Future of the Mailing Industry

More on mailing industry

By Andy Matthews

The mailing industry – public Posts and private carriers – is in transition. Email and e-commerce are displacing letter mail, but Internet shopping is pushing up parcel delivery volumes and the Internet is enabling sophisticated supply chain integration. Advances in bar code and chip technology are making it practical to track mail items at every stage as they move through the network. Finally, deregulation is in the air, particularly in Europe.

This paper describes the mailing industry today, explores emerging changes and makes a number of predictions about the smaller, more dynamic industry of the future.

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This report summarizes information and opinions that have recently been published on postal industry directions. No warranty is provided, either express or implied, as to the accuracy or utility of any of the statements and opinions in this report. All comments are welcome, and should be sent to andy-matthews@aym-gael.com

1 The Mailing Industry Today

The mailing industry carries letters and packages under 30 kilograms from sender to recipient[1]. In most countries, a government-owned Post provides "universal" mail delivery services while private enterprises provide express courier services and parcel delivery services. Outside the USA, the Post often owns the largest courier service, subject to constraints on cross-subsidization. National Posts' gross revenues are about 1.5% of GDP. If gross revenues from private carriers, freight companies, equipment suppliers and so on are included, the industry may account for 8% or more of GDP.

The Posts pay generous wages to their unionized employees and are often slow to introduce technology that would cause job losses. Private carriers are more flexible and efficient.

Globally, the Posts directly employed 5.2 million people in 2001 and operated 660,000 post offices. They delivered 437 billion letters and 4.7 billion parcels. Gross revenues were $240 billion. The world's largest private carrier, UPS, employed 360,000 people in 2002 and delivered 3.4 billion packages with gross revenue of $31 billion. The next largest, FedEx, employed 191,000 people in 2002 and delivered 1.9 billion packages with gross revenue of $22.5 billion.

40% of the world's mail is delivered in the USA, but the U.S. Postal Service (USPS) employs just 750,000 people, or 15% of global postal workers. The USPS is efficient, and many private companies are involved in the U.S. mail industry. Consolidators transport most business-originating non-express mail, dropping it off to the USPS for cheap "last mile" delivery. Private freight companies provide inter-city transport for the USPS. The premium letter and parcel markets are fully competitive. The USPS ranks third in parcel delivery with annual sales of around $8 billion, after UPS ($24 billion) and FedEx ($12.5 billion).

The national Posts in Europe employ 1.4 million people. The Posts face less competition in Europe than in the USA at present, but the EU countries are privatizing the Posts and steadily removing barriers to competition. The goal is to have a fully open market by 2009. In response, European Posts are acquiring related companies, forming alliances and joint ventures and expanding aggressively into international markets. Deutsche Post in particular, with its acquisition of DHL, has extensive networks in Asia and Africa and a growing presence in the USA.

Private carriers do more than just move the mail. They are also involved in the logistics business, managing the inventory, shipping, tracking and receiving elements of global businesses. Privatized Posts such as the Netherlands PTT are increasingly active in the logistics business.

[1] This paper does not discuss the freight industry, which carries larger items, except in its role in shipping containers of mail items. It also excludes the philatelic business and the financial services often provided by national Posts, such as money orders, savings accounts and even (in Japan) life insurance.

Throughout the world, supply chain integration, just-in-time delivery and Internet commerce are driving up volumes of small package shipments while letter mail volumes decline, replaced by email. Printed direct mail volumes (addressed and unaddressed) have been rising for several years, but will decline as alternative electronic media prove their effectiveness.

2 Regulatory Trends

The public generally has a good perception of the Postal service, considering that it provides good value at reasonable prices. The Post is an essential lifeline service. Moves to close down rural post offices often meet with strong public opposition. The unions are fighting to keep things the way they are. Who is driving regulatory change?

First, the private carriers are lobbying to enter lucrative markets where the Post has a monopoly. Companies like UPS and FedEx have a lot of weight. Businesses with large mailing volumes also lobby to remove price distortions and to allow private carriers to offer more innovative mailing solutions than those offered by the monopoly Posts.

In the EU, countries like the Netherlands and the U.K. already have liberal postal regimes. Standardization efforts are driving liberalization across all member states. In some cases, the Posts themselves are lobbying for change. Deutsche Post is a strong advocate of full competition, presumably considering that any loss of domestic market share will be more than offset by growth in international markets.

Finally, economists at institutions such as the IMF, World Bank and World Trade Organization consider that open competition is essential to encourage innovation, reduce price distortions and generally improve economic efficiency. These organizations have great influence in the developing world.

Regulatory changes focus on three main areas:

Types of Mail Mail includes letters, parcels, newspapers, magazines and advertising material. Most Posts have a monopoly on regular letter mail, and many Posts have monopolies on other types of mail. The EU has removed monopolies on mail other than regular letters, and is pushing down the weight limit that divides "reserved" (aka monopoly) letters from parcels. By 2009, there will be no distinction between letters and parcels in Europe. The Posts will no longer have monopolies on any type of mail.

Outsourcing Many aspects of a Post's operations can be outsourced, including mail transport, delivery and retail operations. In the USA, the USPS must outsource a large part of its operations through tenders to private subcontractors.

Cross-Subsidies & Pricing

The Posts have huge networks that they use to carry all types of mail. This gives them a great competitive advantage over smaller private carriers. Regulations attempt to prevent cross-subsidy, where monopoly mail is over-priced and competitive mail under-priced. Posts may also have to allow competitors to place mailing points in their retail outlets, and to provide last-mile delivery at discount prices for mail originating from private carriers.

Regulators also try to ensure that postal rates accurately reflect the cost savings from "worksharing" practices such pre-sorting mail by delivery route and depositing it close to the point of delivery.

In Europe, the Posts will all soon be private. The process may take much longer in the USA and other parts of the world. But in the end, government-owned monopolies will be no more common in the mailing industry than in the telecommunications industry.

3 Universal Service Obligation

National Posts have a Universal Service Obligation (USO). They must provide access points and delivery service throughout their territory. The price of regular letter mail and frequency of delivery must be the same regardless of destination or origin. There are exceptions. A hermit living deep in the forest will have to come in to the local trading post to pick up his mail. Even in urban areas, the Post may be able to reduce costs by delivering to cabinets of mailboxes at street intersections rather than delivering to each house. But the basic principle stands: mail delivery is a lifeline service and all members of the public must have access to it. The USO cost depends on the territory. It is highest in countries with many remote areas, lowest in the most densely populated countries. In Europe, USO costs range from 5% to 14% of revenues.

The Posts often use USO as an argument for preserving their monopoly. Competitors should not be able to cream-skim, delivering business mail and advertising material only in the cities, where costs are low, and using the Post to deliver mail to high-cost rural destinations. If the Posts had to price mail to cover costs, rates for rural residents would be four times as high as rates for businesses.

The counter-arguments are that more innovative approaches may reduce rural USO costs, and the subsidy to rural residents should anyway be more transparent. The local village store can serve as a low-cost mail deposit and pick-up facility. As has been shown in Sweden, which opened up the postal market in 1994, a simple USO contribution mechanism can level the playing field.

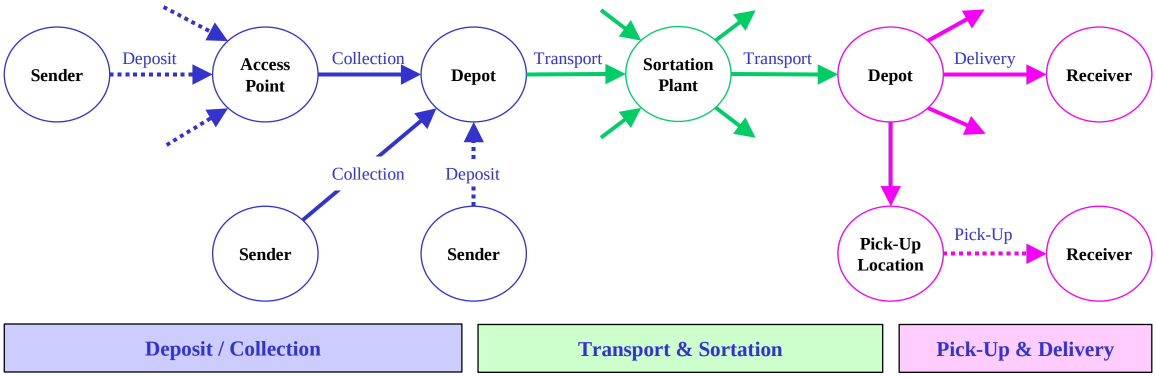
The USO question remains emotionally charged. It may be some time before market forces determine prices and service levels in rural areas. Studies in the USA have shown that in many rural areas there are clusters of small post offices within a few miles of each other – far more than are needed to serve the population. But no politician will support closures of post offices in their rural constituency.

4 Moving the Mail

This section describes the main steps in moving the mail, and discusses some of the emerging changes.

4.1 Basic Model

The diagram below illustrates the basic steps in moving the mail.



A sender may deposit mail at an access point such as a mailbox or a retail outlet, from where the carrier collects it and takes it to a depot; the Post or courier may collect the mail from the sender's location; the sender may take the mail direct to the depot. The first model is most common with consumers and small businesses, while the second and third are normal for larger businesses.

The carrier roughly sorts mail at the collection depot into mail for local delivery and mail for remote depots. The carrier transports remote mail to a sortation plant, and there combines it with mail from other depots and splits it out by destination depot. The carrier then transports the mail to the destination depots.

At the destination depot, the carrier separates mail by delivery route and a mail carrier or courier takes it to the recipient's location. Some mail goes to a pick-up location such as a Post Office box in a retail outlet. If the mail carrier or courier cannot deliver a mail item that requires signature or payment, they leave a card at the receiver location and return the mail item to the pick-up location.

4.2 Sortation: Barcodes & Chips

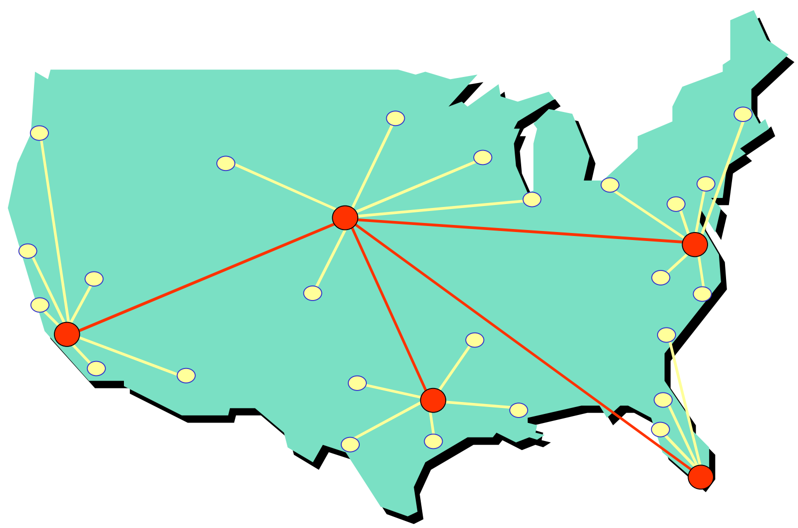
Only 8% of mail is from one household to another, and Christmas cards account for half of this volume. Only 17.5% of mail originates from households. 92% of mail originates from businesses or goes to businesses. Businesses send addressed mail in bar-coded envelopes, and provide bar-coded return envelopes. Registered mail is also bar-coded. Optical character recognition machines can even pick postal codes out of hand-written addresses, with surprising accuracy.

In modern networks, high-speed machinery can automatically sort more than 95% of letters. Parcels are irregular in size and less suitable for high speed sorting, although new chip technology and discounts to encourage more standardized package dimensions will make it increasingly practical to automate parcel sorting. In modern mail networks, a postal employee first touches most items at time of final delivery.

However, although sortation technology continues to advance, mail volumes are steadily dropping in the developed countries and will continue to drop. Hybrid mail, discussed later, is further reducing the need for sortation. Equipment vendors face a lean future.

4.3 Transport Networks

Carriers usually have hub-and-spoke networks and transport mail between network nodes according to fixed schedules. They periodically conduct engineering studies to determine if transportation and delivery routes and schedules are optimal, and adjust the sortation plans as needed to reflect routing changes. Sortation plans and transport schedules are thus relatively static.

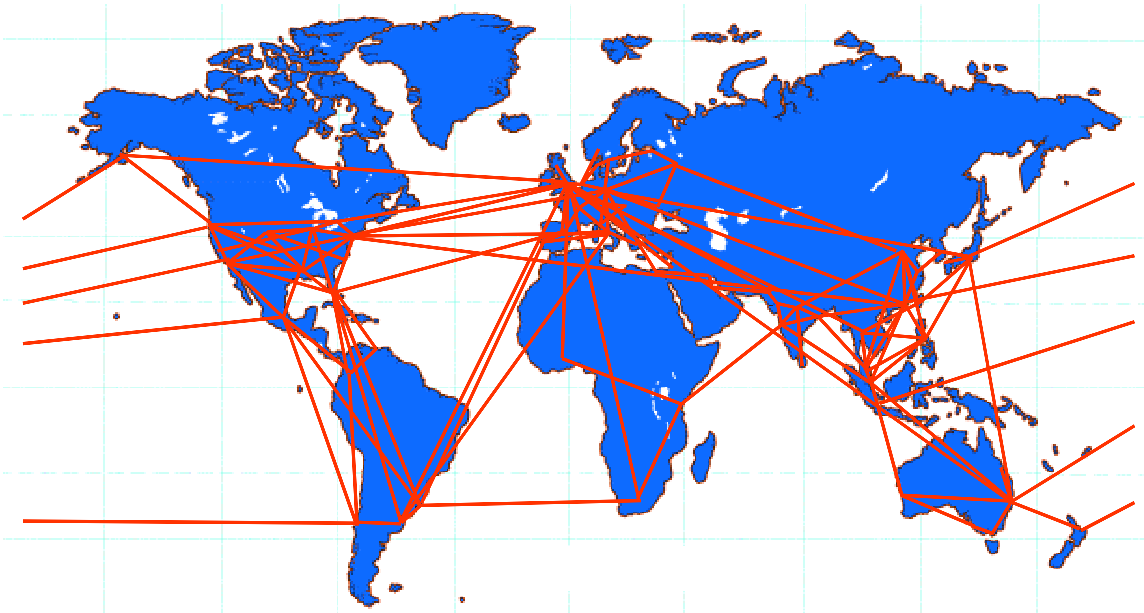


This is not always the most efficient approach, and may not be appropriate for carriers that rely extensively on subcontracting freight companies. It may result in airplanes flying less than fully loaded or in delays when mail volumes exceed the capacity of scheduled transport.

Where freight companies carry mail and other goods for several carriers and sell spare capacity through electronic auctions, dynamic scheduling can reduce costs and increase reliability. Dynamic scheduling can also help the carriers to adapt quickly to transport problems such as airport or seaport closures due to bad weather, railway train derailments and so on. Dynamic scheduling will be particularly important with the rapidly growing international mail business.

4.4 International Transport

International mail traffic is growing fast. As indicated in the picture below, the global network is not and cannot be a hub-and-spoke network. At present, most international mail is between the USA, Europe, Japan and other developed countries. As the Chinese economy moves into the number one slot in manufacturing, as the S.E. Asian countries, India and Brazil grow in wealth and population, traffic patterns for packages will shift drastically. Established carriers will face severe competition from new, low-cost carriers based in the developing regions.



Freight and delivery arrangements will become increasingly fluid. A carrier may route shipments from Singapore to Washington via London and New York one day, and via Osaka and Los Angeles the next, using different freight companies and different delivery carriers. Or some shipments may take one route to exploit discounted spare capacity, while the remaining shipments take the other route. In the future, prime carriers will use dynamic sortation / routing to direct mail between subcontractors and partners based on the costs and network condition at any given time.

4.5 Delivery Routes & Addresses

Last mile delivery is a major cost. Effective route management is important in keeping costs to the minimum. The design of delivery routes depends on topography and mail volumes. The physical effort will be different in a hilly area with widely spaced houses than in a flat area with row houses, or in a cluster of office and apartment buildings. The carrier must adjust routes to reflect changes in building use and population density. Route design must conform to agreements with labor unions.

Most Posts have elaborate address databases, and some can now relate the addresses to vector maps. This opens the possibility of overlaying demographic information onto the maps and selling the results for use in advertising mail. However, although delivery of admail is profitable, as government-owned entities the Posts tend to be uneasy about giving out too much information to agencies in the direct marketing business. The independent software / service provider need have no such scruples. They can obtain a copy of the address / postal code directory from the Post, overlay with demographic data and sell the results to any company that is interested. Several companies are already providing services of this nature, particularly in the USA.

Agreements with letter carrier unions are the main factor in route design today. In the future, profitability will be the main consideration. A delivery route's profitability depends on delivery costs and on the value of the mail items delivered. The sprawling suburb may be more profitable than the low-income apartment building, even if delivery costs are higher. Long-haul carriers will increasingly outsource delivery to local partners for all but the most profitable inner-city routes.

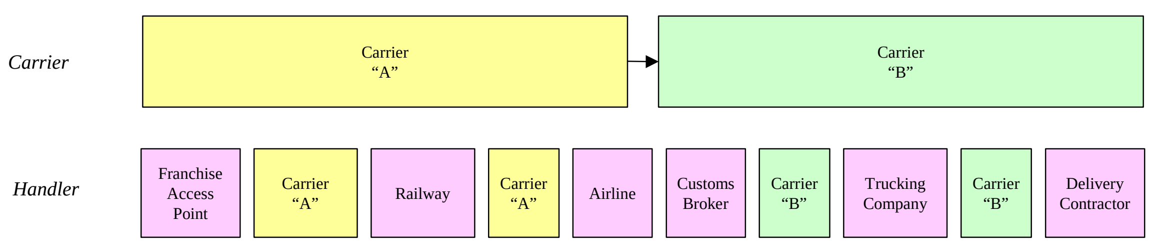
On some routes, last mile delivery may become an added-price service. For example, a carrier may deposit mail for a rural community for pick-up at the nearest store. The storeowner may offer to provide delivery services, at a price, to customers who want it.

5 Subcontracting & Partnerships

The larger private mail companies have their own aircraft, transporting mail through scheduled flights between their primary network nodes, and use their own trucks for shorter transport legs and for delivery. They use freight carriers for overflow load, and have partnership arrangements for collection and delivery of packages in countries where they have no presence on the ground. But the bulk of their networks are self-operated.

The Posts subcontract more of their transportation, using the national air carrier, the railways and private trucking and shipping companies. In some cases, they also use subcontractors for delivery (e.g. rural routes). The Posts today provide mail services only in their own country, and exchange international mail through partnership arrangements, settling based on volumes sent and received.

The figure below illustrates how several different companies may handle a mail item sent from one country to another:



In this example, the mail item has passed from one company to another nine times. This is not an extreme example. More than one freight company may carry a mail item in one country. A parcel from America to Azerbaijan may transit through Amsterdam and Ankara, sorted at each stage. Subcontracting and partnership arrangements will become increasingly complex as the industry evolves.

6 Tracking

The barcode or chip used for sortation also makes it practical to track each mail item as it flows through the network, as long as the barcode or chip includes an item identifier. Carriers track items to monitor network health, and supply tracking information to customers so they can treat the carrier's supply chain as part of their own supply chain. With premium mail, customers can demand a refund if the tracking data shows that the mail did not meet the guaranteed delivery standard.

Almost all private carriers provide track & trace service to their customers, accessible via the Internet. This is increasingly important for companies who need to schedule just-in-time assembly based on shipments from suppliers located in other countries.

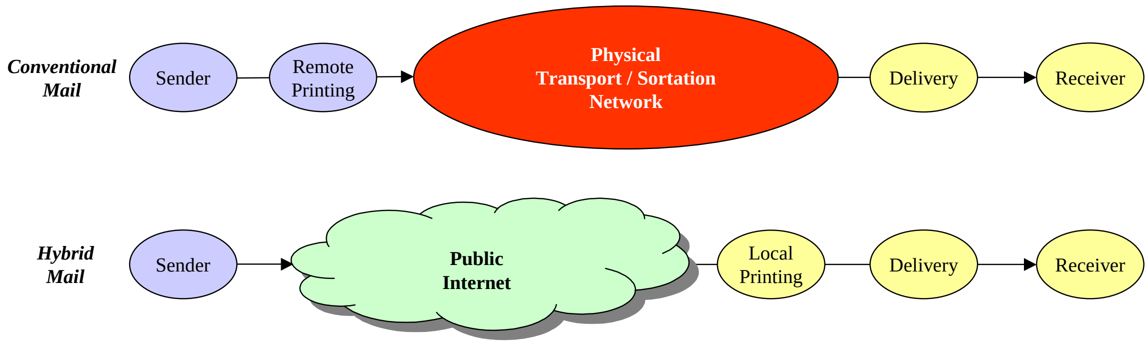
With international mail, item identifiers may link to electronic records defining the content of the mail item, used to prepare customs manifests for each mail container. The carrier may act as an agent for the customs authority, collecting customs duties at time of delivery. The carrier may also act as agent for the sender with "Cash on Delivery" mail items. If a container is lost, knowledge of the contents will be important in settling insurance claims.

Effective mail item tracking is thus an essential feature of a modern delivery network. Partners and subcontractors report all mail item location and status changes to the prime carrier, who in turn gives customers an up-to-the-minute view of the status of their mail. But many Posts do not provide this service. They are at a competitive disadvantage compared to the private carriers.

7 Hybrid Mail

Most mail is letter mail and most letter mail is computer-prepared. Physical letter mail will still be needed, but the content can be transported most of the way over the public Internet.

This is not a new idea. Specialized printing and mailing shops started offering hybrid-mailing products years ago. The originating company sends the printer a file holding letter text (e.g. invoices) tagged with postal codes. The printer sorts the letters by delivery route, prints them and places them in envelopes. The service exploits economies of scale in printing and stuffing the envelopes. By moving physical production close to the point of delivery, it also reduces transportation costs.



The Internet creates new commercial opportunities. Suppose you want to send Granny some pictures. You could put them on a CD, take it to a printing shop, pick up the prints later and mail them in an envelope. Or you could use an Internet-based hybrid mail service. You send the pictures to the carrier along with Granny's postal address. The carrier prints the pictures close to Granny's location and delivers them within a few hours. Less effort, faster and more efficient.

Despite the benefits of hybrid mail, most Posts do not provide this service. They see hybrid mail as a threat to their core business rather than as an opportunity. In contrast, couriers are looking into consumer-to-consumer hybrid mail services. The FedEx acquisition of Kinko's is a move in this direction. In the longer term, hybrid mail has great potential in speeding up delivery while reducing transportation and sortation costs. Expect rapid growth.

8 Pricing

The Posts are usually constrained in their pricing approach by government regulations. They have to provide a standard price for letter mail delivery from anywhere to anywhere in their territory. They may be able to give a discount to large customers for mail preparation (e.g. pre-sortation) and for deposit close to the delivery point, but the discounts usually do not reflect the real savings, and the carrier cannot negotiate them individually.

We do not know of any Post that charges mail recipients for delivery, giving a price break when the recipient opts for less frequent delivery or for pick-up from a local retail outlet. In fact, poste restante service usually has an extra fee – despite the fact that the Post avoids the cost of delivery.

With deregulation, Posts will establish flexible pricing plans more closely aligned to the costs of providing the service. If their universal service obligation means they must deliver at a standard price to uneconomical locations, the subsidy to residents in these locations must be transparent. It is entirely possible that private carriers will find ways to make money out of "uneconomical" rural routes without raising rates.

Ultimately pricing must reflect profitability, driven by the revenues associated with different types of customer, different services and the underlying collection, transport and delivery costs. But carriers should be free to negotiate imaginative pricing schemes with their largest customers based on overall volumes. There is no law that says that a private company must price each item individually according to a published tariff.

As long as the Posts are subject to scrutiny over cross-subsidization, they will be at a serious disadvantage to the private carriers in the pricing arrangements they can offer.

9 The Mailing Industry in 2020

Privatization of an essential public service is always politically difficult, especially when it is associated with massive lay-offs and basic changes to the services offered. The unions will resist fiercely. But the lay-offs and service changes are inevitable. In the long term, the Posts must be free to compete if they are to survive at all.

In 2020:

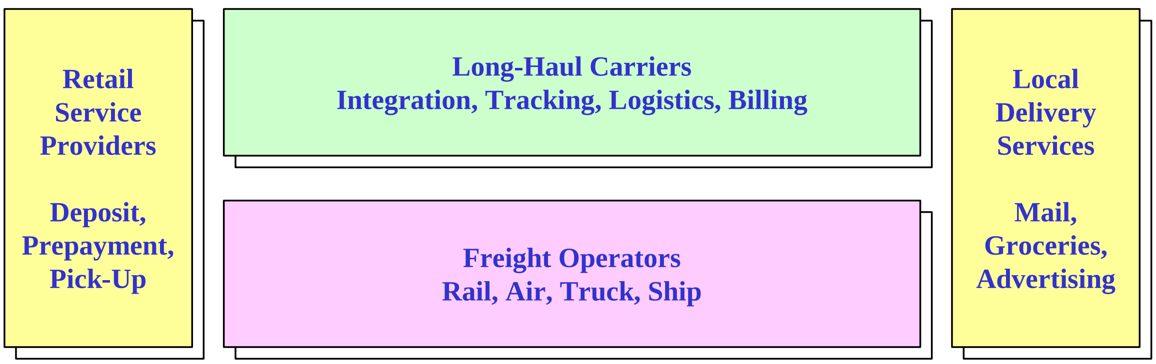
1. High-speed Internet access will be universal in the developed world. Letter mail will be less than half its current volumes, displaced by email and e-commerce. Most of what remains will be hybrid mail and admail.
2. Admail volumes will have declined from a peak in 2005 (43% of all mail in the USA) displaced by more finely tailored and targeted Internet-based substitutes.
3. The number of Post employees, including subcontractors, will have dropped by 50%. (In Sweden, there has been a 25% reduction in staff since privatization. Further drops will result from greatly reduced letter mail volumes.)
4. Parcel mail volumes will have trebled, driven in part by aging populations shopping via the Internet and in part by integrated supply chains requiring smaller but more frequent deliveries.
5. In some countries, private carriers will have acquired the assets of failing Posts. But some deregulated Posts will now be major international corporations.
6. All Posts will be much more sensitive to customer demands. A much wider range of consumer and business pricing and service level options will be provided, including monthly billing, tailored discounting plans and a range of separately priced deposit and delivery options.
7. Some retail outlets will be operated by carriers, others by franchisees, as at present. In some places, retail outlets will offer services from more than one carrier, and provide pick-up points for mail from several carriers.
8. Most mail transportation will be subcontracted to freight companies. Electronic auctions will allocate spare freight capacity. Sortation and containerization will be highly automated. Sophisticated inter-company tracking and payments systems will

make the networks more transparent, with prices much more closely aligned to cost and quality of service.

9. Most mail delivery will be subcontracted. One subcontractor may deliver mail for several different carriers. Regulators may even insist that a delivery carrier must accept mail from other carriers without discrimination.

10. New entrants will emerge in the delivery market, such as online grocers who make regular visits to households to drop off supplies. These new entrants may be more efficient than either the Posts or the express carriers in delivering parcels and letters.

11. Virtual carriers will provide global branding, customer care, tracking and billing, but will outsource almost all aspects of physical mail handling.



If these predictions seem radical, consider the telecommunications industry. As late as 1990, most countries had one dominant carrier, often owned by the government. Phone service seemed to be a natural monopoly. The phone company offered a small range of standard products on a “take it or leave it” basis. Mobile phones and the Internet were unknown.

The coming changes in the mailing industry will be no less radical than the changes in the last fifteen years in the telecommunications industry.

The mailing industry provides essential infrastructure services to the economy as a whole. Spurred by competition, the mailing industry must and will become much more flexible, efficient and aligned to customer needs.