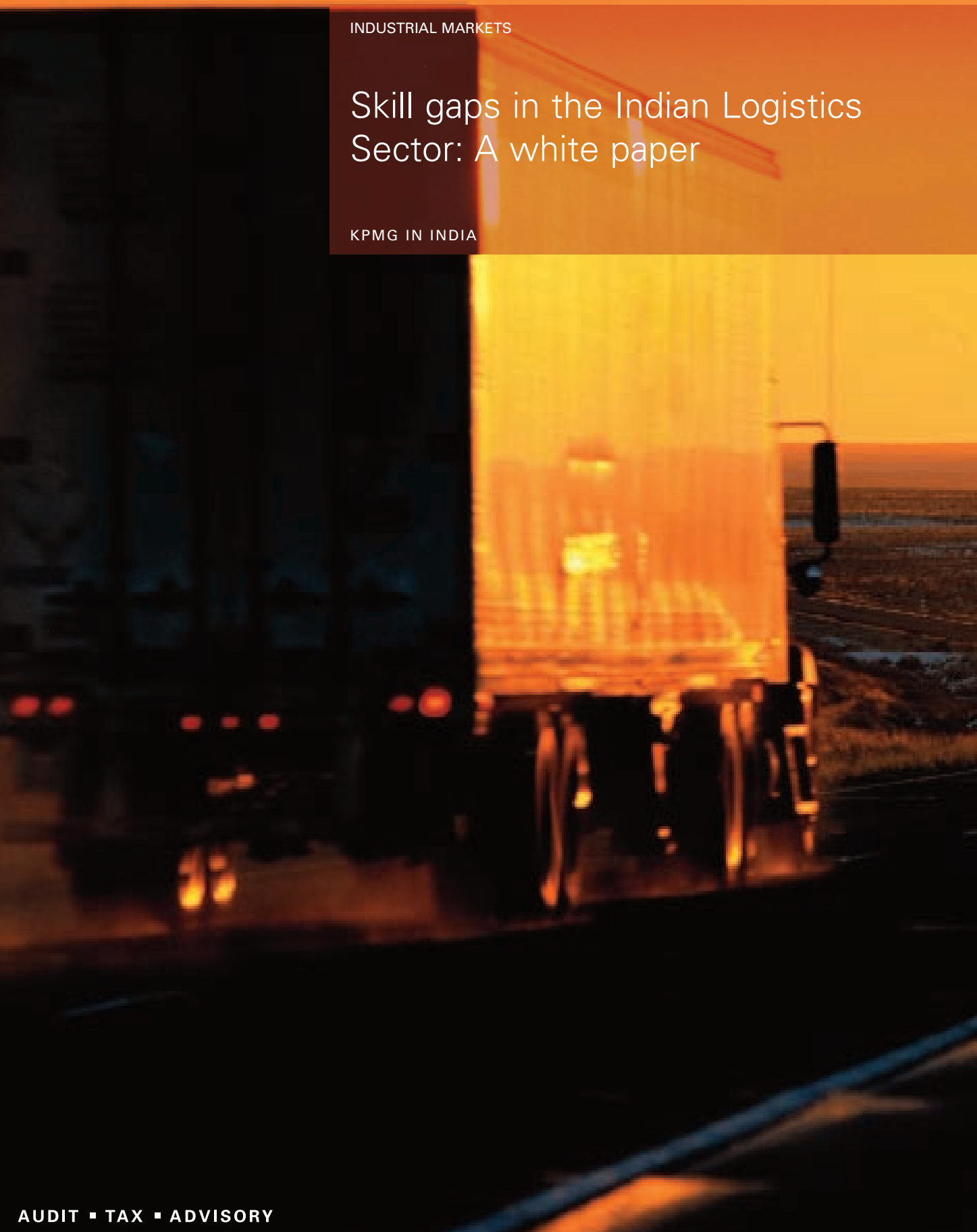
KPMG

Confederation of Indian Industry

INDUSTRIAL MARKETS

# Skill gaps in the Indian Logistics Sector: A white paper

KPMG IN INDIA



AUDIT ▪ TAX ▪ ADVISORY

# Foreword

Healthy economic growth in India is increasingly supported by robust industrial growth. One of the relatively lesser known but significant sectors that support almost all industrial activity - the logistics sector - is also witnessing this growth as a follow through. However, notwithstanding its importance and size (INR 4 trillion), it has traditionally not been accorded the attention it deserves as a separate sector in itself.

KPMG has been tracking this sector and enabling clients to effectively leverage the growth potential arising out of the challenges that the sector faces. In line with its overall commitment to the sector, KPMG is the knowledge partner for the CII-organized “Logistics Summit 2007”

The pace of efficiency and quality improvement will consequently demand a rapid development of capabilities of logistics service providers. A key capability that would require significant focus (logistics being a service oriented sector) is that of skills development.

In this white paper proposed to be released at the summit, we have studied the skills situation across the logistics sector, identified key issues that are relevant to this area and put forth initial recommendations for addressing the existing skill gaps situation to enable adequate sustainable support for the sector's growth.

Yezdi Nagporewalla
National Industry Director
Industrial Markets
KPMG in India

# Foreword

Over the past decade, India has been one of the fastest-growing economies in the world  second only after China. India has witnessed tremendous growth not only in the domestic front but also on the export front. For Indian industry, the future is expected to be even better than the recent past and as per most projections, India will be the fastest growing of the world's major economies. Unfortunately, this growth has not been facilitated by the Logistics industry, but has happened largely despite it. This impressive growth story would not be sustainable if the Logistics sector does not improve its performance and provide credible support to the Indian industry.

CII has been playing a pioneering role in facilitating the adoption of logistics and supply chain management practices in the Indian industry and in developing the logistics industry in India. It has been organizing through its biennial event on Logistics viz. The Logistics Summit - India's Premier and only focused Logistics and Supply Chain event which was institutionalized in 1997 and organized regularly then onwards wide editions in 1999, 2001, 2003 and 2005. As part of the deliberations for the next Biennial Event - The Logistics Summit 2007, we seek to bring forth the emerging skill shortage situation in the logistics sector and identify actions that ought to be undertaken to prevent skill issues from becoming a roadblock in the projected growth of this sector. This white paper prepared by KPMG is a step in this direction.

H R Srinivasan,
Confederation of Indian Industry
Event Chairman
Logistics 2007

# Table of Contents

# Executive Summary

Healthy economic growth in India is increasingly supported by robust industrial growth. One of the relatively lesser known but significant sectors that support almost all industrial activity - the logistics sector - is also witnessing this growth as a follow through. However, notwithstanding its importance and size (INR 4 trillion), it has traditionally not been accorded the attention it deserves as a separate sector in itself.

The level of inefficiency in logistics activities in the country has been very high across all modes. With the evolving business environment creating a strong demand pull for quality and efficient logistics services, core issues around enabling infrastructure, regulatory environment and the fragmented nature of the industry are being overcome gradually.

The required pace of efficiency and quality improvement will demand rapid development of capabilities of logistics service providers. And with logistics being a service oriented sector, skill development will emerge as a key capability

While skill issues exist in varying degrees in all segments of logistics, this paper focuses on those segments where the gaps are not only wide but also widening at a relatively fast pace. The most severe and immediate requirement for skill development is found to be in the road freight and warehousing segments.

Taking a deeper look at the work profile in these segments, it is seen that the specific profiles which need to be developed most both in terms of quality and quantity are truck drivers, loading supervisors, warehouse managers and seafarers.

Truck drivers constitute the profile with the most critical skill gaps in the road freight segment. The profession attracts largely illiterate people with no formal training for the job. Most of them graduate from working as helpers or driving smaller vehicles. We estimate that while there are around 3 million truck drivers for M & HCV in the country currently, this number is likely to swell to nearly 5 million by 2015[1]. Even if 50 percent of all drivers in India were to be trained, almost 100 institutes of the size and scale of the existing one in Namakkal would be required to be set up in the next 7-8 years[2].

[1] KPMG Analysis - Please refer annexure 2
[2] KPMG Analysis - Please refer annexure 2

The loading supervisor's position is critical in the sector as it carries a lot of responsibility when compared to the position and the general profile of the people employed. The loading supervisor, even in the organized sector, is often semi literate, and picked up from the labor pool or similar staff. We estimate that while there are around 0.3 million[3] loading supervisors in the industry currently, the number could grow up to around 0.5 million by 2015. Even if we assume that the sector can provide 50 percent of this manpower internally, there still remains a critical requirement to train around 25000 loading supervisors every year around 2015.

The warehouse managers' (including supervisors) position is one of the most affected by the changes in the logistics sector. From the current situation where warehouse managers are typically the administrative in charge of small scale godowns multi-tasking as commercial managers, the organized portion of the market will require managers with training and experience in warehousing specific operations. Some areas where existing skills are lacking include familiarity with warehousing formats (WA and VNA compared to the prevalent ground storage), with modern equipments (reach stackers, pallet trucks etc.), with IT systems (WMS, handhelds, RFID), industry specific stocking and handling practices (FMCG, perishables, textiles etc), practices around safety and security of stock etc. At present, the number of warehouse managers required in the organized sector is estimated to be around 14000[4] which will grow up to around 35000 by 2015. This will require supplying around 8000 new warehouse managers by 2015. Again, if we assume that industry can provide around half this number, there needs to be an institutional capacity to train 4000 new warehouse managers each year by 2015.

The core issues leading to the existing skill gaps in the sector are

- Poor image / lack of attractiveness for new recruits arising from poor working conditions and relatively lesser attractive pay and progression incentives - in turn arising from the fragmented and unorganized nature of the industry
- Rapid evolution in the logistics management processes and operations with technological change and changing customer requirements
- Absence of an institutionalized skill development environment
- Emergence of attractive alternate career options leading to attrition (especially in sectors where logistics skills come in handy like organized retail)

[3] KPMG Analysis - Please refer annexure for details
[4] KPMG Analysis - Please refer annex for details

The various initiatives required to be undertaken to contain the widening skill gaps are

- Creation of a robust institutional framework for creating logistics manpower
- Creation of incentives for development of skills for logistics employees
- Undertaking of initiatives to uplift the image of the industry
- Acceleration of the drivers of consolidation, integration and organization in the industry

Actioning these initiatives will necessarily require a collaborative approach by various industry stakeholders. Market leaders would need to pull together their clout and resources to push for establishment of an institutionalized training infrastructure and create incentives for training by creating and mandating certification levels for recruits. The government would need to support industry players in their initiatives and provide for a more conducive enabling environment by continuing to upgrade infrastructure, accelerate drivers for organization and consolidation of the industry and providing recognition by granting industry status.

A look at the required initiatives for manpower development in the sector makes it clear that sustainable development of the sector's manpower requires a collaborative public private effort. The level of commitment demonstrated by each stakeholder would largely determine the direction that the sector heads towards.

# Introduction

India is in midst of an unprecedented boom. Most industries are witnessing very strong growth rates and the economy is growing at above 8 percent. Both industrial and consumer goods are witnessing increased demand (refer figure 1a) and this growth is in turn leading to a similar boom in a relatively lesser noticed but significant sector that supports most industrial activity the logistics sector (refer figure 1b).

Index of Growth of Industrial and Consumer Goods Production (Base = 100 in 1993-94 )

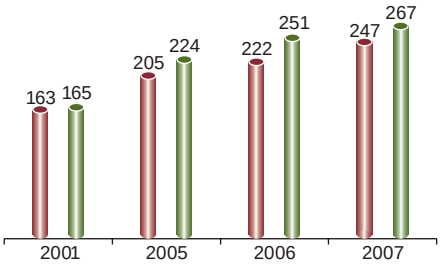



Figure 1a

Share of logistics cost in total sales for various industries %

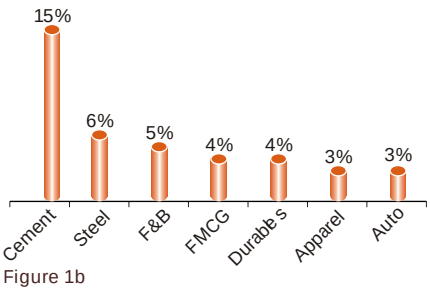



Figure 1b

Source : CEIC Data, KPMG Analysis

Logistics is defined as the process of planning, implementing, and controlling the efficient, cost effective flow and storage of raw materials, in-process inventory, finished goods and related information from point of origin to point of consumption so as to meet customer requirements. In layman's terms, it is all that goes into ensuring that the right material reaches the right place at the right time. While logistics supports almost all industrial activity, it has traditionally not been accorded attention as an independent sector in itself.

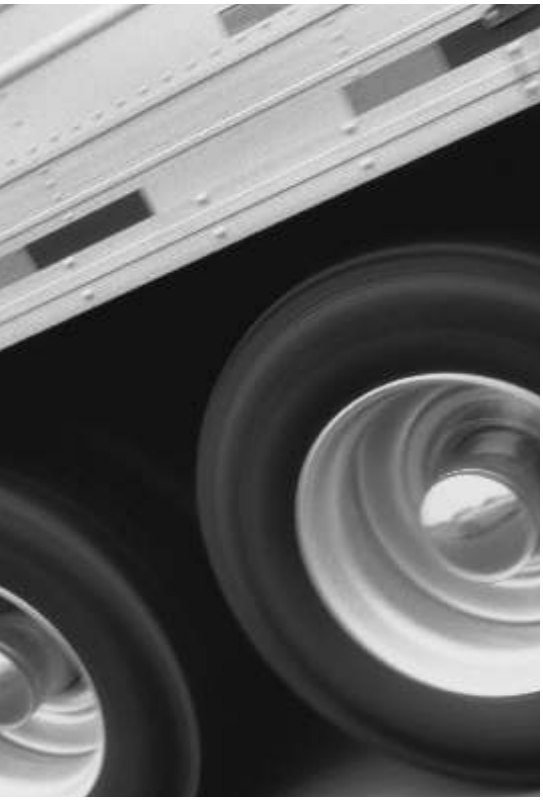
An estimate of the quantum of logistics spends (INR 90 trillion globally; INR 4 trillion in India), however indicates the importance of this sector and justifies a deeper look at its unique characteristics a very important one being its manpower intensity.

The rapid evolution of this industry in India both in terms of scale and scope of services is creating the need for a whole new set of skills along with an ever increasing requirement of skilled and trained manpower. While the cross section of industry players recognizes the critical need for manpower development in this sector, precious little has been done to investigate the core issues and identify initiatives to address this situation.

In this paper, we seek to investigate the skill aspects of the logistics sector in India through a combination of selected interviews with senior executives at logistics companies in various segments of the sector complemented with extensive desk research and KPMG's collective experience of working with players in this sector.

For our analysis, we take a value chain view of the logistics sector and identify unique segments within the sector. Given that the sector is diverse, a focused look at each segment is taken to filter down to those that assume greatest importance from a skill gap perspective. This filtering is done based on a combination of the growth expected and the severity of existing skill gaps in each segment. We assess the genesis and quantum of skill gaps and identify actions that various industry stakeholders ought to undertake to prevent skills gaps from becoming a stumbling block in the growth of this critical industry

# The Indian logistics sector



## Large but inefficient…

India's spend on logistics activities - equivalent to 13 percent of its GDP is higher than that of the developed nations (refer table 1). The key reason for this is the relatively higher level of inefficiencies in the system, with lower average trucking speeds, higher turnaround time at ports and high cost of administrative delays being just a few of the examples.

| Country | Logistics Cost/ GDP | Share of 3PL in overall logistics |
|---|---|---|
| China, India | 13-15% | <10% |
| U.S. | 9.9% | 57% |
| Europe | 10% | 30-40% |
| Japan | 11.4% | 80% |

Table 1

Source : Logistics in India, SSKI

These inefficiencies (refer figure 2) have arisen over the years from a combination of a non-conducive policy environment, extensive industry fragmentation and lack of good basic infrastructure. India's indirect tax regime discouraged large centralized warehouses and led, over time, to fragmentation in the warehousing sector. At the same time, the absence of a single logistics 'champion' (whether in form of a ministry or otherwise) in the government (or industry) led to a disintegrated approach to development of the sector. Extensive fragmentation meant the incapacity of industry players to develop the industry as a whole and poor support infrastructure, such as roads, ports and telecom, led to a situation where the opportunity to create value is limited.

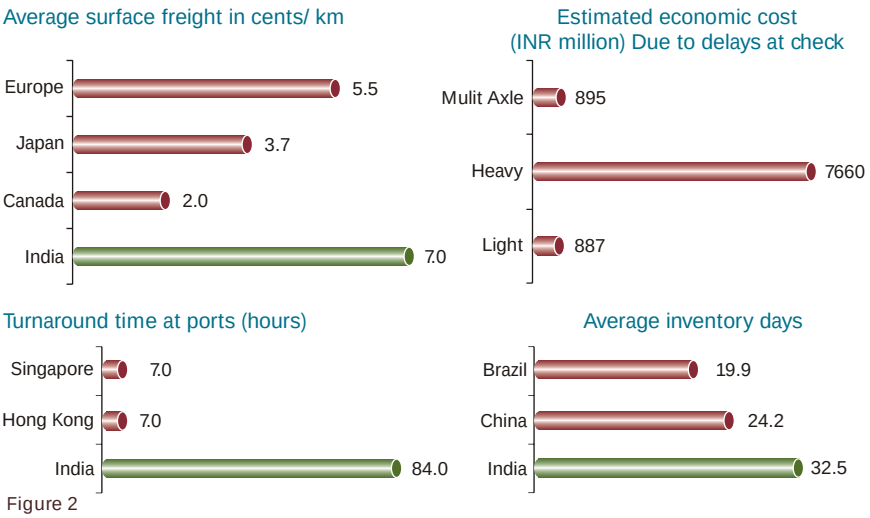



Figure 2

Sources : G. Vaidhyanathan (JNPT), ICS World Bank, Cygnus, KPMG Analysis

## …but rapidly changing for the better…

However, much of this is changing (refer figure 3) with the government now demonstrating a strong commitment towards providing an enabling infrastructure and creating conducive regulations. There is significant current and planned investment in infrastructure to the tune of (INR 15 trillion) over the next few years and an increased emphasis on public-private partnership. At the same time, regulations around rationalization of tax structures and prevention of overloading for example, are creating an environment of positive change. Players now have the opportunity to leverage economies of scale, complemented with better infrastructure, to provide integrated logistics solutions which are cost effective.

In addition, the evolving business landscape and increasing competition across industries, is creating the need for more efficient and reliable logistics services than what exist today. For example, rapid growth of organized retail and the need to reach out to the large untapped rural markets in India are necessitating development of strong back end and front end supply networks.

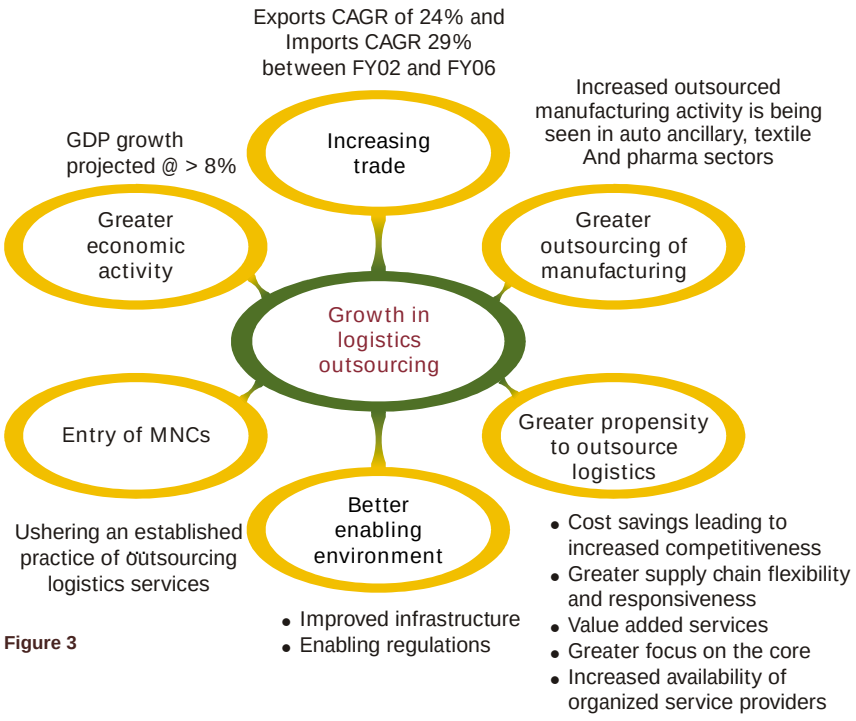



**Figure 3**

Fundamentally, a fragmented industry with low average scale - and consequent limited investment and market development capability - is worst placed to serve these needs. It is not surprising therefore that there is a frantic pace of consolidation and organic growth that the industry is witnessing (refer box and figure 4). While logistics service providers are struggling to keep pace with the growth, logistics service users with limited or no outsourcing are finding it increasingly difficult and / or undesirable to manage this non-core activity in-house. The result is a wide need gap that is seemingly widening much faster than it is being filled.

### Marine Logistics: Employing all possible avenues of growth

The marine based logistics segments, viz., transport, ports and other on-land facilities are witnessing a host of methods employed by different companies to grab a larger share of the available, and rapidly growing, pie.

Most of the companies are growing organically, either expanding fleet or venturing into new businesses. For instance, Varun Shipping is procuring offshore vehicles while GE Shipping has hived off its offshore arm to leverage opportunity in the area. NYK line has tied up with TATA Steel for its bulk cargo requirements.

A large number of shipping and port MNCs are focussing on Indian ports, key among which are DPW and PSA. There is huge interest to develop the 3rd and 4th container terminals of JNPT. Manufacturing companies such as TATA and POSCO are developing their own ports in Orissa. Maruti is planning to build a RORO terminal at Rawa in Gujarat.

Even freight forwarding and inland transport space is witnessing such action. Schenker Logistics and Deutsche Post have acquired domestic logistics companies to increase their presence in India. DPW, APL and Mearsk are planning to increase their presence in the transportation chain and have acquired license to run container trains, while CONCOR is developing container terminals to grab a larger share of the container volumes.

Sources : KPMG Analysis

Growth of logistics segments in India (in million tones)

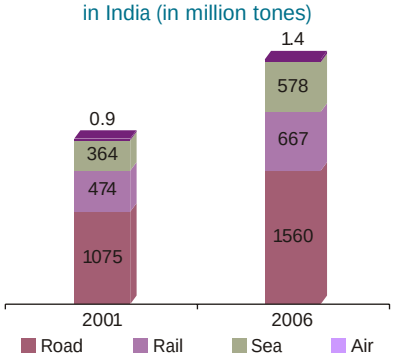



Figure 4

Source : Industry reports, KPMG Analysis

## …and demanding ever increasing skills

It is in this context that capability development of logistics service providers assumes critical importance. While rapid development across all dimensions of organizational capability will be required to achieve and sustain demand growth, logistics being a service industry, manpower capabilities assume utmost importance. The sector currently employs about 40[5] million people, a number that will rise rapidly with exponential growth expectations in the sector.

A look at the financials[6] of a set of 80 logistics companies in India across sectors reveals that manpower spends comprise 8-10 percent of overall sales of the sector. This roughly translates to about an INR 500 billion spend on logistics manpower in the country annually. Only about 13 -14 percent of the overall manpower costs are spent on non-salary, manpower development items (welfare, training etc.). This share for the unorganized companies would expectedly be much less. As against this leading global logistics companies spend around 20 percent of their employee expenditure on non-salary items.

This lack of focus on developing manpower and skills for the logistics sector has resulted in a significant gap in the numbers and quality of manpower in the sector. This gap, unless addressed urgently, is likely to be a key impediment in the growth of the logistics sector in India, and in consequence, could impact growth in industry and manufacturing sectors as well. This underscores the need for identifying areas where such manpower and skill gaps are critical, and developing focused action plans to improve the situation.

In the next section, we analyze each segment of the Logistics sector in India to identify the skill gaps that exist in each. These gaps are then prioritized to identify key focus areas, and the action that needs to be taken to bridge the gaps.

[5] Please refer annexure for details of the estimation
[6] CMIE Database; Annual Reports

# Identifying and assessing the skill gaps

## The Logistics Sector

Given the diversity and hence heterogeneity of the logistics sector, it is essential to take a segmental view of the sector when it comes to evaluation of manpower, or for that matter, any characteristics. For identification of unique segments for the purpose of evaluation from a skill gaps perspective, it is essential to segment the sector along the nature of activity / service and for this purpose, a value chain perspective with identification of distinct links in the chain becomes important (refer figure 5).

The logistics value chain consists of three key links or segments - Transportation, Warehousing and Value Added Services. While the skill requirements for transportation differ significantly by the mode of transport, they differ to a lesser extent for warehousing meant for pure storage. However, skills required for transportation related warehousing such as CFS/ICD/transshipment centers may differ to some degree by the mode of transport they are associated with. Value added services arise from leveraging core transportation and warehousing assets and hence may differ significantly by the mode of logistics. Representing the modal versus value chain perspective together reveals the unique segments that need to be analyzed from a skill gaps perspective.

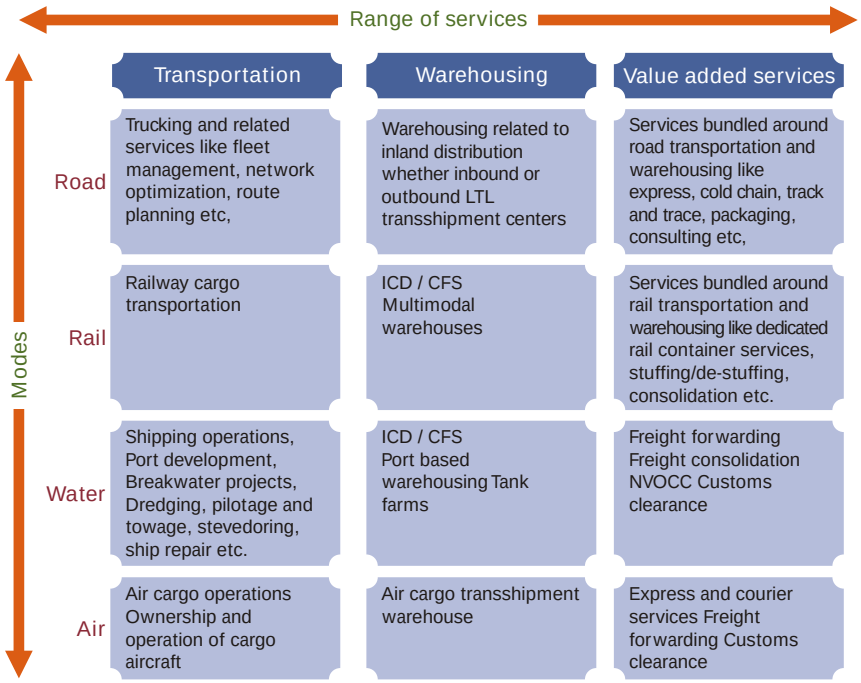



**Figure 5**

While skill issues exist in varying degrees in all segments of logistics, in this paper, we will focus on those segments where the gaps are not only wide but also widening at a relatively fast pace. Thus, we use a combination of the size and growth of various logistics business vis-à-vis the severity of skills gaps in each to filter to those specific segments where these gaps have the greatest potential of acting as a roadblock to development of the segment.

In order to identify focus segments, we will now take a segment-by-segment view of the state of the industry in terms of its size, growth and severity of prevalent skill gaps

## Road Freight (Transport)

The road freight industry in India is worth about INR 1.42 trillion and is growing at about 6-8 percent year on year (refer figure 6).

Manpower spends amount to only about 4 percent of sales as against the overall sector average of 8-10 percent. The industry has traditionally been extremely fragmented - almost 75 percent of the trucking 'companies' are single truck operators and almost 90 percent of trucking companies have a turnover of less than INR 10 million (refer figure 7).

Road freight in India (INR billion)

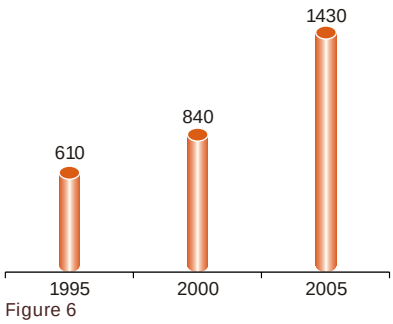
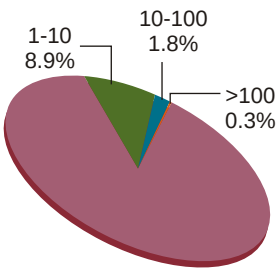



Figure 6

Source : KPMG Analysis

Turnover distribution of trucking companies




Truck ownership distribution of trucking companies

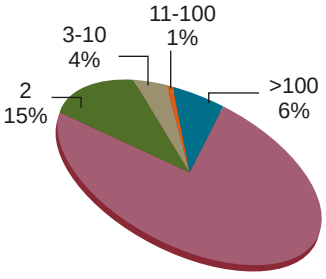



**Figure 7**

Source : Primary Interviews

A majority of players in this industry have been small entrepreneurs running family owned businesses. Given their small scale and limited investment capability, most of their investments have been focused on short term gains - direct and immediate impact on the top line / bottom line of the business being the key decision criterion. As a result, investments that pay off in the longer term, such as those in manpower development, have been minimal historically. Also, these businesses are typically tightly controlled by the proprietor and his / her family and as such, making it unattractive for professionals. Poor working conditions, low pay scales relative to alternate careers, poor or non-existent manpower policies and prevalence of unscrupulous practices have added to the segment's woes  creating the image of a segment that holds few attractions for those seeking employment.

While industry players have been incapable of investing in manpower development, the government has also not focused sufficiently on the same. There exist very few formal training institutions for driver training and practically none for operational training on associated areas like loading / unloading supervisory, proper handling practices etc.

The result has been that in the current scenario, there exist gaps in core technical skills of the existing set of personnel. For example, the backbone of the trucking industry  truck drivers  lack knowledge of good driving practices and areas associated with driving like understanding of VAT. Taking a level-wise view of the skill issues, it is seen that in the road sector, skill issues are widespread across the board with the situation being most severe at the operational level.

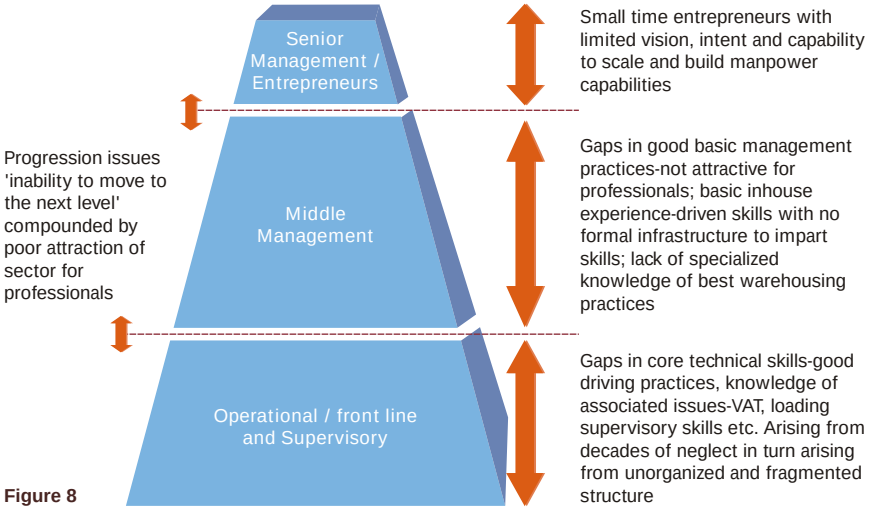



**Figure 8**

## Rail Freight (Transport)

Rail freight traffic revenues stood at around INR 350 billion in 2006 having grown at around 8 percent in the recent past with the growth in the last couple of years being around 10 percent. It is the world's second largest rail network spread over 81,500 km and covering around 7000 stations.

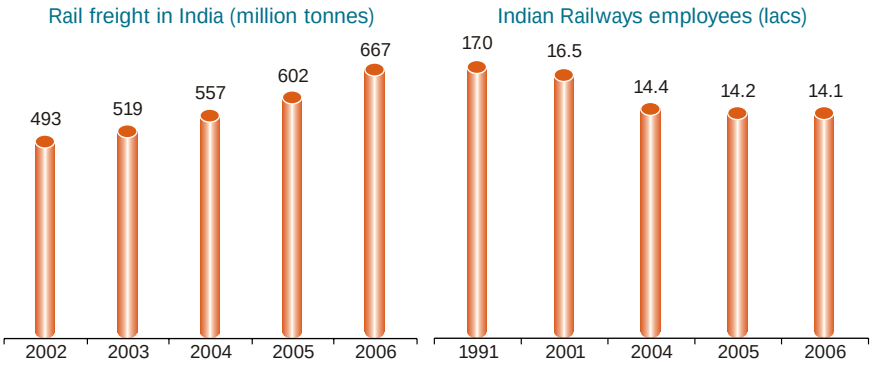



Figure 8

Source : Indian Railways data, KPMG Analysis

Manpower spends amount to about 45[7] percent of revenues as against the overall sector average of 8-10 percent. Also, non-salary expenditure comprises 36 percent of overall manpower expenditure compared to the sector average of 13-14 percent.

"There was a time when training was seen as a punishment…we want to change the attitude and make training imperative for growth in the organization"

*- Senior officer, Manpower Department, Indian Railways*

With the government being the only employer, recruitment systems in the railways segment are formalized and there exists an institutionalized training infrastructure and policy. Though the employee numbers are high (around 1.4 million) there are no significant skill gaps owing to this traditionally strong in-house training infrastructure. With technological upgradation, certain jobs are made redundant every year with the people on these jobs being absorbed in newer areas through training.

However, the rapid introduction of modern technology that is creating gaps even in technical areas such as signalling and telecom. Also, the Railways is facing increase in attrition levels due to gradual opening of the sector.

To counter the emerging gaps, the Railways is overhauling the curriculum and infrastructure and rolling out training to the lowest levels (Grade D) to increase productivity. With competition from road and air, the Railways is focusing on making its large manpower more customer friendly.

[7]Includes manpower for passenger services

In the overall assessment, therefore, the skill gaps situation in the railways segment does not seem to be alarming.

The host of new players entering into the rail container services segment (15 licenses have been awarded for the same) will however require skills that hitherto were only residing with the Indian Railways. While the quantum of requirement at this stage would be small and the need would likely be filled by the buffer created by the Railways, this could become a gap area going forward.

## Sea Freight (Transport)

The growth in shipping (refer figure 9) has been even higher than that of the railways driven by strong growth in foreign trade both in bulk and containerized cargo.

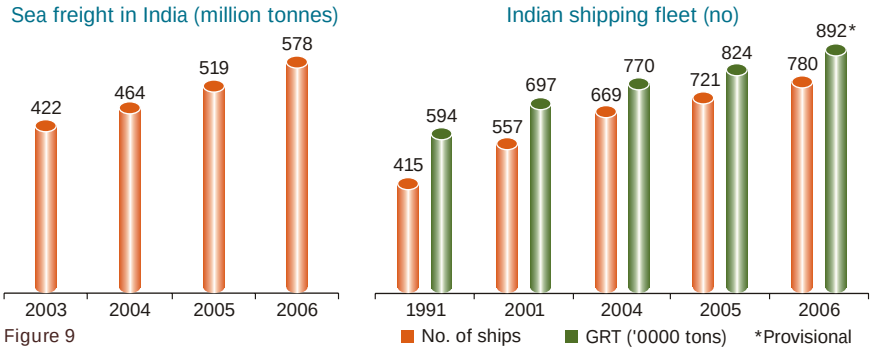



Figure 9

Source : DG Shipping data, KPMG Analysis

Manpower spends amount to about 8-10 percent; non-salary expenditure varies greatly between companies ranging from 3-20 percent of overall manpower expenditure.

The nature of liner shipping services to and from India has undergone a sea change in the last few years as a result of the growth in break-bulk and conventional cargoes. With the nature of goods being shipped changing, the potential and opportunities for container transport and logistics companies are enormous.

Over the past few years the size and the number of vessels that are being deployed by India has increased. With increasing capacity and infrastructural support, the scope of the operations is set to increase.

- India now has the largest merchant shipping fleet among the developing countries
- India ranks 17thin the world in shipping tonnage.
- Indian share of maritime transport services is 1 percent of world market.
- The container traffic has registered an impressive growth of 15 per cent over the last five years.

The Government is responsible for creation of the trained manpower required for the country's merchant navy fleet and also facilitation of training and employment of seafarers in foreign flag vessels. This is being met through the Government training institutes and number of other approved training institutes in the private sector. The training institutes established by the Government include Training Ship 'Chanakya' Marine Engineering and Research Institute (MERI), Kolkata, Marine Engineering & Research Institute (MERI), Mumbai, and LBS College of Advance Maritime Studies & Research, Mumbai. These institutes are presently functioning under the umbrella of Indian Institutes of Maritime Studies, Mumbai which was established in the year 2002 as a Society under the Society Registration Act, 1860.

In addition to the above, there are about 124 training institutes in the private sector approved by the Director General of Shipping, imparting pre-sea and post-sea training in various disciplines. The Directorate General of Shipping maintains a system of inspections to ensure the quality of training.

India is globally recognized as a very important source of mercantile manpower. Trained maritime personnel from India are much sought after by other nations. At the end of 2005, India's share of global maritime manpower rose to 26,950 officers and 75,650 ratings comprising an estimated 6 percent of the world's seafarers.

While the quality of training in India is among the best in the world, the present output of 6,000 ratings and 4,000 officers annually is short of the requirement to meet the demand for quality seafarers.

Every seaman appointed to a post of authority needs to have a certain amount of experience in order to be given a post. The average experience that the operational level individuals need is about two and half years. However, since a large number of people switch jobs after every trip made by a vessel, there is a gap in the higher levels in shipping companies. Most seamen and seafarers settle down after some years taking up a shore job, which worsens the supply situation.

"Due to shortage in the number of officers, in future, ships might be forced to run without adequate staffing levels.

*- Manager (Fleet Personnel), Large Indian shipping company*

Accentuating the situation is the inherent disadvantage to the Indian ship owners as employers arising by virtue of extra burden of income tax on Indian seafarers' income. This makes the employment on a foreign flag the first choice of any Indian seafarer, and thereby denies the best talent to the local shipping industry.

Thus, in the core shipping industry, while the manpower situation in terms of quality fares much better than the other segments of logistics, the issue here is that of quantity with an increasing number of qualified people being attracted towards working on foreign vessels as they offer better salaries and perks.

However, if one were to look at the ports side, there is an increasing lack of trained manpower for pilotage functions and equipment operators.

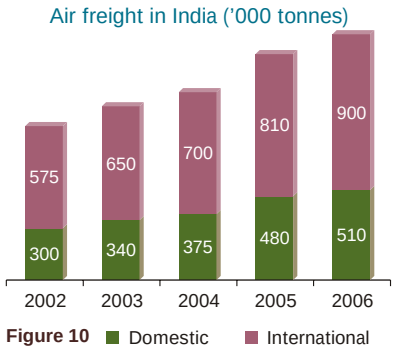



**Figure 10**

*Source : Express Council of India, KPMG Analysis*

## Air Freight (Transport)

Though the air freight segment holds a small share of India's freight market, it is growing at a fast pace (refer figure 10). While India accounts for meager 3 percent of the global air cargo market, the Indian air cargo industry is expected to double in size by the year 2010, as per an expert estimate.

As in the case of sea freight, the level of formalization and standardization of operations in the air freight segment is greater than in the road sector. By virtue of the level of investments in assets, network and relationships required to be a player in this segment, it has traditionally been relatively more organized leading to greater regard for manpower development. The market leaders typically have established internal structured training practices to train the staff employed at this level (which is typically 10th pass or sometimes 10+2).

Nevertheless, there exist perceived gaps at the operational / front line level and are primarily to do with soft skills, such as relationship management, interpersonal and managerial, and supervisory skills.

## Warehousing

The warehousing segment consists of storage warehousing related to distribution whether inbound or outbound transshipment warehouses or 'terminals' used for bulking / de-bulking, stuffing / de-stuffing cross docking and temporary storage (including CFS and ICD)

The warehousing segment is perhaps where the greatest growth potential exists. Like road transportation, this segment has traditionally been extremely fragmented, small scale and scattered geographically. A key reason for this has been India's indirect tax structure, with tax paid on cross border (state border) sales not being fully set off against local tax liabilities. As a result, most players resorted to setting up small warehouses across different states, rather than large, centralized set-ups. This has led to the prevalence of small scale, fragmented warehouses, with corresponding inefficiencies. This cause and effect cycle is depicted in (refer figure 11).

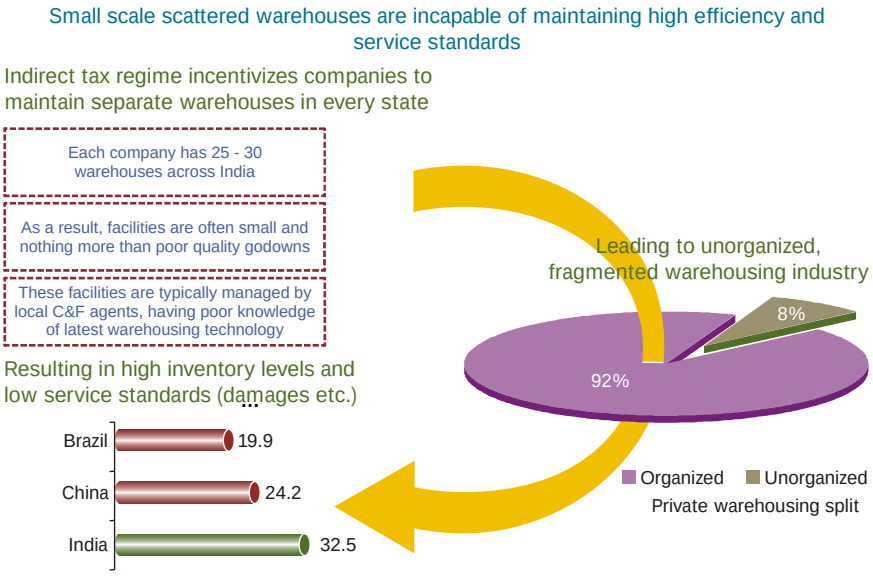



Figure 11

Source : ICS World Bank, The Hindu

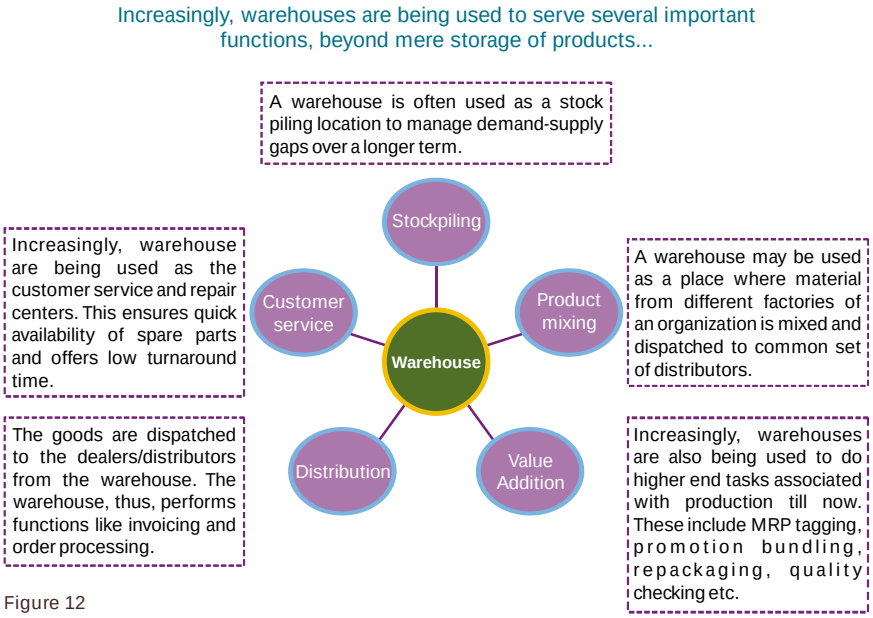



Figure 12

While no organized players have evolved in this segment, several trends are driving the need for a more professional and organized approach to warehousing. Figure 12 outlines the several additional functions that warehouses perform today, apart from being physical storage points such as Stockpiling, Product Mixing, Value addition, Distribution and Customer Service. These functions require different skill sets and hence, warehouse service providers today need to develop proficiencies in a diverse set of both core and non-core activities (refer figure 13).

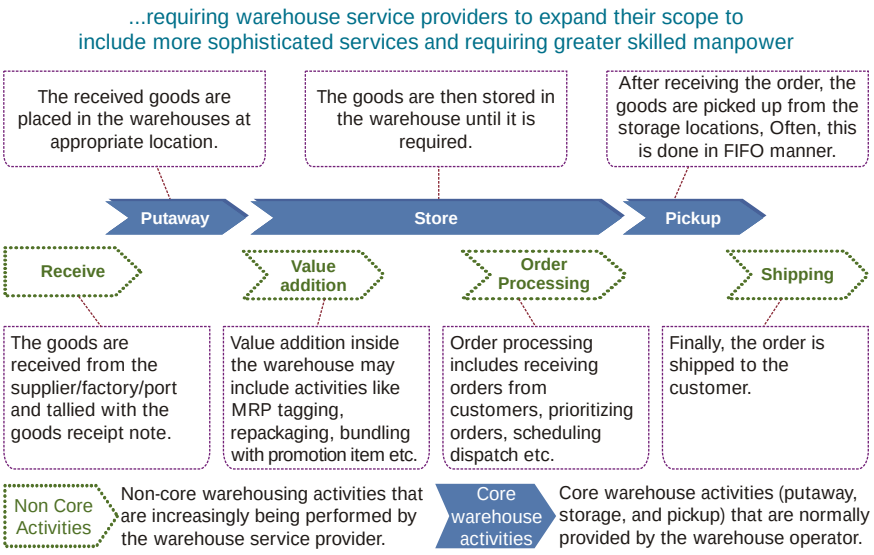



**Figure 13**

The size of the warehousing segment is estimated to be INR 1.2 trillion in 2006; while the overall sector growth may be estimated to be around the GDP growth rate of 8-9 percent, the organized portion of this market is estimated to be growing at over 20 percent.

A majority of players in this industry are small / medium entrepreneurs running the warehouse as a CFA for one or more companies. As mentioned earlier, the scale of these warehouses was never large enough to tap scale economies or justify investments in higher standards.

However, going forward, while implementation of the VAT regime is expected to drive consolidation and hence larger scale warehouses, the rapid growth of organized retail is expected to drive sophistication and efficiency in warehousing practices.

These developments would drive the need for specialized warehousing skills like picking and packing, inventory management, proper handling practices including usage of warehousing equipment like stackers, pallet trucks etc. and ability to understand and use warehouse management systems (WMS)

The growth in the proportion of containerized cargo (refer figure 14) in addition to the opening up of container rail transport is giving a boost to the development of Container Freight Stations (CFS) and Inland Container Depots (ICD). These 'warehouses', being used more for transshipment than storage per se, require basic skills around loading / unloading, stuffing / destuffing etc. at the operational level.

As in the Road Transport sector, skill issues are widespread across the board in the Warehouse segment as well ( refer figure 15).

Growth in container volumes in India (million TEU)

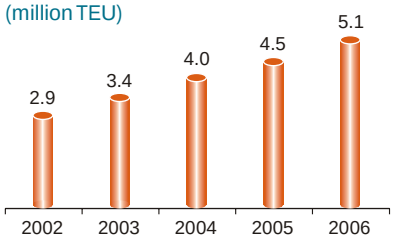



**Figure 14**

Source : Indiastat data

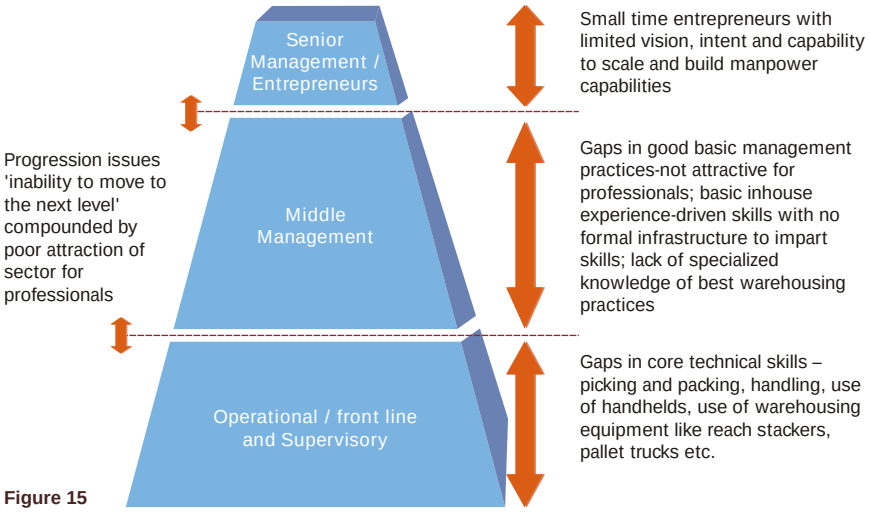



**Figure 15**

## Value added and emerging services

Besides the core transportation and warehousing services, the business of logistics is evolving to encompass services that either enhance the effectiveness of existing transportation and warehousing services or cater to associated value chain elements. All such services that do not directly involve transportation and warehousing have been classified as value added and emerging services.

Level of organization in express segment

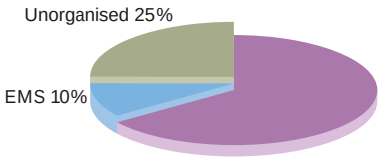



Figure: 16

Source : SSKI, KPMG Analysis

*Express services* by both road and air are fast growing. While the Air Express and Courier segment is reasonably organized (refer figure 16), the Road Express segment is relatively less developed. Sophistication and competition along with scale building among the industry players is expected to drive the need for deeper skills at the operational level and a broader range of skills at the middle and senior management levels in future.

*Track and trace* as a technology finds limited acceptance currently but is inevitably going to become an indispensable part of transportation. Manpower that is capable of operating and maintaining the systems would be increasingly in demand.

*Cold chain* services are likely to gain significance as organized food retail takes off. This would particularly give rise to the need for technically competent manpower capable of understanding the temperature and humidity control requirements of various perishables and operating sophisticated controlled atmosphere equipment

Value Added services associated with warehousing, such as packaging, inventory management etc. would create a corresponding demand for personnel with matching skill sets.

*The third party* logistics (3PL) market in India is still in a relatively nascent stage. While multinational companies in all industries have been predominant users of these services, domestic majors in leading industrial sectors have also begun to follow the footsteps of their multinational counterparts, starting with outsourcing their basic logistics functions. Realizing the significant cost reductions and several other benefits gained by these companies, a large number of small to medium companies in all the industries are gearing up to use 3PL services for their logistic functions, resulting in tremendous potential for 3PL market in India. As far as skills go, the 3PL business being an amalgamation of all other logistics

services combined, necessitates the all round development of skills in each sub sector as far as operational and front line skills are concerned; on the middle and senior management levels, while soft skills around customer relationship management would need to be developed and enhanced on the one hand, breadth of management skills across various segments of logistics would also need to be developed.

A snapshot summarizing the skill vs. size and growth (refer figure 17) assessment of the sector reveals that the following segments of logistics face the severest skill issues and unless manpower development specific interventions are undertaken in these segments, their growth and development may be compromised going forward.

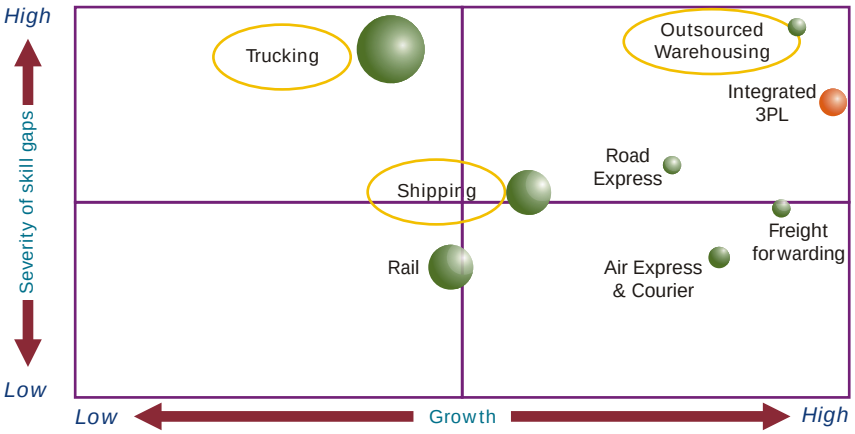



Figure 17 * Size of the circle approximately depicts the relative size of the segment

- Road freight (transportation)
- Warehousing
- Sea freight

We will now look at selected specific profiles in each of these segments the development of which would be critical for achieving and sustaining the projected growth.

# A deeper look at selected critical profiles

Discussions with industry leaders and other industry participants in each of the critical segments identified above reveals certain key profiles that need to be urgently developed going forward.

Truck drivers form the backbone of the road freight industry and ironically, also comprise the most neglected and untrained set of workers in the logistics sector. Another important role in the trucking and warehousing industry is that of the loading supervisor  the individual who would typically be responsible for handling fhe material that travels in trucks at origin, destination and transshipment points.

With warehousing becoming more sophisticated and organised, the role of the existing 'godown' administrative managers would be replaced by warehouse managers trained and experienced specifically in warehousing practices.

Seafarers include all individuals working on board a ship in various positions or those who support shipping activity. The institutional framework for training and developing seafarers is much more mature relative to the road segment; however with increasing international trade and commerce driving growth in sea frieght, the sheer volume of requirement of seafarers could give rise to shortages given the attraction that Indian trained seafarers hold for international shipping companies.

Given the severity of skill issues in these profiles and the need to prioritize the limited resources available for manpower development across the logistics sector, this section takes a deeper look at each of these profiles in order to recognize the issues and attempt to measure them.

## Truck Drivers

Truck drivers constitute the profile with the most critical skill gaps in the road freight segment. The profession attracts largely illiterate people with no formal training for the job (refer figure 18). Most of them graduate from working as helpers or driving smaller vehicles. Also, poor quality of vehicles and support infrastructure (resting places, dhabas, check posts etc) ensure that even slightly qualified people are not keen to enter the profession.

"With higher performing vehicles, the driver's industry status will grow. He may take up a larger role, including customer interaction... We're bound to see more educated people choose this profession"

*- VP (Marketing), Large Truck Manufacturing company in India (Source: The Hindu, 28 Oct 2005)*

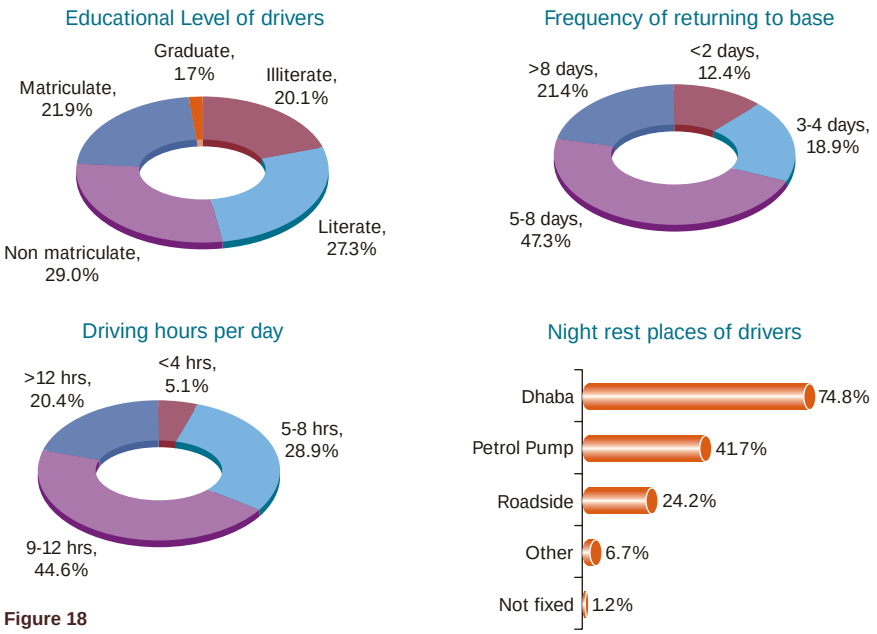



**Figure 18**

Source : The Indian Truck Driver and his Travails, Business Standard

Even though the necessary skills required (refer figure 19) are not very high, their number and the reluctance on the part of existing drivers to undergo formal training makes imparting necessary skills difficult.

Desired profile for a Truck Driver

- Must have completed a formal education (preferably up to standard XII)
- Core driving skills, recognition of driving practices specific to cargo carried, tonnage of truck
- Knowledge of routes, geography
- Knowledge of road safety practices
- Knowledge of traffic and permit rules, taxation rules relevant to border check posts (octroi, VAT)
- Ability to coordinate with pickup / delivery site representatives
- Ability to interact with authorities
- Knowledge of sanitation and hygiene

**Figure 19**

Licensing by state road transport authorities is done on the basis of a basic driving test in addition to a minor written test on traffic rules and often on non merit considerations. The licensing process is also not implemented or monitored robustly, leading to the prevalence of fraudulent licenses. It is no wonder then that the number of accidents involving truck drivers in India is alarmingly high, with fatality rates about ten times those in the developed economies. Apart from the loss of life, the annual economic loss from accidents has been estimated to exceed INR 550 billion[8].

Another manifestation of the lack of a professional training environment is the frequent instance of pilferage to the extent of the disappearance of entire trucks - a major cause for losses and administrative issues for logistics companies.

We estimate that while there are around 3 million truck drivers for M & HCV in the country currently, this number is likely to swell to nearly 5 million by 2015[9] (refer figure 20). This means around 0.15 million new truck drivers are required this year which is likely to grow up to 0.25 million by 2015. Even if 50 percent of all drivers in India were to be trained, almost 100 institutes of the size and scale of the existing one in Namakkal would be required to be set up in the next 7-8 years[10].

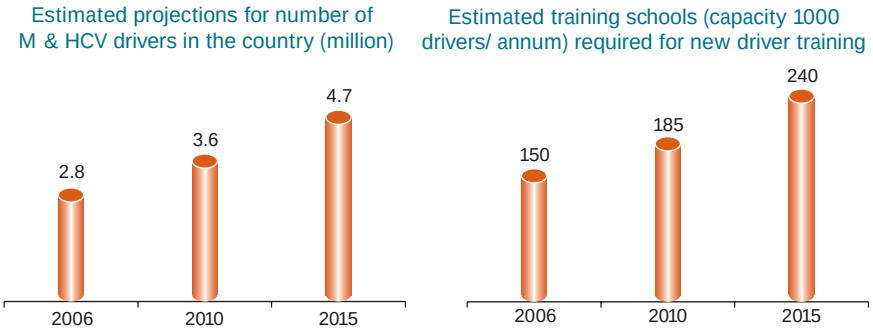



**Figure 20**

Source : KPMG Analysis

The present training infrastructure is much smaller compared to demand. There are very few schools for commercial vehicles training-barring one run in collaboration with Ashok Leyland in Namakkal, Tamil Nadu and one at Delhi run by the Delhi Government and Maruti. Though there are other institutes as well spread all across the country, the quality of training in these schools is not measured and is usually not up to standard.

[8] Road Transport Efficiency Study, World Bank
[9] KPMG Analysis Please refer annexure
[10] KPMG Analysis Please refer annexure

What can be done to address the situation?: The huge demand for new truck drivers and more importantly, skill upgradation of existing drivers requires creation of training facilities. Although the required capacity seems huge, there is some existing capacity which could be utilized after effective monitoring. Also, apart from proper and reliable licensing mechanisms, refresher training is necessary to correct any flaws in the driving style, and train the drivers about newer regulations and technologies. The introduction of modern HCV with advanced features also calls for better handling of the vehicles to derive the superior performance.

A good way to achieve rapid establishment of training infrastructure would be through public private partnership; specifically market leaders in the trucking and truck manufacturing industries could pull together their resources and clout and prepare a pointed case for government support which could then be presented to the government for roll out.

The government, at its level, needs to work to enhance compliance levels to defined standards. For example, The Delhi Government has made it mandatory for drivers to undergo refresher courses every three years before getting their license renewed. Other states have also shown a desire to implement similar measures.

"In the recent times companies such as HUL and P&G have started implementing restrictions. They have issued a caveat stating that only drivers who have undergone a certification course which they conduct will be allowed to transport their goods."

Companies on their part should also adopt practices to employ better and skilled drivers, creation of better facilities for drivers and increase remuneration to attract better talent. Companies also need to provide need-based training to drivers, apart from the regular licensing and refresher courses done by the Government. For example, drivers who are engaged for transporting hazardous substances like petroleum, chemicals, explosives etc should be given specific training on these products and related safety procedures.

### Driving business by creating facilities

Some of the petroleum retail companies have been investing in support infrastructure for truck drivers as a way to increase volumes. Noteworthy are the A-1 plazas by Reliance and 'One Stop Trucker Shop' or OSTS by Bharat Petroleum Corporation Limited. The OSTS is particularly novel because of the extent of the facilities planned.

An OSTS is generally a highway retail outlet attached to which some facilities are provided. Incidentally termed 'home away from home', a typical OSTS outlet has facilities like dormitory, a tailoring shop, saloon, health care centre, laundry, toilet and dining & cooking facilities. It has parking facility for 25-30 trucks and an equal number of cars. Some such as the OSTS in Maraimalainagar in the

outskirts of Chennai have telemedicine facilities which the company plans to extend to other outlets. There are also schemes planned such as free laundry in collaboration with HUL. The company wants to set up 250 such outlets by March 2009. This is significant as setting up an OSTS can cost around Rs. 50 million.

The upside For the highway drivers, there is one reliable place where they can find a whole host of facilities required as well as safe parking for the night. For the company, an OSTS sells around 600 kl/month of fuel compared to 200 kl/month done by a typical outlet. Some such as the one in Maraimalainagar in Chennai go up to 1500 kl/month

Source : The Hindu 11/03/2007, et al)

## Loading Supervisors

The loading supervisor position exists in the road, railway transport and warehousing segments. Among these, the gap in number as well as skills is highest in the road transportation segment.

The loading supervisor's position is critical as it carries a lot of responsibility when compared to the position and the general profile of the people employed. Some of the key responsibilities include ensuring efficient arrangement of goods in the vehicle, quick turn around of vehicles, safety of the goods during the process and minimizing damages. He is also responsible for basic training of the labor pool. Thus the desired skill set of a loading supervisor (refer figure 21) is significantly advanced compared to other job profiles with similar responsibilities.

"Loading supervisor is the backbone of transportation industry and is in critical short supply."

*- CMD, A large trucking company in India*

Desired profile for a Loading Supervisor

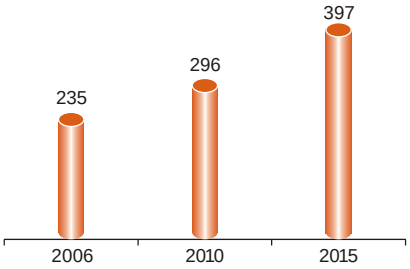
- At least a XII Standard
- Supervisory / team management skills
- Awareness of stocking, packaging and handling practices for various types of cargo
- Good communication skills
- Command of the local language in the area of operations
- Willingness to travel
- Knowledge of the various laws governing the inter state transport
- Knowledge of usage of equipment for loading/ unloading
- Understanding of functionality of the machinery employed

**Figure 21**

For all these responsibilities, the loading supervisor, even in the organized sector, is often semi literate, and picked up from the labor pool or similar staff. In the unorganized sector, the situation is worse with no such position existing in most small logistics companies/ small scale industries. In such companies, anyone (mostly the labor gang leader) can act as the loading supervisor depending on availability.

We estimate that there are around 0.3 million[11] loading supervisors in the industry currently, and this number could go up to around 0.5 million by 2015 (refer figure 22). This would mean developing around ten thousand new loading supervisors each year till 2015. Even if we assume that the sector can provide 50 percent of this manpower internally, there still remains a critical requirement to train around 5000 loading supervisors every year till 2015.

[12]Estimated projected number of loading supervisors in India ('000)




Estimated training capacity required for loading supervisors (Nos.)

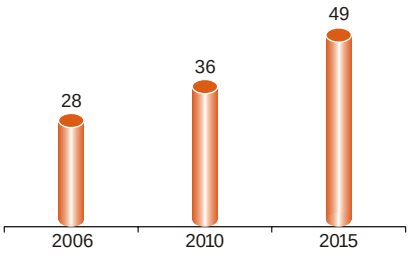



Figure 22

Source : KPMG Analysis

What can be done to address the situation? : Most companies surveyed pointed out that the position requires immediate attention on skills development. However there exists no formal training mechanism for loading supervisor training.

The first step therefore would be to create the infrastructure and systems for such training in much the same way as for truck drivers. One good way to commence this would be to leverage the existing network of Industrial Training Institutes (ITI) - which impart manufacturing training to introduce courses designed for this and other profiles. This would require close collaboration between industry leaders and the Government, for the definition of standards of skill levels, development of the curriculum of these courses and institutionalization of these curricula.

[11] KPMG Analysis- Please refer annexure for details
[12] Refer annexure for details

"The skills required to carry out warehousing activities are often honed on the job. The industry is growing at over 20 percent and hence the shortage of the skilled warehousing professionals is also increasing."

*- Head of HR, Global 3PL and freight forwarding company in India*

Once the institutes and curricula are in place, the ideal way forward is for companies to select people for this position, either from their existing staff or from outside, and send them for such training programs before starting their job. This will ensure that training is imparted to loading supervisors and that there is a staggered training schedule at various times throughout the year. In addition, companies could send a few existing loading supervisors (already inducted without training) for training along with the new joiners. This would help the new joiners to learn from the experiences of the existing staff and help the other in undergoing a formal training.

## Warehouse Managers

The warehouse 'manager' is a senior operational person in a warehouse. The job has a mix of both operational and managerial aspects. While the specific roles and responsibilities of warehouse managers vary with the facility and the product, there is a broad set of responsibilities that any warehouse manager of a warehouse in the organized segment would need to carry out.

Warehouse managers ensure the safe receipt, storage, retrieval and timely dispatch of goods. They are responsible for the arrangement, storage standards and safety of goods within the warehouse. They manage teams of workers and deal with personnel issues such as the recruitment, training and discipline. Some managers also oversee picking, packing and distribution activity. They ensure that workplace health and safety requirements and productivity targets are met and maintain computerized administration and automated storage & retrieval systems.

The warehouse managers' position is one of the most affected by the changes in the logistics sector. As the roles of warehouses are evolving significantly, so are the demands from warehousing managers. From the current situation where warehouse managers are typically administrative in charge of small scale godowns multi-tasking as commercial managers, the organized portion of the market will require managers with training and experience in warehousing specific operations. Some areas where existing skills are lacking include familiarity with warehousing formats (WA and VNA compared to the prevalent ground storage), with modern equipments (reach stackers, pallet trucks etc.), with IT systems (WMS, handhelds, RFID), industry specific stocking and handling practices (FMCG, perishables, textiles etc), practices around safety and security of stock etc. While it is expected that warehouse managers in the organized sector have knowledge of the working issues (refer figure 23), increasing play in the organized market outpaces of development of these skills currently as is done through internal training practices of the few market leaders.

Desired profile of a Warehouse Manager

- Degree / diploma in logistics/ previous training and certification
- Experience in warehouse management
- Knowledge of operations and basic IT skills
- Problem-solving skills
- Knowledge of inventory management, order management
- Communication and co-ordination skills
- Ability of work in and lead teams and manage people
- Ability to motivate others, delegate work and explain ideas
- Knowledge of local and client side languages
- Knowledge of the current safety and environmental norms
- Ability to define and devise customized solutions for the clients
- Ability to operate warehousing equipment

**Figure 23**

At present, the number of warehouse managers required in the organized sector is around 14000[13] which is expected to grow up to around 35000 by 2015 (refer figure 24). This will require supplying around 4000 new warehouse managers each year by 2015. Again, if we assume that industry can provide around half this number, there needs to be an institutional capacity to train 4000 new warehouse managers each year by 2015.

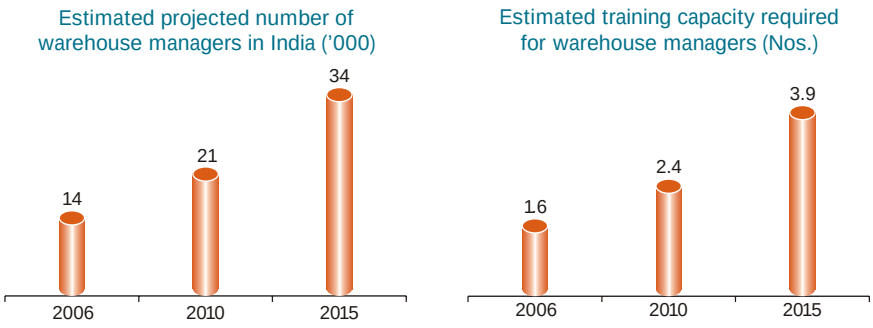



Figure 24

Source : KPMG Analysis

What can be done to address the situation?: While there does exist some capacity for training supply chain managers which covers warehousing, feedback from the industry suggests that much of the training is either theoretical or such that it is suited for senior management providing a strategic perspective as against operational hands on training.

[13] KPMG Analysis- Please refer annex for details

Recently, some U.S. based certification exams have been introduced by private training institutes, to cater to the increasing number of multinational logistics companies setting shop in India. The domestic institutes need to take cue from such courses and introduce similar courses for Indian companies. The courses should contain a mix of technical and managerial skills. The technical skills could include activities such as material and equipment handling, use of IT, warehouse management systems, and newer methods like JIT, RFID etc. The managerial courses should essentially be refresher courses on man management, modern warehousing practices, ethics etc.

## Seafarers

Seafarer is a term that is used to describe a person working on board a ship in various positions or one who supports shipping activity. As discussed earlier, amongst the various segments of the logistics sector, the sea freight segment boasts of the best manpower creation environment. However, there still seem to be problems - companies surveyed acknowledge that there are problems in finding trained seafarers. The gap which in this case is more in terms of quantity than quality arises out of a diverse and complex set of reasons

*Global Demand:* Ocean freight has been growing globally with Asia roughly fulfilling 42 percent of all seafarer demand. China, Philippines and India are the key Asian countries filling this demand with the demand for Indians increasing due to their English skills.

*Regulations:* Industry leaders say that only about 40 percent of Indian officers work on Indian vessels. This is largely due to the fact that officers working on foreign vessels get a better income owing to a different tax structure. At the same time, foreign trained officers are not allowed to work on Indian vessels.

*Working Conditions:* A few officers surveyed concede that the advantages offered by the shipping industry, such as high salary and foreign travel, are being eroded by other sectors, more specifically IT. Enrolling in maritime officer training is costly, as it takes a deposit of roughly INR 0.5 million as security and fees. Hence, while there is training capacity, it is becoming increasingly difficult to get people to these institutes.

The number of maritime institutes rose to 128 in 2005. Over the next decade the global demand for officers is expected to be between 25,000 to 60,000, depending on the growth of shipping fleet. The government aims to increase India's present share of 6 percent of global manpower to roughly 6.6 percent by the next decade - this will require induction of 4000 officers and 4750 ratings, based on conservative estimates. Even though India has near sufficient capacity to reach the target number, the institutes have been able to recruit only a fraction of the required number. The output of officers at the end of 2006 was estimated around 3400. If we include the support staff including those on the land, for whom there hardly exists training infrastructure, there seems to be a lot of work left in the sector.

*What can be done to address the situation?:* At the present growth rate, the demand for seafarers will roughly double in the next 10 years. With the government announcing an investment of INR 6.9 billion for setting up training institutes in this sector, there seems to be a plan to move towards this target. However, the lack of sufficient supply and the high rate of exodus to foreign ships could make it difficult to get the required number of officers. Hence, along with providing institutional support, the government should focus on making other conditions amenable. This includes increasing awareness of the opportunities available in the segment and tapping graduates from the states hitherto untapped by maritime jobs.

# Root causes of skill gaps

The existing state of manpower in the logistics sector arises from a complex mix of interlinked factors (refer figure 25).

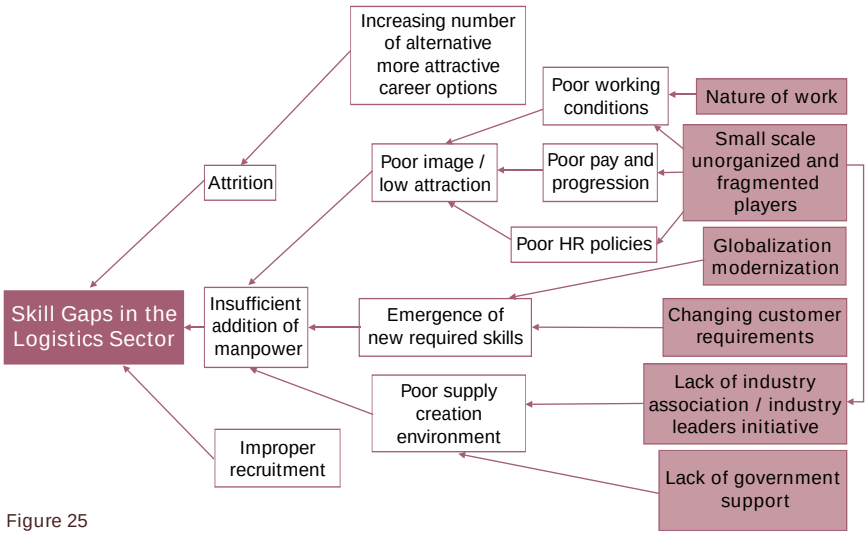



Figure 25

Skills gaps in any industry could arise from a combination of 3 factors

- Addition of manpower is less than that required
- Exit of manpower (attrition) is greater than replacement
- Recruitment is not in alignment with requirement
- We will examine each of these factors in the context of the logistics sector.

## Insufficient addition of skilled manpower

A key reason for the insufficient addition of manpower to the sector is its poor image and consequent lack of attractiveness for a new career seeker. The small scale and unorganized nature of the industry in the road segment for example, has led to a situation where small entrepreneurs neither have the capacity nor the inclination to invest in human resource development. The working conditions in the segment which are by their very nature relatively less comfortable than alternative careers, are worsened by a lack of investment in basic safety and hygiene factors; for example, for a loading supervisor or a truck driver, the working hours typically end up being 10-12 a day which may be in conditions of extreme heat, dirt and / or noise.

Pay scales in the segment have also not been very attractive resulting in a situation where the segment has almost come to assume the image of one which is the last resort for a serious career seeker. Similarly, at the middle and senior management levels, the small scale and strongly centrally (family) controlled nature of businesses has led to a situation where professionals prefer not to join the segment fearing a lack of independence and flexibility with almost no chance of reaching the top position.

"A truck coming in from Delhi to Mumbai is allowed entry only after 8pm; the driver needs to pick goods from a warehouse, and someone has to be in the warehouse at odd hours."

*- Senior Executive, Global 3 PL Company in India*

Basic human resource systems and policies are typically not in place in even reasonably large companies in the sector. While the largest companies in this segment like Transport Corporation of India, Delhi Assam Roadways Corporation etc. have or are increasingly putting in place such systems, the majority of players need to build capabilities in manpower development, training and welfare spends.

Another reason for the gap in skills is the rapid evolution in the profile of logistics end users and hence their requirements / demands which are rising much faster than the pace of skill creation. While godowns in the name of warehouses and 35 kpmh trucking speeds were acceptable hitherto, with increasing competition and level of maturity in the end user industries, the pressure on driving down logistics costs while at the same time increasing effectiveness and quality is more than ever. Achievement of anything close to international benchmark levels in logistics costs would necessarily require far reaching changes in the way things are done in the sector. For example, multiple level stacking in warehouses would require development of skills around best stocking practices for such warehouses, operating warehousing equipment like reach stackers, pallet trucks etc., efficient and responsive supply chains would require usage of handhelds, understanding of RFID technology or at the least basic IT skills and usage of warehouse management systems, cost reduction would require minimization of handling losses and hence better stocking, picking and packing practices, emergence of organized retail of perishables would require understanding of cold chain systems and technology which can differ significantly by the nature of each perishable.

Another case in point is the freight forwarding industry in India this segment in India has until recently been dominated by global companies whose Indian presence was largely on a nominative basis. They were focused on a few large corporations and the Indian operation of their global clients. As such, their footprint was restricted and they were not focused on developing the business and marketing skills of their Indian employees. With the core Indian freight forwarding opportunity coming of age, there is a sudden increase in the requirement of skills at the middle and senior management levels.

Another key reason for the insufficient addition of manpower to the sector is the severe lack of an institutionalized manpower creation environment.

While the shipping segment boasts of a sizeable number of both private and government run institutes for seafarer training and the rail segment, by virtue of being a government entity, also has institutionalized training infrastructure, the road segment and to an extent the air segment lack such an infrastructure severely. For example, there exist only two known schools for driver training - one run in collaboration with Ashok Leyland in Namakkal and one at Delhi run by Delhi Government. While, for senior and middle management, there exist limited courses at certain institutes that cover subjects like supply chain management,

technical training for the operational level staff is severely lacking. There exist no institutions or courses dedicated to providing training in this segment - for instance, there is absence of an institutional framework similar to the network of Industrial Training Institutes (ITI) that exists for manufacturing and related training.

Employees mostly develop skills on the job and hence are often ill-equipped to adapt to changing requirements in terms of technology and / or work practices. While market leaders have developed training systems internally to cater to their requirements, an external manpower creation infrastructure is missing. This is not a healthy situation since it diverts resources that would otherwise be used in the core business of logistics towards non-core activities like creation of training infrastructure and systems; also this leads to an overall economic loss for the country by duplication of such infrastructure operating within the confines of these large companies. For these companies themselves, attrition of trained personnel becomes a major issue since the attractiveness of a trained resource for mid-size companies not having in-house training capabilities is high and they are willing to offer higher compensation and benefits for such resources.

## Exit of manpower (attrition) is greater than replacement

The impact of the above mentioned factors on skill gaps is accentuated by the fact that emergence of modern logistics has coincided with rapid employment growth in other industries like organized retail, IT, ITES, auto etc.

Relative to these emerging sectors, the logistics sector has had lower pay scales, poor working conditions (both due to lack of overall infrastructure and company specific facilities), low / no investment in staff welfare and lack of a clearly defined career path. Organized retail has the attraction of the better work environment and is leading to severe attrition from logistics sector.

An indicator of the poor working conditions is the low participation of women in the logistics labor force. While a reasonable portion of the jobs such as those in warehouses and middle / senior management are amenable to women, the actual participation of women is very low.

## Improper recruitment

Fitment of the aptitude and preference of a candidate with the profile that he / she is recruited for does not necessarily happen in a lot of cases leading to a situation where the basic motivation and 'engagement' of the worker on the job may be limited. This is another reason for the skill gap situation that exists across industries though relatively not as severe as the preceding ones in the case of the logistics sector.

# Recommendations

Having understood the key underlying causes of the skill gap situation in the sector, actions to address the root causes naturally become critical for controlling widening of the skill gaps such as to enable sustainable growth supported by the required human resource capabilities (refer figure 26)

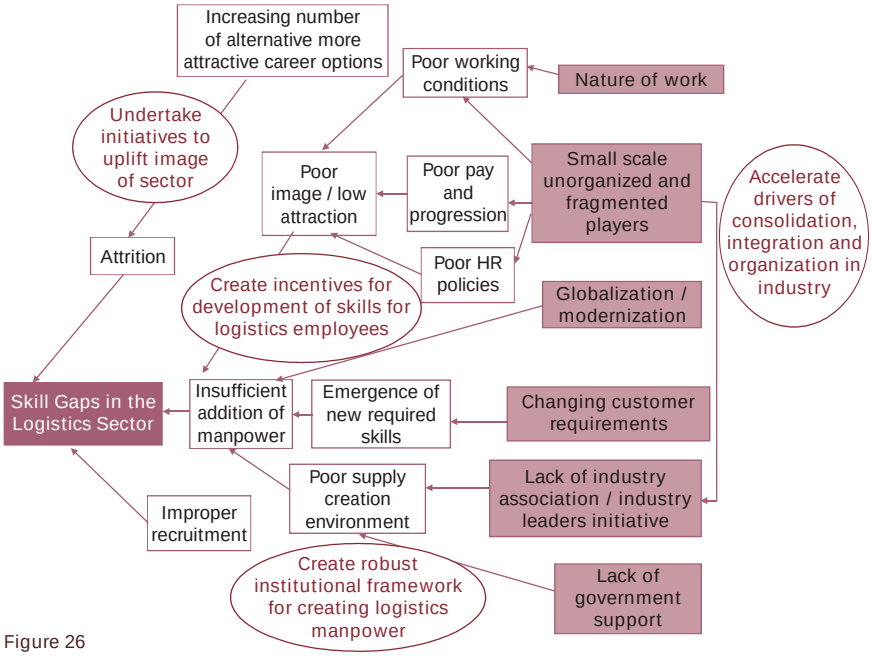



Figure 26

Our recommendations are thus centered around four key themes

- Creation of a robust institutional framework for creating logistics manpower
- Creation of incentives for development of skills for logistics employees
- Undertaking of initiatives to uplift the image of the industry
- Acceleration of the drivers of consolidation, integration and organization in the industry

Given that the greatest skill gaps have been identified to exist in the road freight and warehousing segments, our recommendations are for the most part relevant to these segments.

Skills for Logistics in U.K.

In 2004 the U.K. Government's Sector Skills Development Agency (SSDA) granted license to Skills for Logistics (SfL) as the 9th Sector Skills Council in U.K.. SfL is a registered charity and an independent, U.K.-wide organisation run for employers, by employers, to tackle the skills and productivity needs of the logistics sector. It is has basic funding support from the government and also charges fees for registration of training programmes, and for carrying out research for other organisations. The body has three key functions.

Through a major research programme involving employers and government bodies, SfL has formulated the Logistics Skills Agreement (LSA) which outlines the skills and workforce development needs of logistics over the next ten years and the commitment that employers and government bodies will give to support these needs. The LSA are framed for each function and segment and are made region specific for greater acceptance.

It also conducts training and certification programs. It has a Young Driver Scheme (YDS), National Vocational Qualification (NVQ) training to improve the skills of workers in transport & warehousing. It also conducts apprenticeship and experience booster programs where young people are allowed to work under guidance at basic levels in the logistics sector and can use the experience to move directly into higher education programs. Finally, it helps companies to formulate in-house training programs under train-to-gain scheme and also help them to map the Professional development stairway for employees in their organisations.

Source: www.skillsforlogistics.com

Proportion of vocationally trained workforce (Aged 20 - 24 years)

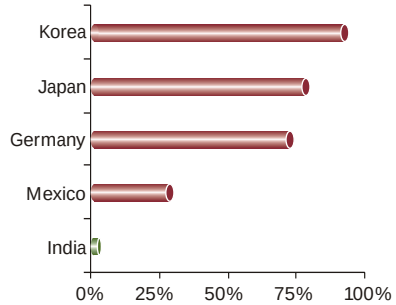



Figure 27

Source : ILO (2003)

TCI runs a school in Nangal, Rajasthan with the dual purpose of ensuring education for the children of its staff and creating skilled manpower for the transportation sector

## Creation of a robust institutional framework for creating logistics manpower

Set up and operation of training infrastructure and systems is an activity that requires a long term view and significant upfront investment making it akin to most sectors where government participation becomes necessary (like public infrastructure), at least in the initial stages. The key reason for the lack of such an infrastructure for logistics (especially in the case of road logistics) in India is the limited extent of government support for the same (refer figure 27).

At the same time, there have been limited attempts by the market players to approach the government with a workable plan for a private public partnership for creation of required infrastructure. It is ironical that while large companies in the sector continue to invest in creation of in-house training systems and infrastructure, there have been limited attempts to work out a public-private participation model for developing such external training infrastructure which would not only save duplication of investments but help develop the industry as a whole to the benefit of all participants.

Market leaders thus need to pull together their resources and clout for establishment of a nodal logistics institute or a network of institutes in partnership / support with the government. The partnership would require not only contribution and sharing of financial resources but joint identification of specific profiles in each segment for which external training infrastructure would be required (3 of the most critical ones of which have been identified in this paper) and joint development of standardized course curricula for each such profile. For example, specialized vocational courses would need to be developed for various activities like planning, inventory management, driving etc.

Industry players would need to also support execution of training curricula by complementing classroom training that the institutes provide with practical 'hands-on' lessons for trainees. This could mean making their resources (assets and people) available for live training lessons. For this to be successful, players would need view this not as an 'investment' or 'cost' but rather as an opportunity to spot the right talent for potential recruitment and also utilize fresh talent under the guidance of their personnel / trainers to execute operations.

These institutes should conduct surveys for assessing the exact skill gaps for each sector and developing performance and working environment benchmarks for various activities in the various segments for the logistics players to gauge their performance. The institution should also support companies in establishing in-house training facilities. These institutes would need to be empowered to provide certification based on definition of standardized skill sets required by profile, which could be used by industry as criteria for employment and promotion

It would be good to create a nodal logistics association or at least one for each segment for which sector players would have to come together. Across industries, it is associations like this that take up such industry causes and act as platforms for representing industry issues to the government. The lack of such an association in this sector is an anomaly that would need to be removed for such interventions to be successful.

Another option is for private entrepreneurs or business groups to explore setting up commercial ventures around provision of such training services. In this case, these private players would need to invest in building credibility with industry players.

While eventually the sector will require dedicated training infrastructure, a beginning can be made by leveraging the existing network of Industrial Training Institutes (ITI) and Industrial Training Centers (ITC) that provide vocational training. Given that these institutes provide for manufacturing and related training, starting to offer courses around logistics profiles at these centers would be relatively easier and faster to achieve.

### Employers become trainers in retail : Can the logistics sector follow suit?

The retail boom is likely to create an additional 2.5 million new jobs by 2011. Surprisingly, there is not one premier educational institute offering training courses with retail focus and the capacities of smaller institutes nowhere close to demand. Homegrown retail giants are now following the global pattern of supporting training infrastructure.

Some are setting up their own schools: a case in point being the RPG Institute of Retail Management. ITC is planning a retail training academy in partnership with NIS Sparta. Pantaloon Retail (PRIL) started a one year full-time post-graduate retail management program at K G Somiaya, Mumbai, five years ago. Its other programs include the recent distance learning course in retail management with Madurai Kamaraj University. The company is looking at the NIFT and Pearl Academy to teach visual merchandising. Its 17,000 employees are eligible for a two-year fully paid MBA after two years of work.

Recently, Bharti Resource Centre (a subsidiary of Bharti Enterprises) entered into a partnership with Global Retail School (GRS) to produce 15000 professionals annually from 30 Bharti Resource Learning Centres (BRLC). The courses offered range from 3-6 month courses to one year diploma. Others, such has Subiksha, which has 1800 employees, runs internal training schools for its staff in various cities. Shoppers' Stop has a tie-up with Manipal University to provide courses in retail. Even industry bodies are chipping in: the Retail Association of India has partnered IGNOU to start a retail course.

The benefits: a larger talent pool, a secured future for aspirants, less time and capital invested on grooming freshers, and financial backing to the partner academic institutes.

Source: Hindu Business Line, August 05, 2006

## Creation of incentives for development and upgradation of skills for logistics employees

While establishment of institutional infrastructure for training would address the supply creation concerns, there is a need for explicit creation of demand for training. While intuitively, the very existence of skill gaps suggests the existence of demand for training, the stakeholders who require training in many cases do not have any incentive and / or inclination to be trained. For example, while the poor state of truck drivers and the economic loss due to the lack of their professionalism and training is evident, the truck drivers themselves would not be keen to join training courses unless they see direct and immediate benefits of the same given that any training time spent would directly take away from their earning time.

Similarly, at the middle management and supervisory levels, sheer inertia arising out of the prolonged period of working in the traditional manner makes it challenging for employees to upgrade their skills  for example, for an existing warehouse manager / supervisor who could make do with limited or no training requiring only skills around loading / unloading, ground stacking, administration etc. there may be a lack of inclination to get trained in the latest warehousing practices. Creation of a training infrastructure alone will not lead to substantial benefits in such a case.

Demand creation could be achieved through a combination of the following

- Creation of a certification / grading system and recognition of the same in the recruitment and progression of employees by companies. This system would need to be developed by industry players coming together on a common platform like an industry association.
- Developing more credibility and enhancing perception of the utility of training through implementation of innovative training practices like apprenticeship. This would require that training provided by institutions is sufficiently complemented by 'hands-on' practical lessons. Visible upgradation of the skills in terms of knowledge of latest technology, work practices and hence the better career opportunities to people undergoing training would create a natural incentive for greater enrolment into training.
- Monetary and progression incentives for trained vis-à-vis untrained personnel by companies. For example, progression to certain levels could be linked to the achievement of a particular certification / grade.

## Undertaking initiatives to uplift the image of the industry

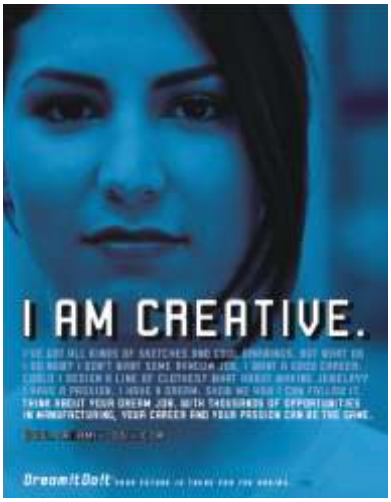
The poor image of the industry arises from

- inherent nature of working practices like long working hours in adverse working environment like heat, dust, noise etc. for truck drivers, loading supervisors etc. or long periods of stay away from family in the case of truck drivers, seafarers etc.
- callous attitude in employee development and limited investment of players in improving conditions to the extent possible
- unethical practices arising from transactions being carried out in cash
- poor pay and progression possibilities vis-à-vis other alternative careers
- limited investment in staff welfare and training
- concerns around safety

While some improvement in the working conditions will naturally take place as better and more efficient work practices proliferate through the sector for example Improved road infrastructure would mean lesser time required for traveling the same distance and hence possibly lesser driving hours for truck drivers, this process needs to be accelerated by industry players by undertaking focused initiatives to address each of factors listed above.

Greater investment is required from industry players in employee welfare and ensuring the basic safety systems are in place. Unethical practices need to be controlled through disincentivisation of cash transactions. A closer look at pay and progression policies is also warranted - given that growth and profitability outlook for the industry is positive, sharing the benefits of growth with employees would be important.

While implementing these improvement initiatives is critical, it is equally important to communicate improvements to the target group of recruits. The best way to achieve this would be to launch a media campaign to deliver messages on improvements that are being undertaken. This exercise can be effectively carried out by industry associations in respective segments in association with external advertising agencies




Attracting the cream by making them dream

The National Association of Manufacturers (NAM) is the United States' largest industrial trade association, representing small and large manufacturers in every industrial sector. It heard from its members that they were having trouble attracting employees with the right mix of skills in certain job functions to meet the demands of modern manufacturing. It conducted a survey in 2005 and found that, among other things, manufacturing had an outdated image filled with stereotypes of assembly line jobs that kept young people from pursuing careers in this sector.

The association through its body, the Manufacturing Institute, set itself to promote the manufacturing sector among the youth, highlighting the jobs as 'cool'. Thus began the "Dream it Do it" campaign. The campaign mainly comprises seminars and presentations in key manufacturing states where the youth is exposed to the new developments in the sector and the various career opportunities available. The participants get a chance to interact with leaders in various small and large companies. The campaign is using the technology quite well. It has created a resourceful website, fun tools and games and has made advertisements for radio and print as well (one of the print ads is inset). The campaign is also inviting colleges and teachers to spread awareness about its message.

The campaign's USP is that it does not thrust manufacturing as a career. In its own words, "The campaign seeks to provide tools and resources for young adults to help them identify what they are passionate about and then utilize this information to find a fulfilling career in manufacturing."

Source : www.dreamit-doit.com

## Accelerate the drivers of consolidation, integration and organization in the industry

The factors that have perhaps had the most profoundly negative impact on the skills situation in this sector are the high degree of fragmentation and the lack of vertical and horizontal scale at the firm level. As discussed earlier in this paper, lack of scale and professionalism in running the logistics businesses particularly in the road sector, has meant that a very myopic perspective has been taken by players on the human resource development front. Existing and emerging trends in the sector are driving firms to grow in scale and scope. This has meant increasing consolidation in each segment of the value chain and integration across segments.

Larger firms are typically more amenable to taking a long term view of the industry and hence investing in the development of capabilities that may not lead to immediate short term benefits but build the base for sustainable growth.

The pace at which this evolution of the industry takes place will determine the pace at which skill gaps will be plugged provided that the interventions mentioned above are undertaken. Thus any actions undertaken to accelerate this pace will inevitably lead to improvement of the state of the industry on the manpower front. These actions would essentially be responsible for the timing of various structural changes and would act as tipping forces for the other interventions to have an impact.

Nevertheless, the following government led initiatives would go a long way in evolving an efficient industry structure amenable not just to the development of manpower but of the sector as a whole.

- Granting industry status to the logistics sector
    - o will bring focus, greater organization (less ad hoc-ism) an integrated approach to the development of logistics

- Continued liberalization of trade
  - will necessitate building of scale to ensure global coverage. Easier trade between countries is creating increased demand for logistics and the emergence of global logistics hubs like Dubai, Singapore and Rotterdam. Many global logistics companies are building strong networks in the developing countries, different from the signatory presence of the earlier times. This will create a stronger demand for skilled manpower and a similar performance demand from the domestic logistics companies which will increase the demand even further.
- Continued liberalization of foreign investment
  - will enable entry of MNCs with an established practice of outsourcing logistics and hence drive the need for larger scale best practice driven outsourced logistics
- Development of enabling infrastructure
  - will create the base for achievement of greater scale efficiencies
- Encouragement of public private partnerships
  - will ensure a faster pace of enabling infrastructure development
- Rationalization of distorting regulations / policy framework
  - for example, rationalization of indirect tax regime will necessitate building larger warehouses and enable achievement of scale economies

## Stakeholder-wise recommendations

To summarize, while imminent consolidation and greater organized play will drive plugging of skill gaps, the process must be accelerated through specific initiatives by stakeholders

### Market leaders

- pull together their resources and clout for establishment of nodal logistics institute / network of institutes and invest in partnering with the government to identify key areas of skill development, standardization of course curricula for these and develop certification standards
- demand certification while recruiting to ensure incentive for getting trained
- undertake an image-building exercise for the sector
- establish industry association/s to ensure focus an sustain effort on above areas
- undertake reforms in the human resources policies and processes including pay, progression, training, welfare, working conditions etc.
- implement training and development best practices like apprenticeship
- work with the envisaged training institutions to provide for the practical component of the training to complement classroom based training

### Government

- Support market leaders in the above initiative
- Accelerate the drivers for organization and consolidation (upgrade enabling infrastructure, accord industry status etc.) of the industry
- Formulate policies to encourage training spend by companies
- Define a timeline to make certification based training mandatory for critical positions
- Create directives to improve working conditions in the sector

## Industry associations

- Support market leaders in their responsibilities outlined above
    - o Lobby with the government for support and implementation of the logistics institute/s and other manpower development initiatives
    - o Work with relevant government bodies / ministries to identify key training needs, develop curricula and define certification standards
- Monitor, track and measure effectiveness of implementation

## Employees

- Ensure continual upgradation of skills

### Creating a training and development culture at TNT

TNT is a global leader in express and post segments. It is also a leader in training with it being the first logistics major to win the 'Investors in People' recognition. It has several companywide and local programs in collaboration with local universities at various levels with defined training principles. There is a people's development charter displayed at every office with clear roles defined for the individual, line and senior managers for ones development.

TNT believes in 'growing your own timber', promoting staff from within; several managers start out as drivers or indoor sales executives. All staff, including drivers and loading bay operators have annual appraisals. Line managers undertake appraisal training and carry immediate responsibility for ensuring all their staff has meaningful appraisals. Regular performance indicators on training and learning efforts aare produced and discussed at management meetings.

In India too, TNT has continued its policy. With a team of around 2700 people, 70% of its managers are promoted from within. It started a Management development Program (MDP) in 2003 with SIBM for managerial employees lacking formal degree in management. The MDP is held within the office premises and employees are entitled to take leave from work to attend the scheduled classes. This apart, the company also has the TNT-Sales Academy (with Mercurin Goldman) to ensure that the sales force of the TNT is equipped with the skill-sets required by the organization. The Amity Business School recently awarded TNT with its HR Excellence Award.

Source: www.tnt.com, Hindu Business Line, December 13, 2006

# Likely scenarios for the logistics sector in India going forward

A look at the required initiatives makes it clear that sustainable development of the sector's manpower requires a collaborative public private effort (refer figure 28). The level of commitment demonstrated by each stakeholder would largely determine the direction that the sector heads towards.

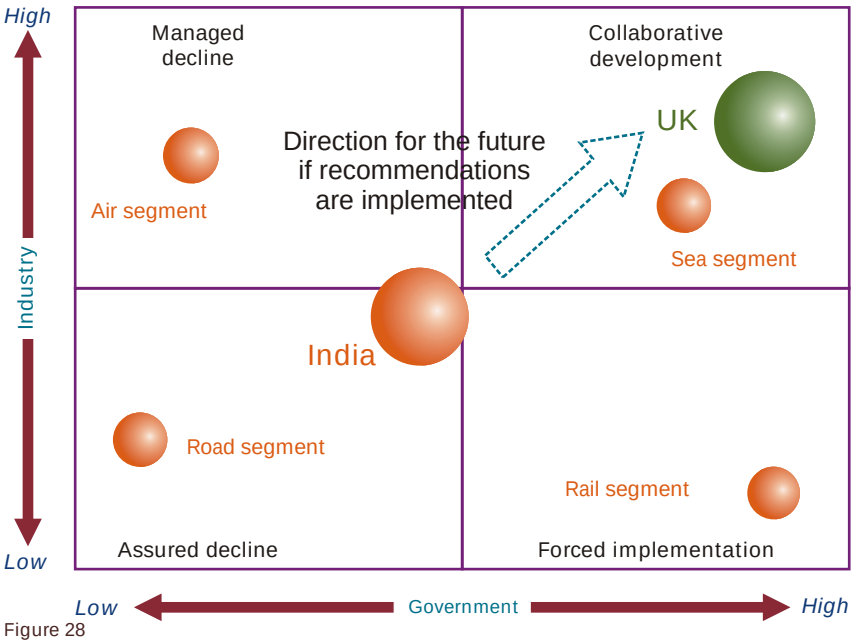



Figure 28

Essentially, the onus rests on the government and the sector to produce the desired results. The level of participation of both these key players will produce a manpower scenario for logistics.

## Collaborative development

In this, there is a synergy between government and sector. The government sees logistics as a high priority area and accords funds and resources towards skill improvement. There is sector wide focus on training and skills, right to the smallest companies, and the regulations and policies laid down are sincerely adhered to. Industry players work collaboratively towards development of manpower and contribute resources not just financial but intellectual for the same. Training and skill improvement become KRAs for employees and working conditions and productivity eventually improve. In such a scenario, public perception of the sector will improve and so will the workforce quality. This is the ideal scenario for the future of the logistics sector.

## Managed Decline

In this scenario, while the industry remains focused towards skills development, the government takes a less supportive role. The industry associations become the focus organizations for driving the change and act in a collective way. The large and medium companies continue to conduct and fund the required programs but the smaller companies and unorganized sector are not able to participate. As such the overall skill growth is limited to a few companies. The organized sector grows, while the unorganized sector lags behind. Also, there is a lack of formal policies and guidelines from the government and there are not many incentives for the companies to spend for manpower development. As a result, the growth targets set by the government and the industry are not fully met. Public perception becomes mixed and the working conditions in the sector do not improve to a great extent. This scenario would likely result from government apathy.

## Forced Implementation

In this scenario, the government takes an active and interested approach to the development of logistics but the industry does not demonstrate similar enthusiasm towards the same. The government begins to establish institutions and policies but there is limited support from the industry. As a result, the guidelines are not completely effective. There is limited institutional support created and a few companies continue to conduct internal training programs. This leads to ineffective use of training spend and eventually large companies also discourage such training. Smaller companies do not invest in any training and hence a large part of the sector remains untrained. Hence, in the long term, both public perception as well as productivity suffers. Growth targets remain unmet by a large gap and the overall condition of the industry worsens. In the Indian context, such a scenario seems less likely to begin with and would give way in the long term to one of the other scenarios.

## Assured decline

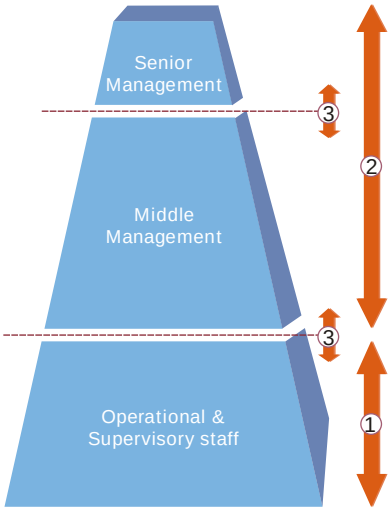
In this scenario, the players in the sector act independently and the government shows no interest in development. Every attempt of the industry associations fail to generate any significant result and government initiatives are sporadic A few companies try to work on internal training not guided by any national standards, most of which do not exist in the first place. Overall funding and the qualification of the staff decline spirally. The manpower supply fails to match demand and hence the short-term growth is not sustainable in the long run. Productivity falls and the perception of the industry among the public worsens.

Given that government support to manpower development in the logistics sector has been limited and private initiative and investment in the sector has also not been significant, India would, at its current situation lie close to the assured decline quadrant though it is at the threshold of movement into one of the other quadrants.

If one were to take a segment-wise view of the sector, while the sea (shipping) segment would be close to the collaborative development quadrant, the rail segment would fall into the forced implementation segment. While the air segment would be closer to the managed decline quadrant, the roads segment would be firmly in the assured decline quadrant.

If the recommendations laid out in this paper are implemented in a time-bound manner, the transition from assured decline to collaborative development would be ensured which would enable the development of a sustainable thriving logistics sector not just serving the nation's needs but also possibly making India a global hub for provision of logistics services.

# Annexure 1: A level-wise look at skill development required




Taking a level-wise view of skill issues, these can be broadly classified as follows:

1. *Skills required at the Operational level:* As the industry matures, the level of specialization and sophistication will inevitably increase. For instance, truck drivers for trucks carrying liquids / bulk would need to have specialized knowledge different from the current stock of drivers; technological advancement will require that the operational manpower interfacing with systems is adequately trained to operate the systems. Skill development at this level would hence be defined by the need to
   a. build deeper skills in specific areas
   b. address increasing requirement of the numbers of specialized workers in the shortest possible time
   c. have defined standards for skill levels across workers
2. *Skills required at the Middle and senior levels:* As the industry consolidates horizontally and integrates vertically, the breadth of skills required at the middle and senior levels will increase. For instance, middle and senior management in a courier company moving into the full fledged 3PL logistics business would need to be able to develop skills for managing a different type of business. In addition, increasing levels of competition will require sharper business acumen in developing strategies for sustainable differentiation at the senior most management levels. Skill development at this level would hence be defined by the need to
   a. develop new skills for managing a new business line
   b. enhance strategic / conceptual skills
   c. ensure continuous updation of knowledge of industry developments

This is summarized in the table below:

| Operational Staff | Middle management | Senior Management |
|---|---|---|
| Should focus on general logistics skills and in-depth understanding of 2-3 operational areas | Focus on overall understanding of the segment | Focus on overall understanding of the segment and leadership |
| Quantity and quick-turnaround | Modular & short term courses | Modular and refresher with global view |
| • Process & systems knowledge<br>• Data collection & systems input capability<br>• Problem solving skills<br>• Continued manual ability<br>• Customer relation and communication skills<br>• Health and safety training | • Analytical capability & process improvement<br>• Systems application and related knowledge<br>• Regulatory knowledge<br>• Planning and forecasting skills<br>• Cost saving and optimization skills | • Contract management<br>• Regulatory knowledge<br>• Negotiation skills<br>• Vendors relation/ management<br>• Performance measurement and quality management<br>• Process & change management<br>• Global co-ordination and impact analysis skills |

3. *Skills required for transitioning from one level to another:* Given the manpower crunch not just in the logistics industry but across most industries as a manifestation of the healthy growth in them, the first step in plugging gaps ought to come from training / upskilling existing manpower well-versed with industry practices before external resource generation is considered. This means that effective transition from operations / front line skills to middle management and from middle management to senior management is indispensable. Skill development at this level would hence be defined by the need to:
   a. develop entrepreneurial and managerial skills
   b. leverage existing core logistics skills in transitioning from operational to management and from management to entrepreneurial levels

This is summarized in the table below:

| Progression stages | Skills required to progress to the higher level |
|---|---|
| From operational to middle management | • Experience leveraging across trainees<br>• Integration training with the organized labor force at the higher level<br>• Technical skills, emerging business management, communication & human resources skills<br>• Knowledge of strategic work of the next level<br>• Aptitude for 1-2 functions of the supply chain, working with cross-functional teams. |
| From middle to senior management | • Managing a logistics business profitably, executive communication and visioning<br>• Functional depth in certain areas<br>• Cross-functional team and segment managing<br>• Business unit management experience, Strategic and systems management skills |

The training programs for various segments should be customized but should cover all the above mentioned aspects. The sector is increasingly recognizing the importance of training as a means to improve the available work force. While there very limited research has been carried out on this subject in India, in a survey conducted in the U.K., both managers and operational staff accorded near identical relative importance to the various benefits of training (refer figure 29).

Various reasons for training: Response from a survey conducted in the U.K.

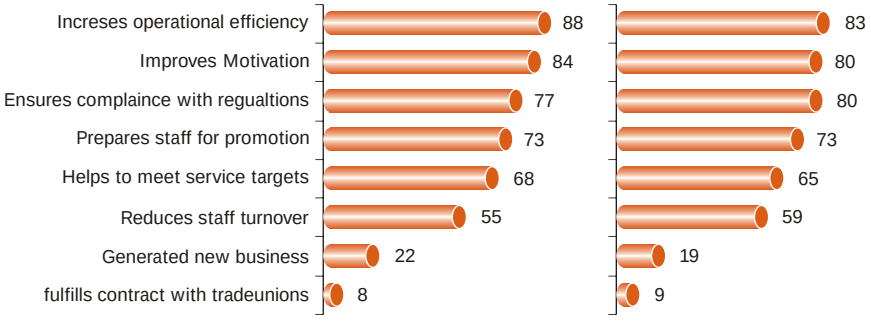



Figure 29

Source: SRa Survey, 2005

This shows that the various perceived benefits of training are aligned between various levels in a developed country. While this might not be identically same in India, it helps to gauge the various benefits that can be extracted out of manpower development. Conducting a similar survey in India would prove useful to policy planner to gauge the different views of training among various levels and segments.

# Annexure 2[14]: Estimation methodology

## Estimation of people employed in logistics industry

India has a total workforce of around 500 million[a] (2006)[15]. The distribution of this workforce (2003) is as follows:

- Agriculture: 60 percent
- Industry: 12 percent[b]
- Services: 28 percent

The composition of GDP (2005) is, however, as follows:

- Agriculture: 19:9 percent
- Industry: 19.3 percent[c]
- Services: 60.7 percent

Assuming that the output of an average worker in logistics is similar to that of a worker in the industry, the manpower strength in the logistics sector is

(13 percent * b/c) * a =~40 million.

This includes people involved across all logistics streams right from senior management to the people employed in loading/ unloading in the unorganized sector.

The comparison of the productivity of logistics sector and industry seems valid due to similar composition of organized/ unorganized portions and different functional segments of varying productivity.

## Estimation of number of truck drivers and training capacity required for them

For estimation of truck drivers, we have considered that the entire population of medium and heavy commercial vehicles. The light commercial vehicles (LCV) population has been ignored due to the difference skills required for driving these vehicles from heavier vehicles. Also, it may be assumed that with coming times, the innovations in M & HCVs will be much more than the LCVs requiring the driver of the former types of vehicles to be more technically sound. Further, no distinction has

[14] The numbers derived in this section are at best indicative and should be used accounting for an appropriate margin of estimation
[15] All statistics in this section from CIA World Fact Book: India

been made between the drivers in the organized and unorganized sectors as the skills required are clearly essential for functioning in either sector. The driver population is directly proportionate to the sales of commercial vehicles in the country.

| Estimation of truck driver training | 2001 | 2004 | 2005 | 2006 | 2010 | 2015 |
|---|---|---|---|---|---|---|
| Sales of trucks in India[16 #] ('000 vehicles) | 119 | 229 | 286 | 322 | | |
| Number of M & HCV in India[17 $] ('000 vehicles) | 1650[18] | 1697 | 1800 | 1879 | 2372[@] | 3174 |
| Number of truck drivers ('000 drivers)[19] | | | 2669 | 2817 | 3557 | 4671 |
| Number of new truck drivers ('000 drivers) | | | | 149 | 185 | 241 |
| Number of training schools for new driver training[%] | | | | 115 | 142 | 185 |

Table : 2

\# It has been assumed that 85 percent of commercial vehicles sold are made into trucks and the rest into buses. This has been derived from estimating the present population of buses using the data from World bank report on transport sector in India, 2005

$ It is assumed that the share of M & HCV in the commercial vehicle population is 58.3 percent. This has been derived from comparing the sales of commercial vehicles in the last 15 years. The proportion is expected to continue in future

@ It has been estimated that the number of M & HCVs will grow at a long term CAGR of 6 percent. This has been derived using past growth in number of trucks, expected growth in trucking freight, change in capacity utilization and the changes in the loading structure of each truck

% To find the infrastructure required to train drivers, we take the driver training school run by Ashok Leyland in Namakkal, Tamil Nadu as an example. The school trains 20,000 drivers annually[20], out of which 99 percent undergo the five-day training and 1 percent undergo the three-months training respectively. Assuming all drivers undergo the three month training, the annual capacity of the school = 20,000 x (99 percent x 5 + 1 percent x 90) / 90 = 1300 drivers. Hence one school of Namakkal's capacity can train 1300 drivers per annum.

[16] Source: India Infoline Sector Database
[17] It is assumed that a truck has an useful of life of 20 years
[18] Source: Phasing out overloading, Way2Wealth research
[19] It is assumed that there are 15 drivers per vehicle (Source: World Bank report)
[20] All Namakkal related data taken from Assistant General Manager, Driver Training, Ashok Leyland

## Estimation of number of loading supervisors and training capacity required for them

The estimation of the loading supervisors is made by using data on total trips made by trucks in the country and the average loading/ unloading operations undertaken by a loading supervisor in an average day. In this case also there is no distinction made between unorganized and organized sectors as a large number of trucks in the unorganized sector are either hired by transport companies in the organized sector or have at least one end as an organized customer. Here again, the LCVs are not taken into account. This would also compensate for the possible additional loading supervisor estimation arising from including all the M & HCVs in the estimation.

| Estimation of loading supervisor training | 2001 | 2004 | 2005 | 2006 | 2010 | 2015 |
|---|---|---|---|---|---|---|
| Number of M & HCV in India[21] ('000 vehicles) | 1650 | 1697 | 1800 | 1879 | 2372 | 3174 |
| Number of loading unloading operations ('000)[#] | 248 | 255 | 267 | 282 | 356 | 476 |
| Number of loading supervisors required ('000)[@] | | | 222 | 235 | 296 | 397 |
| Number of new loading supervisors ('000)[$] | | | | 57 | 73 | 97 |
| Critical training capacity for new loading supervisors ('000)[&] | | | | 28 | 36 | 49 |

Table : 3

\# The number of trips made by a vehicle in a year are taken as 75. This has been estimated using the World Bank Report on Indian Transportation Sector, 2005. Further the number of loading/ unloading operations per trip as taken as 2.

@ The number of loading/ unloading operations carried out by a loading supervisor in a day are taken as 4. This has been derived from interaction with industry sources. Further it has been assumed that a loading supervisor works for 300 days in a year

$ It has been assumed that 20 percent of loading supervisors will be promoted every year to higher levels or change their jobs

& It can be assumed that the sector will be able to internally manage to fulfill a part of this requirement either through promotions or through recruiting fresh people and training them. We assume this number to be around 50 percent (taken as slightly lower than the ratio of growth of the industry in the recent past and at present)

[21] From the estimation of truck driver training in the previous page

## Estimation of number of warehouse managers and training capacity required for them

The term 'warehouse manager' is used to denote management and senior supervisory roles in a warehouse. The estimation is made only for the organized sector as we believe that trained warehouse managers are required in the organized sector and that the unorganized sector will continue to function in the present way. The number is derived from the total warehousing space in the country and the share between unorganized and organized segments. The total warehousing space in the country is estimated at 1800 million sq. ft.[22] (2006) and the share of organized warehousing @ 8 percent is around 145 million sq. ft.

It has been further estimated that the area under one warehousing manager is around 10,000 sq. ft. This has been estimated through analyzing the staffing patterns obtained with industry members. Also most of the large warehouses in the country are around 10,000 sq. ft. in area.

| Estimation of warehouse manager training | 2006 | 2010 | 2015 |
|---|---|---|---|
| Area under organized warehouse (million. sq. ft.)[#] | 144 | 211 | 340 |
| Number of warehouse managers required ('000) | 14 | 21 | 34 |
| Number of new warehouse managers required [@] | 3270 | 4800 | 7720 |
| Critical training capacity for new warehouse managers [&] | 1640 | 2400 | 3860 |

Table : 4

\# It has been estimated that area under organized warehouse will grow at a long term average of 10 percent.

@ It has been assumed that 15 percent of warehouse managers will be promoted every year to higher levels

& It can be assumed that the sector will be able to internally manage to fulfill a part of this requirement either through promotions or through recruiting fresh people and training them. We assume this number to be around 50 percent (taken as slightly lower that the ratio of growth of the industry in the recent past and at present)

[22] KPMG Analysis. Estimated through the total warehousing expenditure in 2006 and the average tariff for warehouse usage

# About CII

The Confederation of Indian Industry (CII) Works to create and sustain an environment conclusive to the growth of Industry in India, partnering industry and government alike through advisory and consultative processes.

CII is a non-government, not-for-profit, industry led and industry managed organisation, playing a proactive role in India's development process. Founded over 112 years ago, it is India's premier business association, with a direct membership of over 6694 organisations from the private as well as public sectors, including SMEs and MNCs, and an indirect membership of over 90,000 companies from around 350 national and regional sectoral associations.

A facilitator, CII catalyses change by working closely with government on policy issues, enhancing efficiency, competitiveness and expanding business opportunities for industry through a range of specialized services and global linkages. It also provides a platform for sectoral consensus building and networking. Major emphasis is laid on projecting a positive image of business, assisting industry identify and execute corporate citizenship programmes.

With 57 offices in India, 8 overseas in Australia, Austria, China, France, Japan, Singapore, UK, USA and institutional partnerships with 240 counterpart organisations in 101 countries, CII serves as a reference point for Indian industry and the international business community.

# CII – Institute of Logistics (CII – IL)

Confederation of Indian Industry (CII) has been playing a pioneering role in facilitating the adoption of Logistics and Supply chain practices for enhancing competitiveness of Indian Industry. CII is developing the Logistics Industry in India through its biennial logistics event, which was institutionalized in 1997 and through the subsequent editions in 1999, 2001 & 2003, as CII believes the importance of Supply Chain and logistics excellence for Indian Industry to be competitive in the global market.

Confederation of Indian Industry has established a specialized Institute of Logistics A center of excellence in logistics and supply chain management with an objective of enhancing the competitiveness of the Indian Industry through supply chain and logistics excellence initiatives. CII Institute of Logistics has been working closing with Industry and Governments to enhance Indian Industry Logistics capability through the following services; Research, Consulting, Training, Education, Information and knowledge sharing among the logistician community.

# About KPMG in India

KPMG is the global network of professional services firms of KPMG International. Our member firms provide audit, tax and advisory services through industry focused, talented professionals who deliver value for the benefit of their clients and communities. With nearly 1,13,000 people worldwide, KPMG member firms provide services in 148 countries.

The member firms of KPMG International in India were established in September 1993. As members of a cohesive business unit, they respond to a client service environment by leveraging the resources of a global network of firms, providing detailed knowledge of local laws, regulations, markets and competition. We provide services to over 2,000 international and national clients, in India. KPMG has offices in India in Mumbai, Delhi, Bangalore, Chennai, Hyderabad, Kolkata and Pune. The firms in India have access to more than 2000 Indian and expatriate professionals, many of whom are internationally trained. We strive to provide rapid, performance-based, industry-focused and technology-enabled services, which reflect a shared knowledge of global and local industries and our experience of the Indian business environment.

# List of people met

We thank the following people for sharing their insights and experiences with us and whose contributions have been instrumental in preparing this report

| Name | Designation | Company |
|---|---|---|
| Mr. Niraj Ambani | Senior Vice President | Reliance Logistics |
| Mr. Sushil Kumar | Consultant | Enterprise management Group |
| Mr. Vineet Agarwal | Executive Director | Transport Corporation of India Limited |
| Mr. Prabhakar | Head, XPS | Transport Corporation of India Limited |
| Mr. K.K. Agarwal | Managing Director | Delhi Assam Roadways Corporation Limited |
| Mr. Jairaj Kumar | Chairman cum Managing Director | Ocean Sparkle |
| Ms. Bhairavi Jani | Director | SCA Group of Companies |
| Mr. Ankur Mudgal | Program manager-GSPC | Hewlett Packard |
| Mr. Sriram | Operations | Total Sourcing Solutions |
| Mr. Vijayshankar | Regional HR head | Hellman logistics |
| Mr. Amit Bhargav | HR Head | Schencker Logistics |
| Prof. R. Raghuram | Professor | IIM Ahmadabad |
| Mr. Srivas Satiraju | Account Director | DHL |
| Prof. Vijayraghavan | Professor | XLRI |
| Mr. Amitabh Choudhry | Managing Director | APL Indialinx |
| Mr. Shantanu Singh | Manager | Institute of Driver Training and Research |
| Mr. Amitava Chatterjee | Manager (Personnel) | Apeejay Shipping |
| Mr. Aidoor | Manager (Personnel) | GE Shipping |
| Ms. Ragini Yechury | Executive Director, Manpower Planning | Indian Railways |
| Ms. Sashi Tulsyan | Managing Director | Institute for Training of Logistics in India |
| Prof. E.M. Rao | Professor | XLRI & Advisor (Planning Commission) |
| Mr. Sathianathan | Executive General Manager | CONCOR |
| Ms. Jothika Sahib | Head, Logistics | Nokia |
| Mr. N.R Rao | Sales | Ashok Leyland |
| Mr. Prashant Mishra | Manager, Marcomm | Safexpress |
| Mr. Rajeev Gopalani | Executive Director | Kausar India |
| Mr. Ashit Desai | Director Corporate Affairs | Allcargo Global Logistics |
| Mr. S. Ananth | Vice President - HR | Blue Dart |
| Mr. Tharakan | Executive Director | Amalgam Foods |
| Mr. Saie Bothanathan | Assistant General Manager, Driver Training | Ashok Leyland |
| Mr. Kripa Tiwari | Global and Multinational Customer manager | DHL |

# Bibliography


1. KPMG, 'Task force on meeting the Human Resources Challenge for IT and IT enabled Services'
2. KPMG, 'Indian Maritime Landscape 2006'
3. KPMG, 'Global Skills for graduates in Financial Services'
4. Deloitte, '2005 Skills Gap report A survey of American Manufacturing Workforce'
5. World Bank, 'India Road Transport Service Efficiency Study'
6. Planning Commission of India, '10th Five Year Plan: 2002 2007'
7. Working Group Report on Shipping and IWT for 11th 5 Year Plan
8. Ministry of Road Transport and Highways, Government of India, 'Guidelines for Proposals on Setting Up Training Institute On Driving & Research'
9. Prospectus fillings with SEBI Gateway Distriparks Limited, Allcargo Global Logistics
10. Journal of Business Logistics, 'Logistics Skills and Competencies for Supply Chain Management'
11. Canada Logistics Skills Committee, 'Strategic Human Resources Study of the Supply Chain Sector
12. Workforce Development Agency, Singapore, 'Logistics Skills Report 2005/2006'
13. Skills for Logistics, 'An assessment of Skills Needs and Current Provision in U.K. Logistics'
14. Euphoria, 'Asia International Logistics Salary Report-2007'
15. Rajaish Bajpayee, 'Strengths and weaknesses of Indian Seafarers'

16. Manpower Services India 'Manpower Employment Outlook Survey 2007'

17. India Supply Chain Council 'When employers become trainers' Jan 8, 2007

18. CIPD 'Supporting a training and development culture at TNT'

19. India Infrastructure report, 2001

20. National Maritime Development Policy

21. BIMCO, ISF Manpower Update, 2005

22. www.dreamit-doit.com

23. Various articles and reports, The Hindu

24. www.skillsforlogistics.com

25. Annual report, 2002-06, TCI, GE Shipping, Bluedart, CONCOR, Essar Shipping, SCI, Gati, SICAL, Gateway Distriparks Limited

26. Report of the sub-groupIV of the Planning Commission for the Working Group of Logistics on Manpower & Skills

# Glossary

## Following are the acronyms used in the report:

| | |
|---|---|
| 3PL | Third party Logistics |
| BRLC | Bharati Resource Learning Centers |
| CAGR | Compounded Annual Growth Rate |
| CFA | Carrying and Forwarding Agent |
| CFS | Container Freight Station |
| CIA | Central Intelligence Agency |
| CONCOR | Container Corporation (of India) |
| CST | Central Sales Tax |
| DARCL | Delhi Assam Roadways Corporation Limited |
| DFC | Dedicated Freight Corridor |
| DPW | Dubai Ports World |
| FMCG | Fast Moving Consumer Good |
| GDP | Gross Domestic Product |
| GE | Great Eastern |
| GRS | Global Retail School |
| HUL | Hindustan Unilever Limited |
| ICD | Inland Container Depot |
| IGNOU | Indira Gandhi National Open University |
| ILO | International Labor Organization |
| IT | Information Technology |
| ITC | Indian Tobacco Company |
| ITC | Industrial Training Centers |
| ITES | Information Technology Enabled Services |
| ITI | Industrial Training Institutes |
| JIT | Just in Time |
| JNPT | Jawaharlal Nehru Port Trust |
| KRA | Key Result Area |
| LCV | Light Commercial Vehicle |
| LTL | Less than Truck Load |
| M & HCV | Medium and Heavy Commercial Vehicle |

| | |
|---|---|
| MERI | Marine Engineering & Research Institute |
| MNC | Multi National Corporation |
| NHDP | National Highway Development Program |
| NIFT | National Institute of Fashion Technology |
| NMDP | National Maritime Development Program |
| NVOCC | Non Vehicle Owning Common Carrier |
| NVQ | National Vocational Qualification |
| NYK | Nippon Yusen Kaisha |
| OSTS | One Stop Trucker's Shop |
| POSCO | Pohang Steel Company |
| PRIL | Pantaloon Retail India Limited |
| RFID | Radio Frequency Identification |
| RORO | Roll-On Roll-Off |
| RPG | Rajshree Production Group |
| SfL | Skills for Logistics |
| SSDA | Sector Skills Development Agency |
| TCI | Transport Corporation of India |
| TEU | Twenty foot Equivalent Unit |
| VAT | Value Added Tax |
| WA/VNA | Wide Aisle/ Very Narrow Aisle |
| WMS | Warehouse Management System |
| YDS | Young Driver Scheme |

in.kpmg.com

## KPMG in India


Mumbai
KPMG House, Kamala Mills Compound
448, Senapati Bapat Marg,
Lower Parel, Mumbai 400 013
Tel: +91 22 39896000
Fax: +91 22 39836000

Delhi
4B, DLF Corporate Park
DLF City, Phase III
Gurgaon 122 002
Tel: +91 124 3074000
Fax: +91 124 2549101

Pune
703, Godrej Castlemaine
Bund Garden
Pune 411 001
Tel: +91 20 30585764/65
Fax: +91 20 30585775

Bangalore
Maruthi Info-Tech Centre
11-12/1, Inner Ring Road
Koramangala, Bangalore 560 071
Tel: +91 80 39806000
Fax: +91 80 39806999

Chennai
No.10 Mahatma Gandhi Road
Nungambakkam
Chennai 600 034
Tel: +91 44 3914 5000
Fax: +91 44 3914 5999

Hyderabad
II Floor, Merchant Towers
Road No. 4, Banjara Hills
Hyderabad 500 034
Tel: +91 40 23350060
Fax: +91 40 23350070

Kolkata
Park Plaza, Block F, Floor 6
71 Park Street
Kolkata 700 016
Tel: +91 33 22172858
Fax: +91 33 22172868


## KPMG Contact


**Pradeep Udhas**
Head, Markets
Tel: +91 22 3983 6205
e-mail: pudhas@kpmg.com

**Yezdi Nagporewalla**
National Industry Director, Industrial Markets
Tel: +91 22 3983 5101
e-mail: ynagporewalla@kpmg.com

**Narayanan Ramaswamy**
Director, Advisory Services
Tel: +91 44 3984 4900
e-mail: narayananr@kpmg.com

**Aman Khanna**
Manager, Advisory Services
Tel: +91 124 307 4000
e-mail: amankhanna@kpmg.com


## CII Contact


Head – Operations
CII – Institute of Logistics
98/1 Velachery Main Road
Guindy
Chennai 600 032

Senior Director
Confederation of Indian Industry
The Mantosh Sondhi Centre
23, Institutional Area, Lodi Road
New Delhi - 110 003 (INDIA)