



Freight forwarder’s hurdles in the international business environment: With Special Reference to Tamil Nadu

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Abstract

Today, the efficient freight distribution is vital to the economy of any country and is arguably the most important function in society today. All of the key elements of a modern economy such as health, education, law and order could not be delivered without cost effective transport. A freight business that is in operation has got its cycle of boom and recess. These are the periods when the business is doing well and adversely, respectively. Just like any business, the freight forwarding industry also has got a share of its own challenges. These are obstacles that hamper the smooth running of the freight forwarding industry. This paper deals with the hurdles faced by freight forwarders in international business environment wherein the data was collected from 441 freight forwarding companies in Tamil Nadu using questionnaire based on convenient sampling technique. And discussion of result was given based on the findings of the study.

Keywords: distribution, logistics, freight forwarder, hurdles

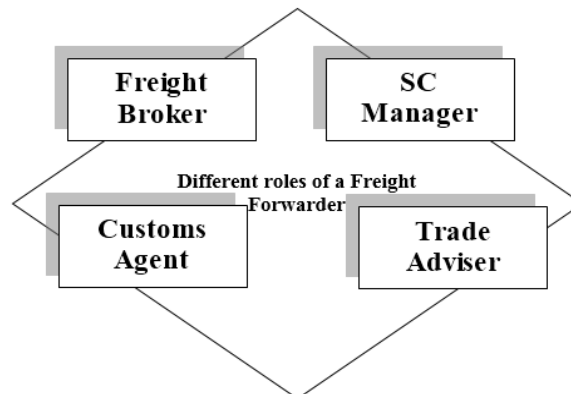
Introduction

A freight forwarder or forwarder, also known as a forwarding agent, is a person or a company that organizes shipments for individuals/corporations to get goods from the manufacturer or producer to a market, customer or final point of distribution. Freight forwarding is a service used by companies that deal in international or multi-national import and export. While the freight forwarder doesn't actually move the freight itself, it acts as an intermediary between the client and various transportation services. Sending products from one international destination to another can involve a multitude of carriers, requirements and legalities. A freight forwarding service handles the considerable logistics of this task for the client, relieving what would otherwise be a formidable burden. Freight forwarding

services guarantee that products will get to the proper destination by an agreed upon date, and in good condition. The freight forwarding service utilizes established relationships with carriers of all kinds, from air freighters and trucking companies, to rail freighters and ocean liners.

Role of Freight Forwarder

Freight forwarders are an important part of a global supply chain system. They are the outsourced trade managers for the shipping and delivery of goods. Freight forwarders have relationships with shippers all around the world. They also understand the the customs procedures for passing products through international borders. Freight forwarders have many different roles in the shipping process.



Source: Author

Fig 1: Different Roles of a Freight Forwarder

a) Freight Broker

Freight forwarders are first and foremost freight brokers. They negotiate with trucking, shipping or aviation firms to find a suitable price. Then they speak with the customer, adding a mark-up for their services. For a regular customer

with many loads of material, the mark-up per load will be less than for customers who send one or two shipments annually. International shipments that involve sea shipping and trucking also earn a premium for the forwarder.

b) Supply Chain Manager

Freight forwarders also assume some of the duties of a supply chain manager. They can contact the factory, get the Production schedule and arrange for the pickup of goods. For less-than-container load (LCL) shipments, they consolidate the goods with another container to most efficiently ship the material. The forwarder can also give an up-to-date delivery schedule and communicate with an end buyer or point of delivery to let them know when to expect the goods.

c) Customs Agent

Many freight forwarders serve as customs agents for their clients. They help to prepare all of the freight documents, including the packing list, dock receipt, bill of lading, product invoice, insurance certificate, certificate of origin and special customs invoices. These documents are then submitted to the U.S. Customs Service. If there are any additional issues, such as an inspection or quarantine, they will also work with the government agency to resolve the problem.

d) Trade Adviser

Freight forwarders can serve as informal advisers on international or national trade deals. They have experience shipping many loads of goods and have seen every type of problem that can arise. They may suggest that you hire a third-party quality control firm to analyze the goods before any transfer of funds occurs. This can save much heartache in the future if the goods are not as promised.

Hurdles Faced In International Business Environment

Freight forwarding and contract logistics continues to be a growth industry. Though such growth is expected to slow somewhat (from a high of 3 percent over the past five years to about 1.5 percent in the near term), that rate will still likely outpace that of global GDP—a good situation to be in, considering current economic circumstances.

Even so, freight and logistics companies will need to deal with numerous issues in the years ahead. For example, as trade routes become more competitive and as freight rates fall, the *industry's traditional bargaining power* with its shippers—volume—will be challenged. One important strategy to counter this challenge is to use balance sheet strength to acquire niche players in important trade routes and geographies, especially in emerging markets.

Another key to growth and profitability will be the ability to analyze customers' needs and then respond quickly with differentiated and advanced logistics solutions. That will require better *IT tools to improve internal process efficiency* and to generate analyses that result in deeper understanding of customers' industries and business processes.

According to a business research, which analyzed corporate performance in the freight forwarding and contract logistics industry from 2008 to 2011, high performers owe their success to a combination of factors: dominance over profitable trade lanes; strategic growth in key emerging markets; and business models supported by operational excellence and designed to develop expertise in customers' industries while empowering those customers with greater information and better service at the same time.

Industry background

As customers enter new markets, especially in emerging

economies, they are demanding much more than traditional transportation and warehousing services from their freight forwarding and contract logistics providers. The ability to offer new, value-added services such as warranty processing, returns management and light manufacturing is now a differentiator, as is providing services such as customs and insurance brokerage, and trade and transportation management. In other words, the ability to become a *"one-stop-shop provider"* is emerging as a way to achieve differentiation and capitalize on cross-segment opportunities.

However, companies in the industry face multiple risks, particularly in light of continued global economic instability. Rising oil prices are a persistent threat. Industrial production slowed during 2011. Economic challenges in the European Union, political instability and unrest across multiple areas of the globe, and a series of natural disasters have highlighted the often fragile nature of the freight forwarding and logistics business and the industry's customer environment.

Risks in the freight forwarding market

- **Flat growth for forwarders.** After heavy losses in 2009, the sector recovered moderately in 2010. The past year has been a difficult one, with profit growth being limited to volume growth, and with yields unlikely to improve as freight rates remain under severe pressure.
- **Pessimism about growth opportunities in air freight.** In the Asia-Pacific region in particular, the air freight business has suffered more than container shipping recently.
- **Ongoing overcapacity in ocean freight.** Shipping rates for all routes continue to decline.
- **Risk of cheap capacity.** Counter-cyclical businesses such as freight forwarding or contract logistics, with relatively flexible business models, are better able to keep margins stable in the downturn but they risk sitting on cheap capacity in an upturn.

Objectives of the Study

To study the role of freight forwarder in international logistics

To identify and analyze the hurdles faced by freight forwarders in international logistics

To give suggestions for the freight forwarding community based on the findings

Research Design

The study is mainly based on primary data, however, the secondary sources are also registered with theoretical overview. For this purpose data was collected from 441 freight forwarders in Tamil Nadu using well-structured questionnaire based on convenient sampling technique. Using Structural Equation Modeling analysis was done and the findings are given below.

Findings of the Study

Problems in International Environment- Structural Equation Modelling

As a first step in structural equation modeling, factor analysis has been carried out and the main factors are derived from the existing variables.

Factor Analysis: Problems in International Environment

Factor Analysis technique has been applied to find the

underlying dimensions (factors) that exists in the 18 variables relating to problems faced by the freight forwarders in international environment.

Table 1: Descriptive Statistics

	Mean	Std. Deviation	Analysis N
Y1	4.13	1.075	441
Y2	3.94	.964	441
Y3	3.94	1.034	441
Y4	4.13	.983	441
Y5	3.35	1.403	441
Y6	3.68	1.080	441
Y7	3.89	1.111	441
Y8	3.73	1.108	441
Y9	3.27	1.227	441
Y10	3.64	1.090	441
Y11	3.98	1.041	441
Y12	3.98	1.109	441
Y13	4.18	.927	441
Y14	3.74	1.149	441
Y15	3.70	1.127	441
Y16	3.73	1.114	441
Y17	3.77	1.104	441
Y18	3.68	1.076	441

The descriptive statistics revealed the highest mean to the lowest mean towards the problems faced by the logistic operators in the international environment reveals that the highest mean was obtained by Y13,, M-4.18,, SD:0.927, followed by, Y1, M-4.13,, SD:1.075, Y4,, M-4.13,, SD:0.983, Y11,, M-3.98,, SD:1.041, Y12,, M-3.98,, SD:1.109, Y2,, M-3.94,, SD:0.964, Y3,, M-3.94,, SD:1.034, Y7,, M-3.89,, SD:1.111, Y17,, M-3.77,, SD:1.104, Y14,, M-3.74,, SD:1.149, Y8,, M-3.73,, SD:1.108, Y16,, M-3.73,, SD:1.114, Y15,, M-3.7,, SD:1.127, Y6,, M-3.68,, SD:1.08, Y18,, M-3.68,, SD:1.076, Y10,, M-3.64,, SD:1.09, Y5,, M-3.35,, SD:1.403 and finally the least perception was towards Y9, M-3.27, SD:1.227.

To sum up, the descriptive statistics revealed the highest mean to the lowest mean towards the problems faced by the logistic operators in the international environment reveals that the highest mean was obtained by Y13 and finally the least perception on problems in international environment was towards Y9.

Kaiser-Meyer-Olkin Test [Table 1] used to measure sampling adequacy yielded a score of 0.858 and found to be significant. Similarly Bartlett test [(Table 4)] was used to explain the internal consistency $\chi^2 = 3378.053$ is significant at 1% levels of the items. The Cronbach's Alpha co-efficient which explains the internal consistency of the items in the scales indicated the alpha value for Factors I, II and

III were 0.841, 0.876 And 0.794 respectively. Normally the alpha value closer to one would indicate the greater internal consistency of the factors in the scale. Since Factor I & II had an alpha value of above 0.80, the factors are rated as being good in terms of consistency and Factors III was found to be moderately good in terms of the consistency.

Table 2: Kaiser-Meyer-Olkin Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.858
Bartlett's Test of Sphericity	Approx. Chi-Square	3378.053
	DF	153
	Sig.	.000

Table 3: Communalities

	Initial	Extraction
Y1	.520	.699
Y2	.542	.564
Y3	.487	.495
Y4	.338	.275
Y5	.415	.447
Y6	.523	.400
Y7	.516	.579
Y8	.419	.393
Y9	.419	.403
Y10	.339	.204
Y11	.496	.302
Y12	.420	.383
Y13	.365	.301
Y14	.578	.605
Y15	.661	.819
Y16	.616	.534
Y17	.528	.520
Y18	.447	.318

Extraction Method: Maximum Likelihood.

Table 4: Bartlett's Test

Factor	Problems based on International environment	Croanbach's Alpha	Rotation Sums Squared Loadings
I. (35.614%)	4	0.841	3.538%
II. (9.711%)	6	0.876	4.490%
III. (8.571%)	8	0.794	4.239%
Overall (53.895%)	18	0.860	

Factor analysis was also performed in order to simplify, condense and extract factors on priority basis and cluster of problems based on international environment with regards to logistic operations from Chennai and Tuticorin based on the factors and the results are presented in Table 5

Table 5: Total Variance Explained

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings(a)
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	6.410	35.614	35.614	5.759	31.994	31.994	3.538
2	1.748	9.711	45.324	1.276	7.088	39.081	4.490
3	1.543	8.571	53.895	1.207	6.703	45.784	4.239
4	1.089	6.052	59.948				
5	.996	5.534	65.482				
6	.873	4.848	70.330				
7	.769	4.273	74.603				
8	.681	3.783	78.386				
9	.612	3.402	81.789				
10	.539	2.994	84.783				

11	.483	2.681	87.464			
12	.430	2.388	89.852			
13	.398	2.209	92.061			
14	.365	2.028	94.089			
15	.309	1.718	95.807			
16	.295	1.637	97.444			
17	.238	1.324	98.769			
18	.222	1.231	100.000			

Extraction Method: Maximum Likelihood.

When factors are correlated, sums of squared loadings cannot be added to obtain a total variance. The Table provides the rotated factor loading, communalities, Eigen values and percentage of variance explained by the factors. It could be seen from the table that out of 18 factors, three components were extracted and these three components puts together explained the total variance of the problems in the international environment faced by the logistic operators to the extent of 53.895 per cent.

In order to reduce the number of factors and consequently enhance the interpretability, the factors were rotated. The rotation would increase the quality of interpretation of the factors. Though there were several methods to attain the initial matrix, pattern matrix was used and the maximum likelihood of the data was obtained, the Oblimin with Kaiser Normalization was employed to obtain better results for interpretation and the results are given in Table 6

Table 6: Pattern Matrix

Factor			
	1	2	3
Y1	.881	-.072	-.047
Y2	.660	.041	.152
Y3	.453	.034	.373
Y4	.448	.173	-.059
Y15	-.052	.984	-.138
Y14	-.052	.767	.067
Y17	-.004	.688	.068
Y16	.117	.628	.078
Y13	.285	.323	.056
Y12	.220	.312	.250
Y7	.104	-.005	.720
Y5	-.273	.073	.689
Y8	.010	-.130	.675
Y9	-.012	.113	.578
Y6	.218	.058	.484
Y18	.084	.224	.375
Y10	.130	.059	.351
Y11	.232	.140	.321

Extraction Method: Maximum Likelihood. Rotation Method: Oblimin with Kaiser Normalization. A Rotation converged in 15 iterations.

Table 7: Clustering of Variables into Factors

Factor	Problems in International Environment	Rotated Factor Loadings
I. (35.614%)	Y1	.881
Social	Y2	.660
	Y3	.453
	Y4	.448
	Y15	.984
II. (9.711%)	Y14	.767
Regulatory	Y17	.688
	Y16	.628
	Y13	.323
	Y12	.312
III. (8.571%)	Y7	.720
Infrastructure	Y5	.689
	Y8	.675
	Y9	.578
	Y6	.484
	Y18	.375
	Y10	.351
	Y11	.321

From the Table, it could be seen that three factors were identified as being maximum percentage variance. The types of problems in the international environment reveals that four variables viz., Y1. (0.881), Y2, (0.660), Y3, (0.453) and Y4, (0.448) were grouped together as Factor I and they accounted for 35.614 per cent of the total variance towards problems faced by the logistic operators based on social aspects. The six variables towards problems in international environment viz., Y15, (0.984), Y14, (0.767), Y17, (0.688), Y16, (0.628), Y13, (0.323) and finally, Y12, (0.312) constituted Factor II and they accounted for 8.571 per cent of the total variance revealed the problems based on regulatory systems in the international environment during logistic operations. Finally, eight variables viz. Y7, (0.720), Y5, (0.689), Y8, (0.675), Y9, (0.578), Y6, (0.484), Y18, (0.375), Y10, (0.351) and finally, Y11, (0.321) constituted Factor III and they accounted for 8.571 per cent of the total variance based on the problems with the provision of infrastructure in the international environment during logistic operations. Thus the factor analysis condensed and simplified the eighteen factors related to problems with respect to international environment faced by the logistic companies and grouped them into three factors explaining 53.895 per cent of the variability of the eighteen variables

Elimination: y4, y8, Y9 and y10 FOR SEM Ex. No 2
Standardized Results: International Environment

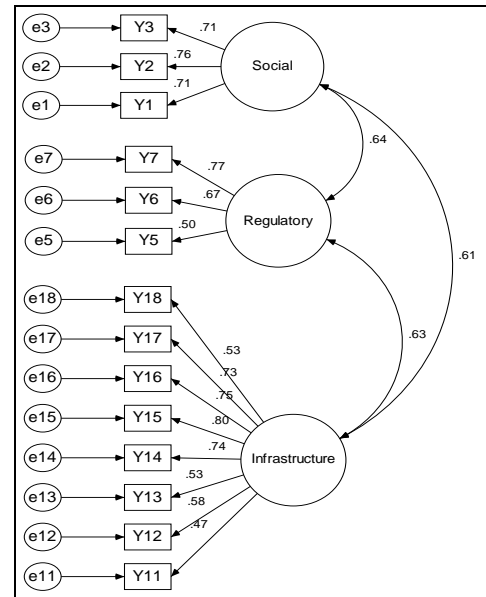


Fig 1

Table 8: Regression Weights: (Group number 1 - Default model)

			Estimate	S.E.	C.R.	P
Q23_Civil_unrest	<-->	Social	1.000			
Q23_Bad_weather_conditions	<-->	Social	.958	.075	12.853	***
Q23_Natural_Disaster	<-->	Social	.959	.078	12.358	***
Q23_Unfamiliar_of_Protectionist_laws	<-->	Regulatory	1.000			
Q23_Banning_of_items	<-->	Regulatory	1.045	.123	8.506	***
Q23_Redtapism_of_insurance_companies	<-->	Regulatory	1.225	.140	8.770	***
Q23_Poor_Connectivity_Ports_Logistic_hubs	<-->	Infrastructure	1.000			
Q23_Lack_of_Railway_Development	<-->	Infrastructure	1.325	.160	8.304	***
Q23_Lack_of_Inland_water_Transport	<-->	Infrastructure	1.008	.128	7.882	***
Q23_Lack_of_Domestic_Aviation	<-->	Infrastructure	1.761	.189	9.314	***
Q23_Air_Cargo_bundling	<-->	Infrastructure	1.861	.194	9.575	***
Q23_Unable_to_handle_trade_inflows	<-->	Infrastructure	1.731	.185	9.360	***
Q23_Overstretching_of_current_capacity_sea	<-->	Infrastructure	1.649	.179	9.219	***
Q23_Delay_in_turnover_time_of_ships	<-->	Infrastructure	1.173	.149	7.894	***

The above table shows the regression coefficient of the variables and it is observed that the critical ratio of all the variables found to be high and it is significant at 1 per cent level. Out of the selected twenty five variables after elimination of two variables (X18 and X24) which was found to have low loading the other variables revealed maximum significance based on the perception towards the multimodal transport operations during logistic operations by the companies operating from Chennai and Tuticorin. The model fit summary explains the fitness in the statistical point of view which are as follows:

Table 8: Covariances: (Group number 1 - Default model)

			Estimate	S.E.	C.R.	P	Label
Social	<-->	Regulatory	.339	.052	6.544	***	
Social	<-->	Infrastructure	.227	.034	6.663	***	
Regulatory	<-->	Infrastructure	.214	.036	5.881	***	

It is found that there is a significant covariance between the dimensions of multimodal transport operations taken for the study shows that the Assistance and facilities towards multimodal transport operations was not significant at 1%

level is proved through the critical ratio at 8.623, followed by the covariance between Assistance and focus area (8.383), Facilities and Focus (8.483), Factors and Facilities (8.188), and finally, factors and Assistance (8.284) are found to be significant at 1% level. The model fit analysis is given below:

Table 9: CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	31	633.579	74	.000	8.562
Saturated model	105	.000	0		
Independence model	14	2664.460	91	.000	29.280

NPAR is the number of distinct parameters (q) being estimated. Two parameters (two regression weights, say) that are required to be equal to each other count and the value is found to be 75 The CMIN is the minimum value of discrepancy which shows 1344.883 with the degree of freedom of 224 and the χ^2/df is found to be 6.004 is found to be in the range of acceptable fit between the hypothetical model and the perception of the logistic operators towards multimodal transport operation of the study.

Table 10: RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.108	.834	.764	.587
Saturated model	.000	1.000		
Independence model	.404	.365	.267	.316

The smaller the RMR is, the better the result. An RMR of zero indicates a perfect fit. The study has been found 0.104 as its root mean square. GFI is less than or equal to 1. A value of 1 indicates a perfect fit. However, the study has been conducted using maximum likelihood and the fit is found that the value has been with majority (86.5%) which supports the model.

Table 11: Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.762	.708	.784	.733	.783
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

RFI and CFI values close to 1 indicate a very good fit. The study shows that the RFI is found to have 0.634 and the CFI is found to be 0.736.

Table 12: RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.131	.122	.141	.000
Independence model	.254	.245	.262	.000

Based on their experience with RMSEA, Browne and suggest that a RMSEA of .05 or less indicates a "close fit" while 0.10 indicates low fit. The study also shows that the Root Mean Square of Error Approximation was found to be 0.107 and the P-Close was found to be 0.000 gives a test of low fit while P gives a test of exact fit. "P value" for testing the null hypothesis that the population RMSEA is no greater than 0.05 level. Hence, it is concluded that the study is found with low fit and is proved through the Confirmatory Factor Analysis taken for the study.

Discussion of the Result and Conclusion

From the path diagram, measured variables based on factors contributing towards the problems faced by the logistic operators in international environment is found to have low fit however, was found to have positive significant relationship with 1 per cent levels when considering all the other fitness indexes taken for the study. On the whole, the analysis of the model, suggests that all the measured variables significantly associated and have positive effect on the problems faced by freight forwarders in the international business environment.

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