1477	28108
05-06	1316	938	44	364	5664	2035	1294	81	52	605	16338	1339	29970
06-07	1610	1106	31	512	6809	2444	1457	158	66	631	21581	1731	38136
Mean	938.5	630.2	14.3	186.6	2875.4	1135.2	900.3	35.3	33.6	2046.4	8631.4	997.8	18417.9
S.D	298.3	503.1	19.5	135.8	1848.0	665.5	329.2	46.1	21.9	1272.2	6689.2	459.6	9534.1
CV	31.8	79.8	136.5	72.8	64.3	58.6	36.6	130.6	65.2	62.2	77.5	46.1	51.8
CGR	5.5	24.1	-	15.9	15.1	16.6	10.1	18.3	16.3	-9.9	23.2	9.9	13.0

Source: Indian Ports Association. <http://www.ipa.nic.in>

INTERPRETATION

Table No. 1 reveals that the Export performance operations of Kolkata port during 2006-2007 reached a high volume of business transaction with a capacity of 1610 thousand tonnes, that was 1316 thousand tonnes in the previous years and the figure gradually decreased till 2001-2002.

While analyzing the performance of Freight Forwarding operation in Haldia Port, the recent year data shows the high volume of export operation with 1436 thousand tonnes and the same was the lowest -45 thousand tonnes during the year 1995-1996. The performance of Haldia Port gradually increased with an average of 630.2 thousand tonnes and the Standard Deviation shows 503.1 with Compounded Growth Rate (CGR) of 24.1. Similarly, the performance of Paradip Port shows a very meagre level with the mean score of 14.3 thousand tonnes.

The performance of freight forwarding operations in Visakhapatnam shows a slow and steady growth of performance which ranges between 65 thousand tonnes and 512 thousand tonnes during 1993-1994 to 2006-2007 with a mean of 186.6 thousand tonnes and the Compounded Growth Rate shows 15.9.

In Tamil Nadu, two major ports that are operating successfully are Chennai and Tuticorin Ports which have shown steady and constant developments from 1993-1994 to date. In Chennai Port, the minimum tonnage operation by using containers was 945 thousand tonnes and the maximum of 6809 thousand tonnes during 2006-2007 with a mean of 2875.4 thousand tonnes and the Compounded Growth Rate shows 15.1 tonnes. Similarly, the Tuticorin Port highlights the freight forwarding operations that ranged between 285 thousand tonnes and 2444 thousand tonnes during 1993-1994 to 2006-2007, with an average of 1135.2 thousand tonnes and the compounded Growth Rate shows 16.6 tonnes.

The performance of Freight Forwarders in Cochin Port was at par with Tuticorin port which ranged between 378 thousand tonnes and 1457 thousand tonnes with an average of 900 thousand tonnes and the Compounded Growth Rate shows 10.1 tonnes.

The neighboring New Mangalore Port's export performance was very poor which ranged between 15 thousand tonnes during 1993-1994 and 16 thousand tonnes during 2000-2001. But after 2000-2001, the performance of the port picked up and the performance ranged between 30 tonnes during 2001-2002 and reached a high level of 158 tonnes during 2006-2007, with an average of 18.3 thousand tonnes. Operations during the period show zero level performance and only from the millennium year very meager operations had taken place at the New Mangalore Port. The Export performance of Freight Forwarding operations through Containers in Mormugao port shows a minimum of 8 thousand tonnes and a maximum of 66 thousand tonnes with an average of 33.6 thousand tonnes. This port shows 16.3 tonnage of Compounded Growth Rate.

On the other hand, an analysis of the freight forwarding operations, especially through containers in the famous ports viz., Mumbai and JNPT shows an outstanding performance with a good competitive spirit which ranged between 712 and 3922 thousand tonnes with an average of 2046.4 thousands. It is disheartening to note that the performance of Mumbai Port shows a decreasing trend from 1997-1998 onwards to the present year and the overall CGR represents negatively 9.9 (-9.9).

Simultaneously, the performance of JNPT increased drastically year by year in a tremendous way. The initial performance in the year 1993-1994 was 1165 thousand tonnes and it has increased rapidly every year, reaching the maximum operating capacity of 21581 thousand tonnes in the year 2006-2007, the mean value represents 8631.4 thousand tonnes and the CGR is 23.2.

Lastly, while analyzing the Kandla Port, it is observed that Kandla Port is also contributing a substantial portion which ranged between 462 thousand tonnes and 1731 thousand tonnes with an average of 997.8 thousand tonnes. Overall, almost all the ports are performing exceptionally well except for the New Mangalore and Paradip Ports. Among these 12 major ports, JNPT is the market leader, contributing a major chunk for the development of the Indian economy.

While analyzing the performance of ports in general and the study area i.e., Chennai and Tuticorin Ports of Tamil Nadu in particular, they are showing an equal amount of growth with a competitive spirit every year. It shows a challenging spirit and efficient operation of Freight Forwarding business in the study area.

TREND ANALYSIS

An attempt has been made to analyze the trend in Freight Forwarding operations, especially in the export

performance through containers in different ports. For this purpose, data of 14 years were used from 1993-1994 to 2006-2007. Trend analysis was employed and development was studied and depicted in the underneath Table No. 2.

**TABLE NO 2. : TREND ANALYSIS OF EXPORT OF CONTAINER TRAFFIC (IN TONNAGE)
FROM 1993-94 to 2006-2007**

YEAR	ACTUAL VALUE	TREND VALUE
1993-94	6853	4098.3
1994-95	8162	6301.3
1995-96	9595	8504.3
1996-97	11481	10707.3
1997-98	12632	12910.3
1998-99	12083	15113.3
1999-00	14079	17316.4
2000-01	16601	19519.4
2001-02	19291	21722.4
2002-03	23723	23925.4
2003-04	27136	26128.4
2004-05	28108	28331.4
2005-06	29970	30534.4
2006-07	38136	32737.4

It is clear from the above table that the trend analysis shows a positive growth every year and reached a peak level during the current period 2006-2007. The steady growth witnessing an efficient export operations of Freight Forwarders from 6853 thousand tonnes to 38136 thousand tones is a remarkable, outstanding performance contributed by Indian ports.

FUTURE TREND ANALYSIS

An attempt has been made to forecast the future trend in freight forwarding operations, especially, in the export performance through containers in different ports. For this purpose, data of 14 years were used to forecast the trend of the next 10 years (up to 2016-2017) by applying the regression analysis.

**TABLE NO. 3 : FUTURE TREND ANALYSIS OF EXPORT OF CONTAINER TRAFFIC (IN TONNAGE)
FROM 2007-2008 to 2016-2017 (Figures in '000)**

S.No.	Year	Trend Value	Percentage
1	2007-08	34940.4	6.7
2	2008-09	37143.5	13.5
3	2009-10	39346.5	20.2
4	2010-11	41549.5	26.9
5	2011-12	43752.5	33.6
6	2012-13	45955.5	40.4
7	2013-14	48158.5	47.1
8	2014-15	50361.5	53.8
9	2015-16	52564.5	60.6
10	2016-17	54767.5	67.3

It is clear from the above table that the future trend analysis shows a positive growth every year and reached a peak level during the 2016- 2017 with 67.3 percentage of growth.

TOTAL CONTAINER TRAFFIC (EXPORTS) AT MAJOR PORTS (TEUs)

The details of Container traffic engaged in Export of goods are highlighted in the following Table No. 4.

**TABLE NO. 4 : TOTAL CONTAINER TRAFFIC (EXPORTS) AT MAJOR PORTS (IN TEUs)
FROM 1993-94 to 2006-07 (Figures in '000)**

Year	Kolkata	Hadia	Paradip	Visakha Patnam	Chennai	Tuticorin	Cochin	New Mangalore	Mormu gao	Mumbai	JNPT	Kandla	Total
1993-94	47	4	0	4	81	24	37	1	1	201	99	24	523
1994-95	55	4	0	5	99	29	45	0	1	224	141	26	629
1995-96	63	3	0	4	113	35	50	0	1	232	190	31	722
1996-97	63	7	0	7	129	45	58	0	2	266	230	39	846
1997-98	64	19	0	7	147	52	63	0	1	272	282	42	949
1998-99	55	24	0	7	138	52	66	0	1	235	353	31	962
1999-00	65	23	0	10	159	68	68	0	2	190	472	40	1097
2000-01	56	39	0	10	169	78	75	1	2	130	629	45	1234

2001-02	36	56	0	10	162	110	80	2	2	86	822	61	1427
2002-03	40	72	1	12	208	109	86	3	4	50	1020	77	1682
2003-04	45	83	2	10	257	128	85	4	5	44	1182	81	1926
2004-05	70	76	2	21	295	156	93	4	6	59	1213	79	2074
2005-06	93	59	1	24	354	165	103	5	4	43	1258	68	2177
2006-07	110	61	2	28	426	196	114	9	6	43	1769	82	2846
Mean	61.57	37.86	0.57	11.36	195.50	89.07	73.07	2.07	2.71	148.21	690.00	51.86	1363.86
S.D	19.90	29.35	0.85	7.56	101.74	55.51	22.11	2.67	1.90	91.50	524.21	21.90	686.82
CV	32.32	77.53	149.04	66.58	52.04	62.32	30.26	129.07	69.95	61.73	75.97	42.23	50.36
CGR	6.26	21.48	-	14.91	12.59	16.18	8.37	16.99	13.65	-10.43	22.87	9.17	12.86

Source: Indian Ports Associations. <http://www.ipa.nic.in>

INTERPRETATION

Table No. 4 highlights the fact that the Export performance operations of Kolkata Port in TEUs shows that during 2006-2007, it reached a high volume of business transaction with a capacity of 110 thousand TEUs.

While analyzing the performance of Freight Forwarding operations in Haldia Port, the recent year shows a high volume of export operation with 83 thousand TEUs and the same was the lowest- 3 thousand TEUs during the year 1995-1996. The performance of Haldia Port gradually increased with an average of 37.86 thousand TEUs and the Standard Deviation shows 29.35 with Compounded Growth Rate (CGR) of 21.48. Similarly, the performance of Paradip Port shows a very meagre level with the mean score of 0.57 thousand TEUs due to the operation started from 2002-2003 only.

Export performance of Visakhapatnam Port's freight forwarding operations shows a poor performance which ranges between 4 thousand TEUs and 28 thousand TEUs during 1993-1994 to 2006-2007 with a mean of 11.36 thousand TEUs and the Compounded Growth Rate shows 14.91.

In Tamil Nadu, both Chennai and Tuticorin Ports are successfully operating which shows steady developments from 1993-1994 till date. In Chennai, the minimum TEUs operation by using container was 81 thousand TEUs and the maximum of 426 thousand TEUs during 2006-2007, with a mean of 195.50 thousand TEUs and the Compounded Growth Rate shows 12.59. Similarly, the Tuticorin Port highlights the freight forwarding operations ranged between 24 thousand TEUs and 196 thousand TEUs during 1993-1994 to 2006-2007, with an average of 89.07 thousand TEUs and the compounded Growth Rate shows 16.18 TEUs.

The performance of Freight Forwarders in Cochin Port ranged between 37 thousand TEUs and 114 thousand TEUs with an average of 73.07 thousand TEUs and the Compounded Growth Rate shows 8.37 TEUs. The neighboring New Mangalore Port's export performance is very poor which ranged between 1 thousand TEUs and 9 thousand TEUs, with an average of 2.07 thousand TEUs. Operations during the period show 0 level performance and only from the millennium year, very meagre operations had taken place in the New Mangalore Port.

The Export performance of Freight Forwarding operations through Containers in Mormugao port shows a minimum of 1 thousand TEUs and a maximum of 6 thousand TEUs with an average of 2.71 thousand TEUs. This port shows 13.65 TEUs of Compounded Growth Rate.

On the other hand, while analyzing the freight forwarding operations, especially through containers in the famous ports viz., Mumbai and JNPT shows an outstanding performance with a good competitive spirit. The Mumbai Port's performance ranged between 44 and 272 thousand TEUs with an average of 148.21 thousands. It is disheartening to note that the performance of Mumbai Port shows a decreasing trend from 1997-1998 onwards to the present year and the overall CGR represents negatively 10.43(-10.43).

Simultaneously, the performance of JNPT has drastically increased year by year in a tremendous way. The initial performance in the year 1993-1994 was 99 thousand TEUs and it has rapidly increased every year reaching the maximum operating capacity of 1769 thousand TEUs in the year 2006-2007, the mean value represents 690.0 thousand TEUs and the Compounded Growth Rate is 22.87. Lastly, while analyzing the Kandla Port, it is observed that Kandla Port is also contributing a substantial portion which ranged between 24 thousand TEUs and 82 thousand TEUs, with an average of 51.86 thousand TEUs.

Overall, almost all the ports are performing quite well (with excellent operations) except New Mangalore and Paradip Ports. Among these 12 major ports, JNPT is the market leader contributing a major chunk for the development of the Indian economy.

While analyzing the performance of ports in general and in particular with reference to the study area i.e., Chennai and Tuticorin Ports of Tamil Nadu, it is highlighted that New Mangalore Port shows a good development with a CGR of 16.99. In the study area, the Chennai ports and Tuticorin ports are also showing an equal amount

of growth with a competitive spirit every year. It shows a challenging spirit and efficient operation of Freight Forwarding business in the study area.

TREND ANALYSIS

An attempt has been made to analyze the trend in Freight Forwarding operations especially in the export performance through containers in different ports. For this purpose, data of the last 14 years have been used (from 1993-1994 to 2006-2007). Trend analysis was employed and development was studied and has been depicted in the Table No. 5.

**TABLE NO. 5. : TREND ANALYSIS OF EXPORT OF CONTAINER TRAFFIC (IN TEUs)
FROM 1993-94 to 2006-2007 (Figures in '000)**

YEAR	ACTUAL VALUE	TREND VALUE
1993-94	523	333.1
1994-95	629	491.7
1995-96	722	650.3
1996-97	846	808.8
1997-98	949	967.4
1998-99	962	1126.0
1999-00	1097	1284.6
2000-01	1234	1443.1
2001-02	1427	1601.7
2002-03	1682	1760.3
2003-04	1926	1918.9
2004-05	2074	2077.4
2005-06	2177	2236.0
2006-07	2846	2394.6

It is divulged from the above table that the trend analysis shows a positive growth every year and reached a peak level during the period of 2006-2007. The steady growth witnessing efficient export operations of Freight Forwarders from 523 thousand TEUs to 2846 thousand TEUs is a remarkable, outstanding performance contributed by Indian ports and it is more appropriate with the trend value.

FUTURE TREND ANALYSIS

An attempt has been made to forecast the future trend in freight forwarding operations, especially in the export performance through containers in different ports. For this purpose, data of the last 10 years has been used to forecast the trend of the next 10 years (upto 2016-2017) by applying the regression analysis.

**TABLE NO. 6 : FUTURE TREND ANALYSIS OF EXPORT OF CONTAINER TRAFFIC (IN TEU'S) -
FROM 2007-2008 to 2016-2017 (Figures in '000)**

S.No.	Year	Trend Value	Percentage
1	2007-08	2553.2	6.6
2	2008-09	2711.8	13.2
3	2009-10	2870.3	19.9
4	2010-11	3028.9	26.5
5	2011-12	3187.5	33.1
6	2012-13	3346.1	39.7
7	2013-14	3504.6	46.4
8	2014-15	3663.2	53.0
9	2015-16	3821.8	59.6
10	2016-17	3980.4	66.2

It is clear from the above table that the future trend analysis shows a positive growth every year and reaches a peak level during the year 2016- 2017 with 66.2 percentage of growth.

SUGGESTIONS

1. All activities, communications and promotions of the Custom House Agents should focus on maintaining long term customer relationships to retain existing customers, create customer loyalty and attract new customers.
2. 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.

3. Better connectivity should be developed between the road, rail and the sea.
4. Chennai and Tuticorin ports should be equipped with advanced equipments to improve the turn around time.
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 to be used for the all kinds of logistics movement.

CONCLUSION

The development of the port sector is concomitant with the development of maritime trade is an axiom that no littoral nation can afford to ignore in today's globalized world. This was equally true in the distant past, when maritime nations undertook extensive overseas maritime explorations and trade to set their mark on global economic history. In fact, littoral nations of the world are advantaged in being clusters of relatively faster economic growth, compared to other land-locked and hinterland regions. India's shipping and port sector saw dramatic growth in the first four decades of post-independence, under the initiative of planned development and active government support. More than two-thirds of the port cargo handling capacity and more than half of India's national shipping tonnage were established in the first four decades of independence. Further, it is observed that a very meager percentage of Custom House Agents are applying the supply chain management concept when a good majority of Custom House Agents are not at all following the concept of supply chain management because most of them are following the sub agency system. In order to utilize the supply chain management concept at the optimal level, a proper initiation should be made to encourage the Custom House Agents and this can be very easily achieved by the Custom House Agents Association, CII and the Government of India. Adequate training should be given to the Custom House Agents in supply chain management concepts and also to avert the common problems faced by the Custom House Agents.

SCOPE FOR FURTHER RESEARCH

Export of goods through sea transportation is the cheapest and less time consuming mode of operation. Major Ports of India in logistic operations offers enormous scope for further research in the following topics.

1. A study on Custom House Agents (CHA's) performance on logistic operations in India.
2. An analysis on financial and operational efficiency of Indian ports.
3. A study and analysis on the containerization of major ports of India.
4. A study and analysis of the Multi Model Transport Operations in India.

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