

e-Commerce: Vortex or Butterfly

Traditional means of conducting business transactions – telephone, mail facsimile, proprietary electronic data interchange systems, or face-to-face contact – have a new substitute: Electronic Commerce (“e-Commerce”). While still small

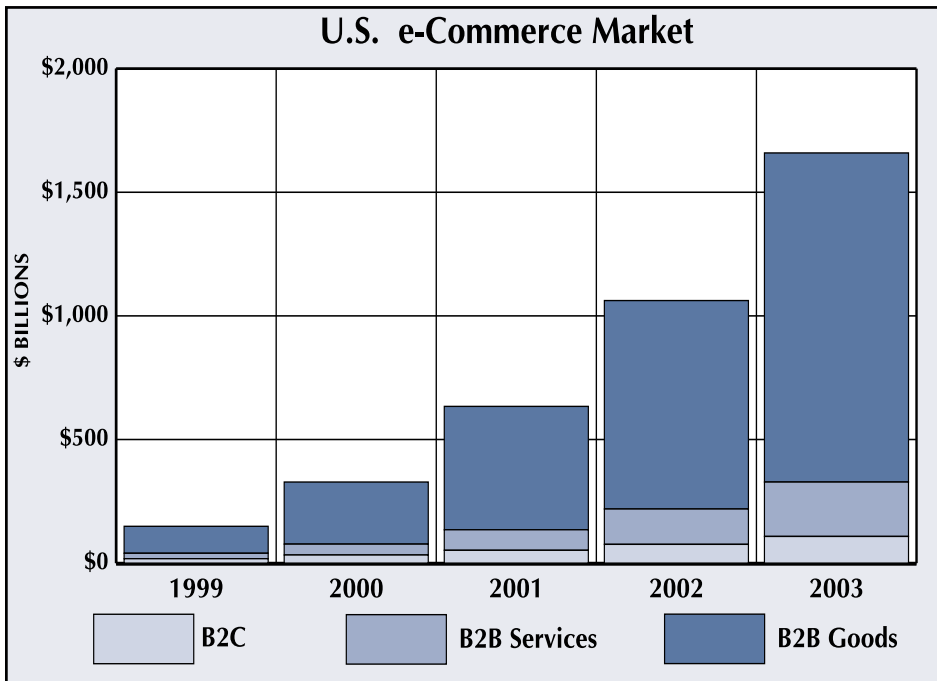
relative to the size of the U.S. economy, the value of e-Commerce transactions continues to grow at a remarkable pace. According to The Keenan Report, in 1999 e-Commerce represents approximately 1.1% of nominal U.S. GDP. By 2002, this

percentage is expected to reach 4.4%, meaning that at some point in the next 10 years, 100% of incremental GDP growth may be derived from e-Commerce.

Internet commerce began with retail e-Commerce, also known as business-to-consumer (“B2C”), which has allowed consumers to routinely use computer networks to identify sellers, evaluate products and services, compare prices, and exert market leverage. Business-to-business (“B2B”) e-Commerce evolved as a business tool in 1995 and holds many of the same advantages arising from retail e-Commerce but allows businesses to use computer networks even more extensively to conduct and re-engineer production processes, streamline procurement processes, reach new customers, and manage internal operations.

Driven by commerce aggregation, the B2B e-Commerce market is projected to reach an estimated \$1.5 trillion in 2003, up from \$131 billion in 1999.

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A Tale of Ten Cities

According to a computer modeling study performed by Chicago Consulting Co., Terre Haute, Indiana is the best place to locate a warehouse that serves the entire United States. This is news to Bloomington, Indiana, which was identified by previous studies as the sweet spot for a one warehouse system. It’s not that Bloomington is no longer a good location, but rather a casualty of the snowbirds who

continue to migrate in ever increasing numbers to Florida and the Southwest for retirement.

The study uses the latest population statistics to determine the ideal location by calculating the lowest possible average distance to the population for all 50 states. Terre Haute emerged (this year) as the location that makes the average the

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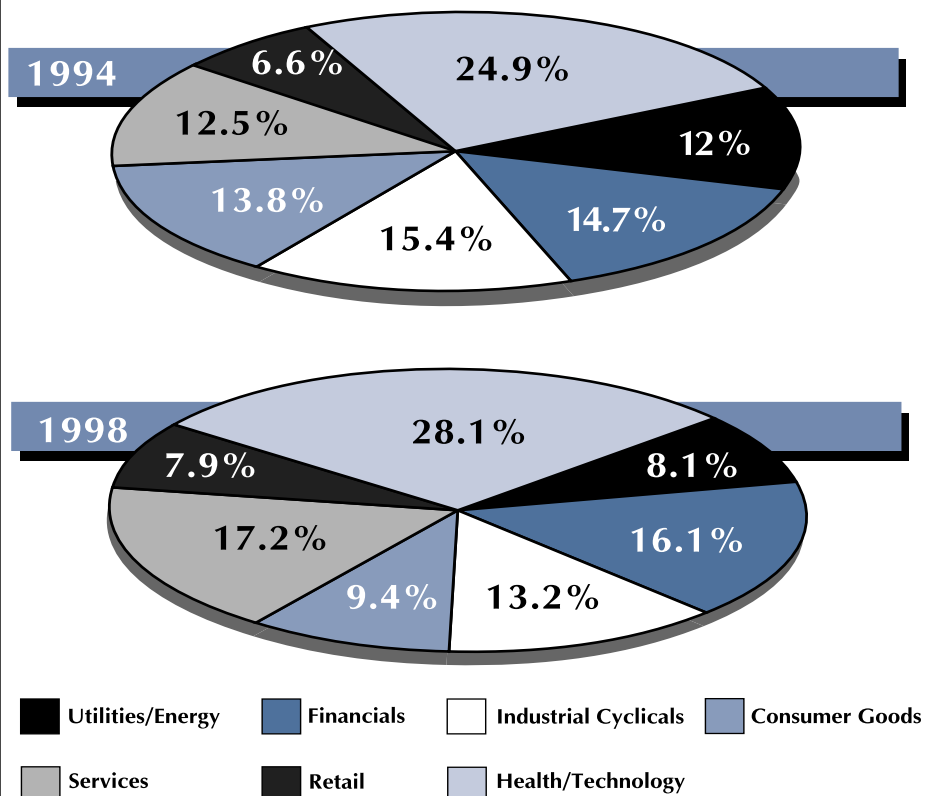
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Shares and Shares Alike

There appears to be a shift in investment trends over the last four years, and the manufacturing industry won't be pleased. According to Morningstar, Inc., mutual-fund money managers are restructuring their portfolios to include less shares of industrial/manufacturing-type stocks and more shares in industries central to the New Economy. For the period 1994-1998, the percent of shares in the Industrial cyclicals segment decreased from 15.4% to 13.2%. The Utilities/Energy and Consumer goods industry also experienced hefty declines. In contrast, Services enjoyed the largest increase in percent of shares, from 12.5% to 17.2% in the four year time period, followed by the Retail and Health/Technology industries.

The breakdown of shares among each industry in 1998 appears to reflect that industry's performance for that same year. For example, the percent of shares for manufacturing stocks decreased in 1998 as the Manufacturing industry struggled. Conversely, the percent of shares for Services stocks increased as the industry worked overtime to satisfy a booming domestic demand. Although consumer pockets appear to be deep, buyer beware...economists warn that the pace of consumer spending is far out of line with income growth because of consumers' growing reliance on stock market gains, which brings potential volatility to the economy's most supportive sector.

Investment Breakdown of U.S. Mutual Funds



Source: Morning Star Inc.

I Get By With A Little Help From My Teamsters

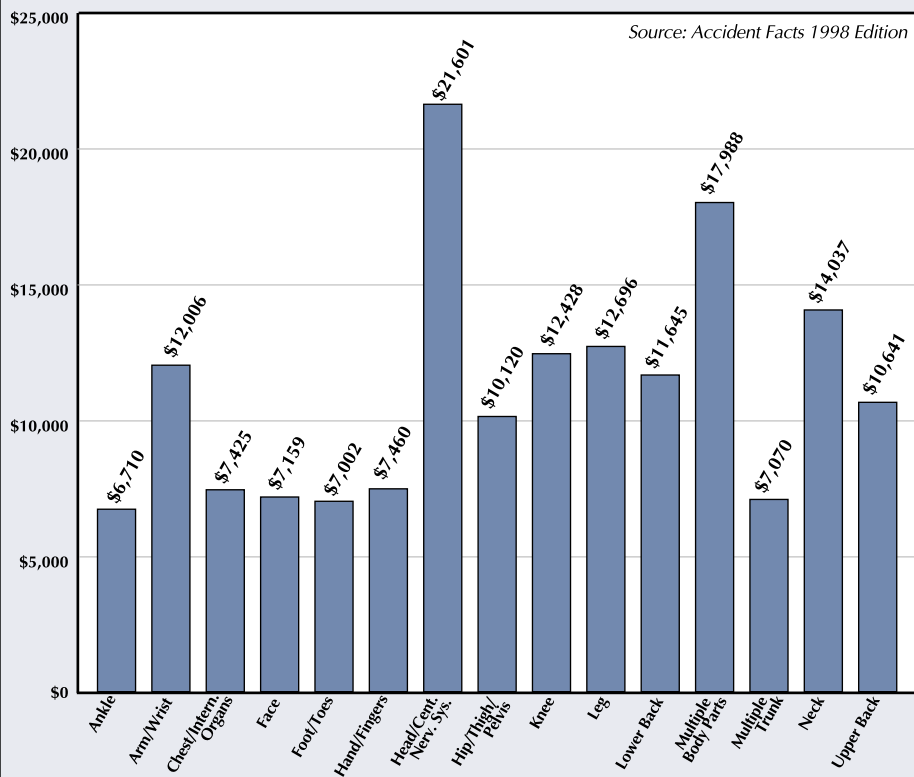
According to the BNA, Inc.'s weekly *Union Labor Report* newsletter, discharge was not the penalty for an employee whose overloaded forklift injured a co-worker. A forklift operator for the Borden Italian Foods Company was fired when he broke company policy and ran his forklift with six pallets, "double-stacked," down a warehouse aisle and struck another forklift, seriously injuring the other operator. Even though the terminated employee received a prior warning, The International Brotherhood of Teamsters (IBT) protested the discharge claiming the warning was over 12 months old and, therefore, should not count as progressive discipline, and argued that employees commonly double-stack pallets in plain view of supervisors without reprimand. The company's safety rules were found reasonable by the arbitrator, and some form of discipline was appropriate. However, the arbitrator for the case ordered the employee reinstated (without back pay) because no record for prior discipline could be found, and because supervisors were not consistently enforcing the company's rule against double-stacking.

Don't Use Your Head

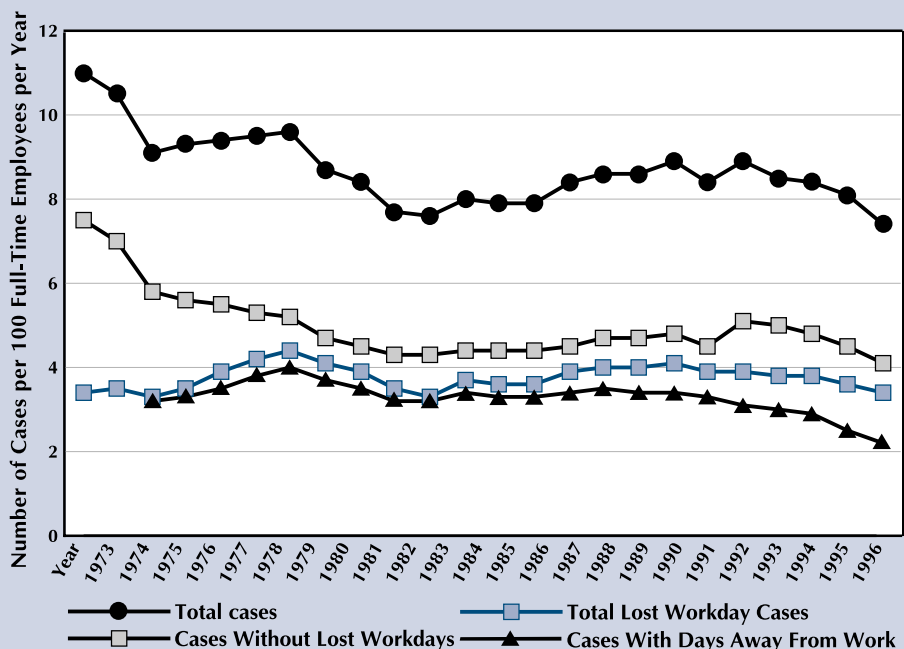
According to data published by the National Council on Compensation Insurance (NCCI), the most costly lost-time workers' compensation claims are for those involving the head. That's right. The head ranks, well, head and shoulders above any other body part when it comes to injury cost at \$21,601 per workers' compensation claim, compared to the neck (\$14,037 per claim), a not so close second. It's even head over heels in the foot category as well, as the head outranks the foot by \$14,599 in claims. Only the multiple body parts category is neck-in-neck with the head at \$17,988 per claim. The average cost for all claims combined was \$11,033.

However, HR managers should not feel like they're in over their heads when it comes to managing workers' compensation costs. The good news is that all four occupational injury and illness incidence rates decreased from 1995. The incidence rate for total nonfatal cases was 7.4 per 100 full-time workers in 1996, down 9% from the 1995 rate of 8.1. The 1996 incidence rate for total lost workday cases was 3.4, down 6% from 3.6 in 1995. The incidence rate for lost workday cases with days away from work was 2.2 in 1996, down 12% from 2.5 in 1995. And the incidence rate in 1996 for nonfatal cases without lost workdays was 4.1, a decrease of 7% from the 1995 rate of 4.4. A welcomed trend which just goes to show that keeping a good head on your shoulders benefits everyone.

Average Total Incurred Costs per Workers' Compensation Claim by Part of Body, 1995-1996



Occupational Injury and Illness Incidence Rates, 1973-1996

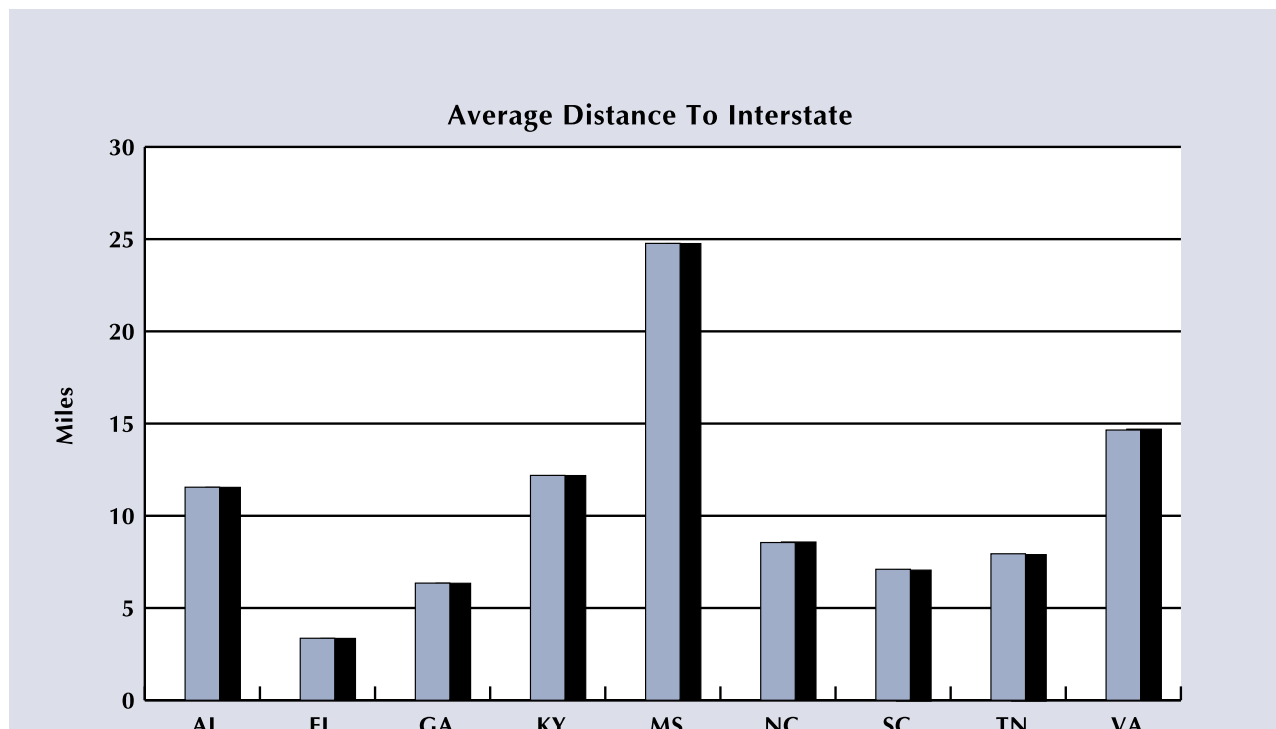


The Southeastern Industrial Real Estate Market

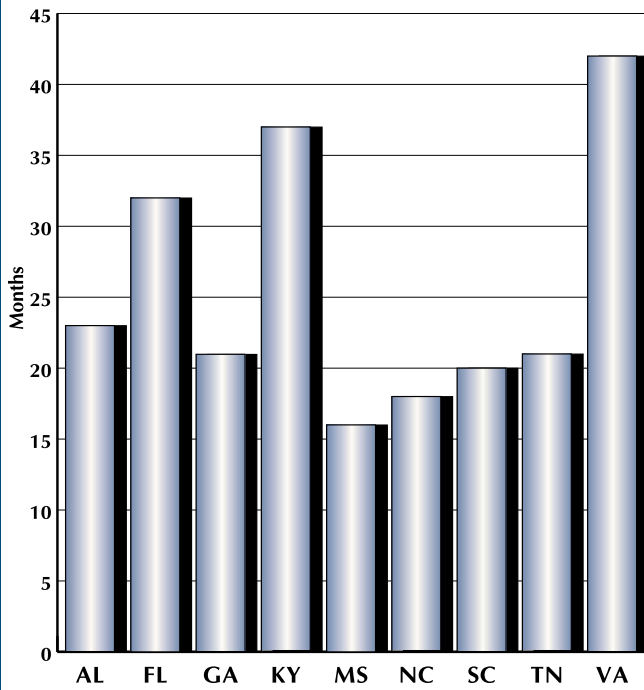
The Southeastern Industrial Market is defined as functional and available manufacturing and distribution facilities, typically located in non-metropolitan/secondary markets 50,000 sq. ft. and larger. There are currently 1,617 buildings available totaling 212,874,893 square feet. The average building is 131,648 square feet, is 11 miles to the nearest interstate, and has been on the market for 26 months. Rail service is in place or available for 47% of the buildings and 9% are crane-served. The following are state-by-state summaries highlighting various building attributes:

State	# Buildings	Available SF	Avg Building SF	% of Market
GA*	460	59,676,063	129,731	28%
NC	356	50,298,131	141,287	22%
TN	210	30,822,371	146,773	13%
SC	162	19,905,287	122,872	10%
MS	105	15,242,766	145,169	6%
AL	91	12,805,862	140,724	6%
KY	82	11,840,507	144,396	5%
FL	76	13,160,982	173,171	5%
VA	75	11,789,592	157,195	5%
TOTAL	1,617	212,874,893	131,648	100%

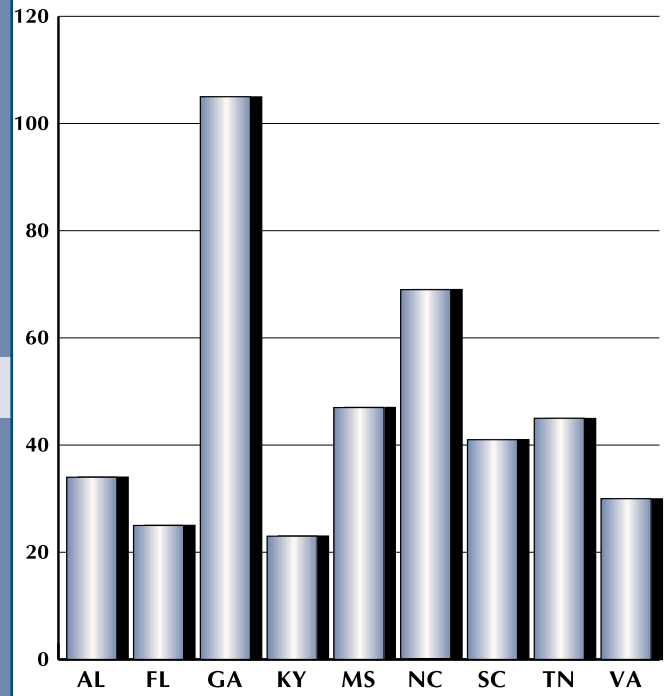
*Includes buildings in Atlanta 100,000 feet and larger



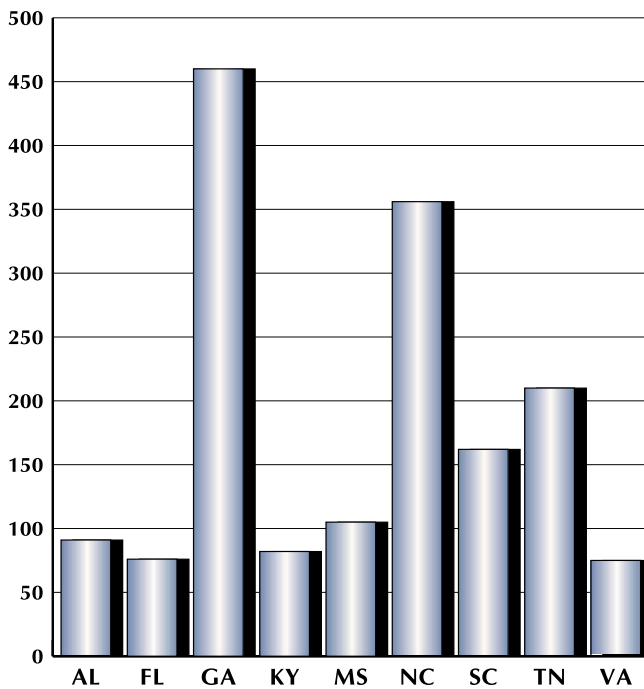
Average Months Buildings Have Been on Market



Number of Available Industrial Buildings With Rail Service or Cranes



Number of Available Industrial Buildings

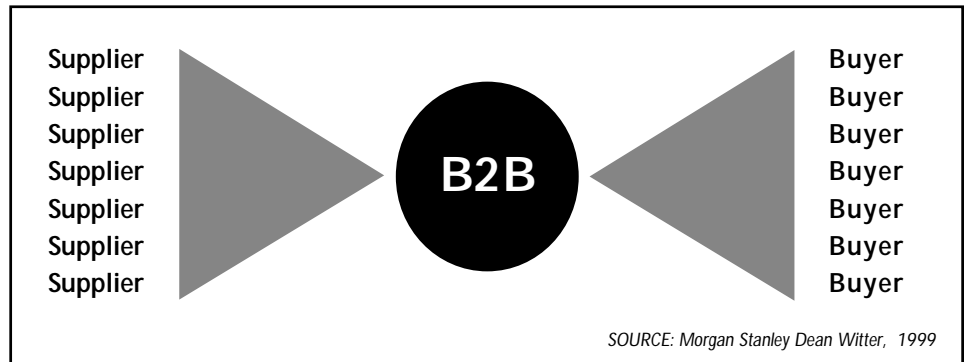


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B2B e-Commerce offers industrial corporations many benefits and value creation opportunities, which include the coordination of purchasing operations between a company and its suppliers, logistics & transportation planning by companies that warehouse and move other companies' products, and usage by sales organizations and the wholesalers or retailers that sell a company's products. As an immediate and convenient channel for communicating, exchanging, and selecting information, e-commerce requires businesses to reconsider which functions they should perform "in-house" and which are best provided by others. Furthermore, new technology has helped to create new relationships and to streamline and augment supply chain processes. As these changes occur, the roles of logistic and financial intermediaries are also expanding.

B2B e-Commerce capabilities are creating entirely new classes of business intermediaries, also known as "vortex or butterfly" businesses. By collapsing the supply chain, process inefficiencies become value creation.

According to Forrester Research, these new vortex or butterfly business intermediaries are defined as aggregators, auctions and exchanges. Aggregators create a business community by pooling supplier content to create a searchable one-stop shopping mall with predefined prices for buyers within a business community. Auctions create markets and reduce sellers' losses, whereby sellers and buyers can participate in multiple, real-time auctions simultaneously without accruing physical search and travel costs. Exchanges create stable online trading markets providing



players with a trading venue defined by clear rules, industry-wide pricing, and open market information.

Businesses that add Internet use to their business model to buy, sell, distribute and maintain products and services are sure to realize lower purchasing costs, reductions in inventories, lower cycle times, more efficient and effective customer service, lower sales and marketing

costs and new sales opportunities. And benefits are likely to increase as the network of businesses conducting e-Commerce grows. But, whatever type of business you call them, vortex or butterfly, being in the middle of a lot of buyers and sellers is surely a valuable place to be.

Air Cargo Expansion

A recent report released by the Federal Aviation Administration (FAA) reveals strong growth in air cargo. The rate at which air cargo traffic has increased is expected to continue and, having exceeded growth in air passenger traffic, double by the year 2010.

As reported in *Business Facilities'* July 1999 issue, the agency predicts that U.S. air cargo traffic, as measured by "domestic revenue ton miles" (one ton carried one mile) will double by 2010, rising from an estimated \$11.7 billion to \$22.6 billion. International air cargo will grow even faster, rising 117% from \$14 billion revenue ton miles in 1998 to \$30.3 billion in 2010. By comparison, domestic revenue passenger miles are projected to increase 60% to \$718 billion in 2010.

Peter Leboff, an economist with the FAA, says that the integrated all-cargo carriers are growing faster than the air cargo operations of U.S. passenger carriers – 10% vs. 6%, respectively. The introduction of new aircraft, such as the Boeing 777, which has the greatest cargo capacity of any passenger plane, may change that trend somewhat, according to Leboff. In anticipation of the increase in cargo, United Airlines has converted four DC-10 passenger jets to freighters in recent months. Strong contenders to capture some of this increased cargo growth are United and Northwest, and to a lesser extent, Continental.

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smallest, thanks to increases in the number of residents in the Southwest and Florida, shifting the ideal location more westerly.

The table shown also gives the ideal locations for multiple warehouse networks of up to ten warehouses. According to the model, if a company wanted to have a two-warehouse network from which to serve the United States, the two best places would be Fresno, California and Chillicothe, Ohio. A ten-warehouse

network changes the composite of the locations altogether.

Don't lose heart if your distribution network locations are not at all comparable to the ones listed in the study. The model is not intended to be used by companies in making location decisions. Instead, its value is in the "intriguing perspective" it offers, according to Terry Harris, managing partner at Chicago Consulting. A real world logistics analysis is cost-based, taking into account

customer locations, distribution patterns, size, transportation costs, inventory carrying costs, and so forth. In other words, it is company-specific. Thus, the results may vary drastically for two similar companies in the same industry with the same number of warehouses in their distribution network. Unless your customer base solely consists of retired baby boomers, it doesn't matter that the best warehouse location is skewed by the migration patterns of those over the age of 55.

The 10 Best Places for Warehouse Networks in 1999

# of Warehouses in Network	Locations	Locations Shortest Average Distance to U.S. Population
One	Terre Haute, IN	859
Two	Chillicothe, OH; Fresno, CA	490
Three	Allentown, PA; Paducah, KY; Fresno CA	378
Four	Caldwell, NJ; Cincinnati, OH; Dallas TX; Stockton, CA	322
Five	Summit, NJ; Macon, GA; Gary, IN; Dallas, TX; Stockton, CA	268
Six	Summit, NJ; Macon, GA; Gary, IN; Dallas, TX; Alhambra, CA; Oakland, CA	241
Seven	Summit, NJ; Macon, GA; Gary, IN; Dallas, TX; Alhambra, CA; Berkeley, CA; Tacoma, WA	222
Eight	Summit, NJ; Asheville, NC; Lakeland, FL; Chicago, IL; Dallas, TX; Denver, CO; Long Beach, CA; Berkeley, CA; Tacoma, WA	204
Nine	Summit, NJ; Gainesville, GA; Lakeland, FL; Chicago, IL; Dallas, TX; Denver, CO; Long Beach, CA; Berkeley, CA; Tacoma, WA	189
Ten	Newark, NJ; Gainesville, GA; Lakeland, FL; Akron, OH; Chicago, IL; Dallas, TX; Denver, CO; Long Beach, CA; Berkeley CA; Tacoma, WA	174

Source: Chicago Consulting Co.

One Warehouse Network

Source: Chicago Consulting Co.



Ten Warehouse Network

Source: Chicago Consulting Co.



I'll take "Logistics" for \$1,000 Alex

For all you Jeopardy contestant wannabes, here are some interesting facts and figures that could hold the key to big money and fabulous prizes. Or at least, provide some interesting cocktail party trivia.

Hours per week the average truck driver spends on activities other than driving	30 hours
Average reduction in freight train speeds since 1992	19%
Percentage of US warehouses that were third party operations in 1999	18%
Percentage of Fortune 500 corporations using 3PL providers	50%
Inflation adjusted decrease in rail freight rates since 1980	46%
Railroad increase in ton-miles shipped since 1980	56%
Reduction in the number of terminals among the 4 largest LTL carriers over the period 1992-1997	32%
Increase in revenue per terminal among the 4 largest LTL carriers over the period 1992-1997	75%
Labor cost per dollar of revenue at unionized LTL carriers	65 cents
Percent of railroad revenues derived from coal shipments	22%
Percent of planned power generation plants that will be gas fired	88%
UPS's share of the ground-package shipment business	80%



THE WALKER COMPANIES provide location consulting, brokerage, and facility development services for industrial corporations throughout the United States. For additional information on our services, or to comment on *The Industrial Outlook*, please contact:

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