How the iPod Is Killing Air Freight

By Satish Jindel

World air freight volumes are down, especially air freight volumes from Asia to the United States. The weakening U.S. economy is usually blamed for this decline, but that analysis overlooks something very small that has had a big impact on air freight: the iPod.

The popular little iPod — and other products like it — is playing a role in the decline in demand for air cargo space far larger than the iPod itself.

Attempts to explain the decline focus on the slower economic growth rate in the United States, higher fuel prices that hit airlines and consumers this summer and events related to the 2008 Olympic Games in Beijing, but they ignore the impact of technological developments related to the miniaturization of products and improved packaging.

The scale and pace at which these two trends have occurred in electronics, aerospace and retail is quite breathtaking and explains how these trends, in combination with the economic slowdown and higher fuel prices, are hitting the air freight industry with an unprecedented decline in demand for air cargo space from passenger airlines and all-cargo airlines.

How did such a miniature product become so mighty? In the consumer electronics sector, a Sony Boombox weighing 10 pounds and as big as a large shoebox — more than 1,200 cubic inches — is being replaced by Apple's iPod. The iPod weighs only 8 ounces. The weight of one Sony Boombox equals the combined weight of more than 20 iPods.

The cubic area comparison is even more alarming. A fully packaged iPod occupies only 38 cubic inches. Therefore, more than 30 packaged iPods take up less space in an air cargo container than one Boombox.

The problem for air freight companies is compounded by the difference in the value of the products. While a much larger Boombox has a retail value of $75, the pocket-sized iPod is priced at $225.

It's important to note that even with the decline in air freight from Asia as measured by weight this year, the total value of U.S. audio and video electronic imports from Asia still increased by 3.8 percent through July over the same period in 2007.

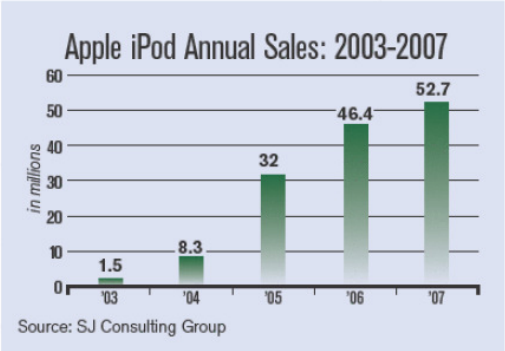
The iPod's impact is magnified by the growth in its numbers sold worldwide. In 1997, the total sales of home and portable audio equipment units amounted to 60 million. Ten years later, in 2007, the total worldwide sales of iPod and other PMP/MPE players exceeded 215 million. As a result, the air freight industry is transporting more products with less total weight and a higher value but at much lower transportation charge.

Therefore, the miniaturization and improved packaging of electronic products has resulted in permanent elimination of weight and cubic space that will not reappear when the economy recovers.

While the iPod is an example of significant reduction in weight and cubic area on a per unit basis for products shipped via air freight, similar developments across other consumer electronic products that are much larger in size have contributed in greater amount to total weight and cube area decline in both international and domestic airfreight.

Consider the change from bulky console televisions to newer flat panel plasma or LCD televisions. A 4-inch-thick plasma television is so thin in comparison to the older console model with 30 inches or more of thickness that even with packaging, five plasma televisions take up less space than one console television. In terms of weight, the newer models are about one-third the weight of console televisions.

With more than 90 million flat-panel televisions sold globally in 2007, the



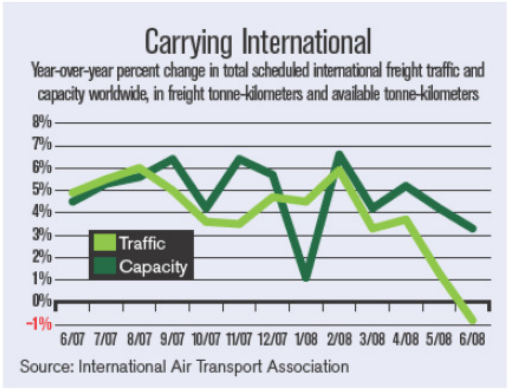
impact of changes in television design on the air freight industry has also been significant. With these units representing still only 47 percent of all television units sold worldwide and gaining market share over console units, more reduction in air freight from this product alone is yet to come.

Technological developments in business electronic industries are also impacting the total tonnage handled by other transportation providers. For example, when Dell was shipping mainly CRT monitors with each weighing about 25 pounds, a million monitors would have weighed 25 million pounds. With the switch to flat panel monitors that weigh 7 pounds and are of greater value, the total tonnage now amounts to 7 million pounds that thus requires only one-third the total number of containers.

Hence, the carriers (whether airfreight, ocean freight, truckload, LTL or parcel) need to rethink how they price their service and capture the value of their service to reflect the changes in the supply chain and product characteristics in their customers industry.

Product weight and size driven changes are not limited to electronics alone but can be found in other industries as well.

Many aerospace parts used in the assembly of airplanes are now made of new materials that are 30 percent lighter and much stronger. The latest Boeing Dreamliner aircraft is designed with materials that will result in the entire aircraft being lighter than its predecessor by 20 percent.



Improvement in packaging and related reduction in package size is also affecting air freight volumes.

These changes are partly influenced by the greening of America and the January 2007 changes in dimensional pricing for ground parcel service. Many companies that previously designed packaging to fit within the prior system of Oversized 1, OS2 and OS3 have been hit with up to double-digit price increases.

These companies have since focused on reducing excess air space from product packaging and contributed to the shrinking of the shipment sizes and the amount of space used in air freight shipments for international and domestic air freight movements.

Increase in the number of cartons loaded in an air cargo container has reduced the transportation charges per unit due to cost being spread over a 5 to 10 percent increase in number of cartons. Wal-Mart's initiative to reduce packaging has provided numerous benefits that have lead to reduction by 3.425 tons of weight in corrugated material, 727 fewer containers from improved density and $3.5 million in transportation costs.

Manufacturers and retailers such as Nike, Starbucks and Aveda have made similar repackaging efforts. Aveda repackaging efforts has saved 150 tons of virgin material, which has reduced shipping tonnage and saved millions of dollars in transportation costs.

Even Apple has repackaged the latest models of iMac. A current generation 20-inch iMac uses 66 percent less plastic and 42 percent less paper than the 20-inch iMac G4 flat panel while taking up 41 percent less space. Similarly, the packaging for the 15.4-inch MacBook Pro laptop is 45 percent lighter and uses 45 percent less volume than the 15-inch PowerBook G4. And, the packaging volume of the sixth-generation 120 GB iPod has been reduced by 82 percent from the first generation iPod. This allows Apple to ship 140 more units per pallet compared with the fourth generation 30 GB iPod.

So although renewed economic growth eventually will improve air freight volumes, air cargo forwarders, carriers and shippers need to understand the impact of changes in product characteristics on current and future air freight business — volume, pricing and revenue.

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