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Cover Page Footnote

The authors would like to thank the Visteon Corporation for funding the research and the Institute for Supply Management for providing a sample of members to survey.

U.S. FIRM OUTSOURCING/OFFSHORING PRACTICES AND PLANS: AN UPDATE

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ABSTRACT

A study of U.S. firm outsourcing and offshoring practices and future plans regarding supply chain activities provides an update for supply chain managers. Specifically, the reported information provides supply chain managers of manufacturing/merchandising firms with a competitive benchmark; facilitates third party logistics manager strategic planning efforts and provides an input to U.S. transportation planners who determine future transport and infrastructure requirements. The study reports the responses of 151 Chief Purchasing Officers from U.S. firms. Firms are benefiting from outsourcing logistics and production activities and over one-third of the firms plan to increase outsourcing spend. In addition, 60 percent of firms outsource offshore, and of these firms, 41 percent will increase their offshore spending, some by more than 50 percent.

INTRODUCTION

To remain competitive in the global marketplace, U.S. firms continue to outsource supply chain activities to improve supply chain efficiency or enhance supply chain effectiveness in serving emerging global markets (Trent, 2004; Langley, van Dort, Ang, and Sykes, 2005). In fact, most recent studies indicate that outsourcing spending is continuing to increase 15-25 percent per annum (Patton, 2003). Outsourcing is defined as “the transfer of responsibility to a third party of activities which used to be performed internally” (Ellram and Maltz, 1997). A major portion of recent outsourcing activity involves “offshoring”—the practice of U.S. firms outsourcing business activities to providers overseas (LaLonde, 2004). The McKinsey Global Institute estimates that the volume of

outsourcing offshore will increase 30-40 percent per year for the next five years (Drezner, 2004).

Examples of recent offshoring practices include the following: U.S. electronics original equipment manufacturers have outsourced a significant portion of component purchasing and production to electronic manufacturing source (EMS) companies, many of whom have facilities located offshore (Zetter, 2003); U.S. automakers and parts suppliers continue to move manufacturing operations offshore to Southeast Asia, Central and South America and Eastern Europe (A.T. Kearney, 2005); and as U.S. companies expand their global reach, they are increasingly using global third party logistics (3PL) providers such as DHL, Kuehne & Nagel, Panalpina and UPS Supply Chain Services (Harps, 2004).

The growth in offshoring of U.S. firm supply chain activities is fueled by three primary factors. First, the internet enables chief purchasing officers (CPO's) to utilize providers of supply chain activities from all parts of the globe (Gododia et al., 2004). Second, there is a considerable gap in direct labor rates that favors emerging countries such as China, Brazil, Vietnam and Ukraine over the United States (Carbone, 2004). Third, 3PL's focus on border crossings and improved international trade software has facilitated the flow of international shipments (Forrest, 2004).

Firms should continue to take advantage of the significant opportunities afforded by outsourcing/offshoring (Doblar and Burt, 1996; Leenders and Fearon, 1997; Monczka et al., 1998; and Petersen et al., 2000). As Bud LaLonde (2004) stated in an offshoring editorial, "Longer supply chains crossing countries, cultures, and time zones increase the risk but also increase the payoff to the business enterprise." The purpose of this article is to provide supply chain managers with an update regarding U.S. firm outsourcing and offshoring practices and future plans.

Specifically, the reported information provides supply chain managers of manufacturing/merchandising firms with a competitive benchmark, facilitates third party logistics manager strategic planning efforts and provides an input to U.S. transportation planners who determine future transport and infrastructure requirements. The research focuses on supply chain activities involved in purchasing, production and logistics.

BACKGROUND

Outsourcing Supply Chain Activities

During the last decade, U.S. firms have outsourced a number of supply management activities (Karoway, 1995; Purchasing, 1995). While strategic purchases and supply management activities that are a corporate core competence or provide a strategic advantage

have experienced limited outsourcing (Monczka and Trent, 1995; Burt and Pinkerton, 1996; and Maltz and Ellram, 1999) non-strategic purchases and activities have been increasingly outsourced (Karoway, 1995; Ellram and Maltz, 1997). Supply management activities most often outsourced include MRO buying, capital equipment buying, short life cycle technology buying, offshore buying, services buying, order management, storeroom operations, quality inspection/compliance, non-strategic (indirect) material contract administration and supplier management, and surplus/obsolete material and equipment recycling/disposal (Maltz and Ellram, 1999; Patton, 2003).

The outsourcing of production by U.S. firms continues to grow (Zetter, 2003; Zsidisin, 2003). Approximately two-thirds of all production outsourcing involves non-core parts and products manufactured with low, readily available, established technology while the remaining one-third involves strategic parts and products (Ehic, 2001). The primary production activities outsourced by U.S. firms are manufacturing, assembly and information systems/technology. Other production activities outsourced on a smaller scale include process and product engineering and R&D (Porter, 2000; Ehic, 2001; Patton, 2003).

Logistics outsourcing by U.S. firms has increased dramatically. In 2005, American manufacturers using 3PL services reported spending 40 percent, on average, of their total logistics budgets (compared to 20 percent in 2000) to support 3PL services (Gooley, 2000; Knemeyer and Murphy, 2004; Leib and Bentz, 2005). Logistics activities most commonly outsourced include warehousing, freight bill payment, customs brokerage, transportation, consolidation, logistics consulting and logistics information services (Murphy and Poist, 2000; Lieb and Miller, 2002; Maloni, 2006).

Offshoring Supply Chain Activities

Global sourcing continues to grow as U.S. firms realize benefits such as material unit price reductions (Trent and Monczka, 1998; Peterson,

Frayner, and Scannel, 2000) and enhanced technical capabilities (Ettlie and Sethuraman, 2002). For example, after three years of global sourcing experience and nearly 100 global agreements in place, Air Products realized an average cost savings of 20 percent (Trent and Monczka, 2003).

Contract manufacturing offshore is growing rapidly as evidenced by recent findings. The share of foreign-sourced goods in total manufactured inputs almost doubled—from 12.4 percent to 22.1 percent in U.S. manufacturing between 1987 and 2002 (Burke, Epstein and Choi, 2004). Industry groups with the highest share of foreign-sourced manufactured inputs were computer/electronics, apparel/leather and motor vehicles. In these three industries, imported inputs represented about one-third of all manufactured inputs in 2002 (Burke, Epstein and Choi, 2004).

As global sourcing and contract manufacturing offshore have accelerated, the demand for 3PL service providers that span the globe has grown as well. While overall 3PL revenue growth rates are averaging 10 to 15 percent per year, revenue growth rates for providing services to emerging markets such as India and China are estimated to be 20 to 30 percent per year for the next few years (Foster, 2004).

Given the rapid growth and change in outsourcing/offshoring practices, a study updating supply chain managers regarding outsourcing/offshoring practices and future plans of U.S. firms is clearly warranted.

RESEARCH METHODOLOGY

To provide an update, the research focused on two areas:

1. Outsourcing—extent of practice and activities involved now and in the future; primary reasons for outsourcing and resulting benefits.

2. Offshoring—extent of practice now and in the future; locations and factors impacting offshoring.

Data Collection

A mail survey instrument was developed to collect data regarding U.S. firm outsourcing/offshoring practices and plans. The ten-question, 185 item survey was pre-tested by six CPO's. Survey modifications were made to provide a more understandable survey.

The mailing list consisted of the highest ranking procurement officer for each firm represented in the Institute for Supply Management membership database. A total of 3,452 surveys were mailed, with 151 completed surveys returned. While the response rate was very low, the large sample size enabled the researchers to collect information regarding outsourcing/offshoring practices and plans from over 150 U.S. firms. The total number of responses was acceptable given the extended length of the questionnaire and the time sensitivity of the potential respondents. Table 1 highlights the balanced cross-section of participating organizations based on their annual sales revenue and type of business. Additionally, responses were received from a broad cross-section of industries: consumer goods (16%), pharmaceutical (9%), transportation (9%), electronics (8%), chemicals (7%), financial services (7%), construction (5%), energy (3%), media (3%) and agriculture (2%).

Data Analysis

Given the exploratory nature of the research and low response rate, the researchers focused on reporting overall results using descriptive statistics. The completed surveys were coded, entered into a personal computer and analyzed using Microsoft Excel XP and SPSS Release 11.5 for Windows. Standard statistical tests (e.g., percentages, cross tabulation and Pearson Chi-Square tests) were used for descriptive analysis.

TABLE 1
RESPONDENT PROFILE

Company Type	Annual Sales		
	< \$500K	≥ \$500k	Not Indicated
Manufacturer	27.8%	21.2%	0.7%
Non-manufacturer	28.5%	19.2%	2.6%

RESEARCH RESULTS

Data analysis yielded a number of results regarding U.S. firm outsourcing practices and future plans. In addition, results were tabulated concerning U.S. firm offshoring practices and future plans.

Current Outsourcing Practices

The initial survey questions focused on the current outsourcing practices of the respondents for 28 different supply chain activities. The analysis indicated that the vast majority of respondents (90.7%) rely on external providers for at least one activity, with 4 activities being the median number outsourced (see Figure 1). In fact, nearly one-quarter of the respondents outsource 7 or more activities while only 9.3% of the respondents maintain all 28 activities in-house.

The most widely outsourced activities focus on logistics and production activities. Table 2 reveals that transportation, reverse logistics, and warehousing account for five of the top ten and are among the longest outsourced activities. Producing materials/products plus engineering account for four of the top ten and are among the longest outsourced activities. In fact, more than one-third of the respondents outsource production of direct materials and finished products. Interestingly, information systems are also in the top ten despite being a relatively young candidate for outsourcing with a median of three years outsourced.

In contrast, procurement and planning activities tended to be kept in house, with less than 15 percent of the respondents turning these responsibilities over to external providers. Likewise, inventory management activities were among the least frequently outsourced processes.

As a percentage of revenue, spending on outsourcing tends to be moderate. Figure 2 reveals that 44 percent of the respondents spend more than five percent of revenue externally on these services, with 16 percent spending more than 20 percent of total revenue on outsourced services. The activities with the highest cost proportion outsourced include reverse logistics, outbound transportation, inbound transportation, production processes, and purchase of finished goods. These results suggest that spending increases as outsourcing experience and trust are gained.

Future Outsourcing Intentions

While it is plausible to assume that the historical growth of outsourcing will continue into the foreseeable future, such assumptions should be investigated. The researchers addressed two aspects of growth—outsourcing activity expansion and spending level escalation.

The respondents' were asked to provide information regarding their outsourcing intentions over the next three years for activities currently performed in-house. From this perspective, the future growth of outsourcing appears to be very good for two activities and

FIGURE 1
LEVEL OF OUTSOURCING INVOLVEMENT

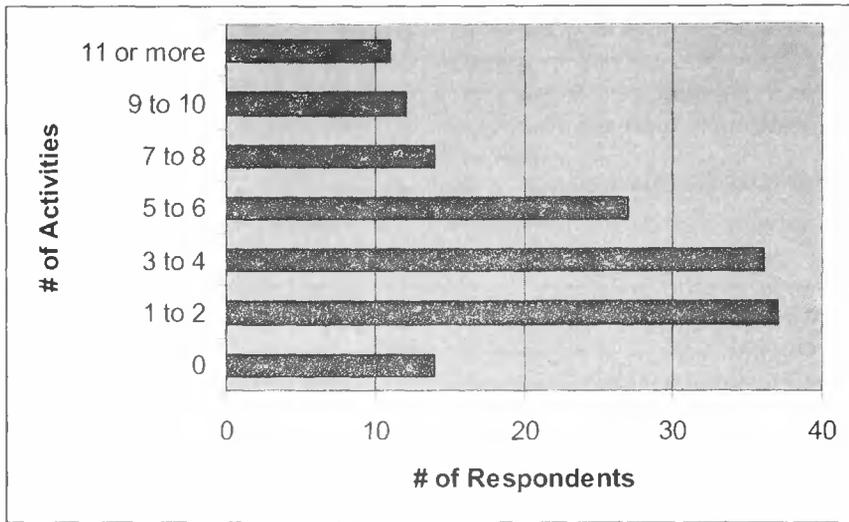


FIGURE 2
COST OF OUTSOURCED ACTIVITIES AS PERCENT OF SALES

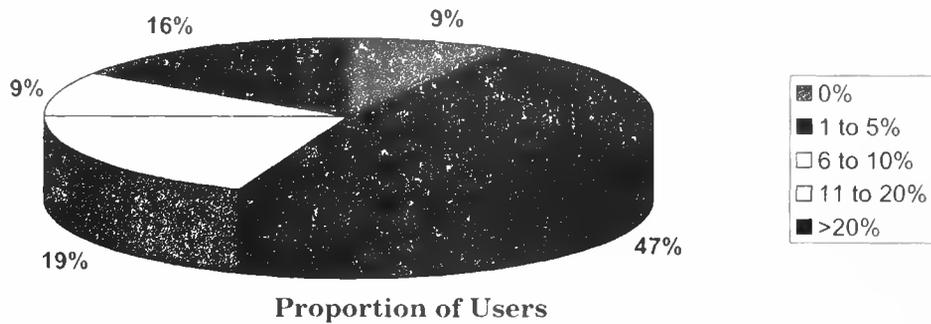


TABLE 2
OUTSOURCED ACTIVITIES

Activities	% of Respondents	Median # of Years
Outbound transport	38.4	10.0
Inbound transport	37.7	8.0
Scrap, recycling, waste disposal	37.1	6.0
Producing finished products	36.4	5.0
Producing materials (direct materials)	35.1	9.0
Information systems	26.5	3.0
Engineering	24.5	6.0
Inbound storage(warehousing)	21.9	5.0
Outbound storage(warehousing)	19.2	6.0
Producing MRO (indirect materials)	17.2	10.0
Packaging	15.2	5.0
Buying finished products	14.6	5.0
Buying MRO (indirect materials)	11.9	3.0
Purchasing research	11.9	3.5
Buying materials (direct)	10.6	5.0
Buying capital assets	9.9	3.0
Buying services	9.9	2.5
Manage material inventories	9.9	3.0
Product repair, returns	9.9	3.0
New product development	9.3	4.0
Supplier quality assurance	7.9	2.0
Customer service	7.9	3.0
Outsourcing/sourcing/value analysis	7.3	2.0
Pre-production kitting	7.3	5.0
Human resource management	6.6	2.0
Manage work-in-process inventories	6.0	7.0
Manage finished inventories	5.3	10.0
Production scheduling	1.3	2.5
Other	15.9	0.0

good for ten activities of the 28 activities studied. Leading the anticipated outsourcing growth are information systems (9.9 percentage point gain) and human resource management (9.3). Ten activities are expected to gain 4-5.3 percentage points. Of these activities four are already among the top ten outsourced activities: reverse logistics (5.3), producing finished product (5.3), inbound storage (5.3) and outbound storage (5.3). The remaining growth activities are: buying MRO materials (5.3), buying services (4.7), purchasing research (4), managing material inventories (4), supplier quality assurance (4) and pre-production kitting (4). Table 3 highlights the expected outsourcing leaders three years hence and the expected growth rate in outsourcing for each activity.

When analyzed from a spending perspective, the results indicate a strong intention to outsource. The respondents were asked about their expected financial outlay over the next three years (increase, no change, decrease) for each of the 28 activities that they currently outsource. Nearly 61 percent of the responses indicated stable spending plans, 34 percent planned to increase spending levels and only 5 percent planned to decrease spending levels.

Figure 3 highlights the proportion of respondents planning to increase spending for the 28 activities. The three top candidates for increased spending include: buying MRO indirect materials (50 percent of current outsourcers), human resource management (50%) and information systems (48%).

The combined analysis of the two future focused questions provides some insight into the source of outsourcing growth. In all but two instances, the number of current users planning to expend additional dollars on an outsourced activity exceeds the number of nonusers planning to begin outsourcing that activity. Thus, the results suggest that outsourcing growth will come primarily from current users rather than new users.

Outsourcing Impact

The perceived success or failure of an outsourcing initiative is often impacted by the expectations of an organization going into the process. Given the respondents' future intentions to expand outsourcing, it appears that their expectations have been met. However, it is useful to identify these initial considerations and the specific benefits achieved. The final outsourcing questions addressed these issues.

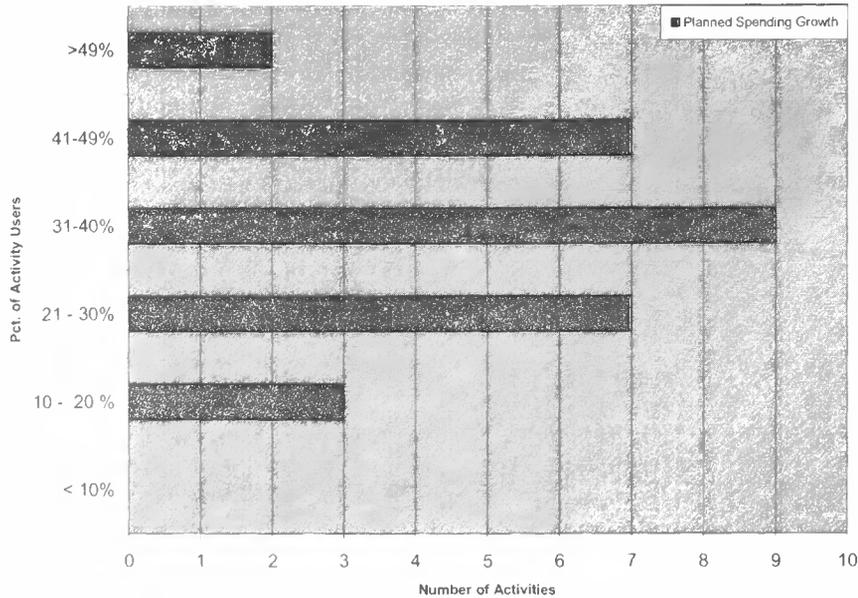
The primary factors considered by the respondents when making a go/no go decision to outsource are largely financial in nature. Of the 404 factors listed by the respondents in this open-ended question, 37 percent focused on cost savings (reduction of capital expenditures, labor costs, overhead fees, cost of ownership, and related issues). Another 18 percent of the responses centered on quality issues—meeting standards and customer satisfaction. Close behind at 17 percent was the core competency factor—internal versus external capabilities, expertise, and activity strategic fit. Additional factors included capacity issues, delivery capabilities, and geographic challenges.

It appears that the results to date have been positive, though not exceptional. Table 4 reveals that each benefit has received ratings that fall within the "Good" to "Very Good" range (i.e. between 3 and 4 on a 5 point scale). Of the benefits analyzed, the most highly rated was total cost of the activity, an important result given the critical importance of that factor in the outsourcing decision. The next two benefits—improved focus on core business and improved flexibility—also link well with the core competency and capacity requirements. The only major disconnect found between the benefits ratings and the key considerations related to customer service quality. It was the second most often mentioned factor but the lowest rated outcome.

TABLE 3
EXPECTED FREQUENCY OF ACTIVITY OUTSOURCING IN THREE YEARS

Activities	% of Respondents	% Increase in # of Respondents	Relative change in ranking
Scrap, recycling, waste disposal	42.4	14	+2
Producing finished products	41.7	15	+2
Outbound transport	41.7	9	-2
Inbound transport	39.1	4	-2
Producing materials (direct materials)	36.4	4	0
Information systems	36.4	38	0
Engineering	27.8	14	0
Inbound storage(warehousing)	27.2	24	0
Outbound storage(warehousing)	23.2	21	0
Producing MRO (indirect materials)	19.9	15	0
Packaging	17.2	13	0
Buying finished products	17.2	18	0
Buying MRO (indirect materials)	17.2	44	0
Purchasing research	15.9	33	0
Human resource management	15.9	140	+10
Buying services	14.6	47	+1
Manage material inventories	13.9	40	+1
Buying materials (direct)	13.2	25	-3
Product repair, returns	13.2	33	0
New product development	12.6	36	0
Buying capital assets	11.9	20	-5
Supplier quality assurance	11.9	50	-1
Pre-production kitting	11.3	55	+1
Customer service	10.6	33	-2
Outsourcing/sourcing/value analysis	9.9	36	-2
Manage finished inventories	6.6	25	+1
Manage work-in-process inventories	6.6	11	-1
Production scheduling	3.3	150	0

**FIGURE 3
FUTURE OUTSOURCING—SPENDING PREDICTIONS**



**TABLE 4
BENEFITS GAINED VIA OUTSOURCING**

Outsourcing Benefits	Mean Impact Rating*
Decreased total cost of performing activity	3.64
Improved focus on core business	3.57
Improved organization flexibility	3.54
Improved activity effectiveness	3.43
Improved expertise/technology capability	3.43
Decreased human resources	3.35
Decreased capital assets	3.33
Increased customer service/value	3.20

*Impact Rating Scale: 5 = Excellent to 1 = Poor

Offshoring Spend

A key issue regarding the 28 outsourced activities focused on the international spending component of outsourcing. On average, less than one fifth of outsourcing budgets are spent outside the U.S.. Figure 4 reveals that fewer than 15 percent of the respondents rely upon offshoring for the majority of their outsourcing spend. In contrast, nearly 40 percent rely exclusively on domestic outsourcing, while another 22 percent spend less than five percent of their dollars offshore.

A related spending question provides insight into the future intentions of the respondents. Of those organizations outsourcing activities today, approximately 41 percent indicate that they will increase their offshoring activity and over one-quarter of these firms will increase offshoring spend by more than 50 percent. In contrast, less than three percent plan to reduce their reliance on offshoring, while 56 percent will remain at current spending levels.

Offshoring Locations

Currently, the offshoring activities of the respondents cover a wide geographic range. When asked to identify their top three non-U.S. countries in terms of outsourcing spend, the respondents revealed that they source products and services from 32 non-North American countries across seven geographic regions. Table 5 indicates that the most popular regions for offshoring include the Pacific Rim countries in East and Southeast Asia, Southern Asia, and Western Europe. Overall, China, India, Taiwan, and Japan are the most frequently cited locations for offshore outsourcing activity.

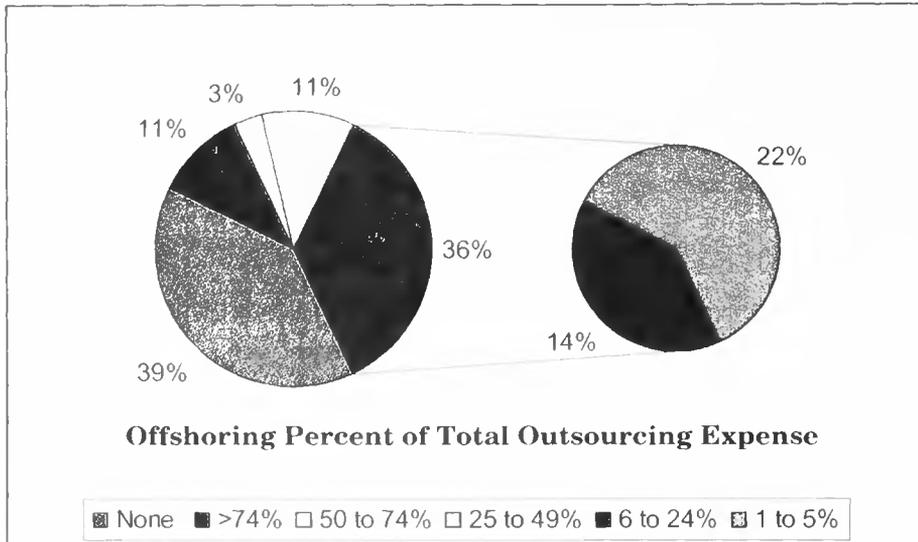
The responses to a related request – identify the top three non-U.S. countries under consideration for outsourcing – suggest geographic shifts may occur. Of note is the respondents' focus on South and Central American countries, which may be driven by recent free trade agreement legislation. Also, growing interest in China and India versus Taiwan, Japan, and Singapore, may portend offshoring activity swings within the Asian regions. Similar activity may take place in Europe, given the respondents' growing consideration of Eastern European countries versus their Western European counterparts.

Offshoring Inhibitors

The general reasons for offshoring (supply access, cost savings, and improved flows) are widely discussed in the literature. However, limited attention has been paid to issues that may inhibit the use of offshoring. These events can dampen interest by creating supply chain disruptions, increasing costs, and/or encouraging domestic activity. To gain insight, the respondents were asked to evaluate the impact of recent events on their offshoring intentions.

Of the five potential inhibitors identified in the survey, those that related to security issues had the greatest negative impact on future offshoring plans. Table 6 underscores concerns about terrorist attacks and related border security regulations among a noteworthy contingent of respondents. Otherwise, capacity limitations and government regulations that encourage domestic activity had a negative impact on only a moderate number of respondents. Most U.S. firms plan to continue offshoring at current or increasing levels despite these regulatory and business challenges.

**FIGURE 4
OFFSHORING SPEND**



**TABLE 5
OFFSHORING ACTIVITY AND PLANS**

Region	CURRENT USE		FUTURE PLANS	
	% of Responses	Most Frequently Identified Countries	% of Responses	Most Frequently Identified Countries
East / Southeast Asia	45.0	China/Hong Kong	42.5	China/Hong Kong
North America*	20.6	Mexico	15.1	Mexico
Southern Asia	13.6	India	17.1	India
Western Europe	13.6	Germany	3.4	No primary choice
East / Central Europe	3.0	Hungary	8.2	Russia
Middle East	2.4	No primary choice	2.1	No primary choice
South / Central America	1.2	No primary choice	10.3	Brazil
Africa	0.6	No primary choice	1.4	No primary choice

* This international outsourcing activity, while technically not “offshoring” activity, is provided for comparison purposes

TABLE 6
ANTICIPATED IMPACT OF OFFSHORING INHIBITORS

Event	Impact — will cause organization to outsource ...		
	Less	Same	More
Potential terrorist attacks that may close U.S. borders	43.2%	39.8%	16.9%
New TSA border security regulations for imported cargo	41.7%	42.5%	15.8%
Omnibus Appropriations Law forbidding government contract work to be outsourced to foreign entities	31.1%	53.8%	15.1%
Legislation providing tax reductions on domestic manufacturing income	30.3%	48.7%	21.0%
Shortage of carrier and airport/port cargo capacity	30.2%	50.0%	19.8%

MANAGERIAL IMPLICATIONS

The research results indicate that the respondents are benefiting from outsourcing and intend to expand outsourcing and offshoring efforts during the next three years. The potential impact of these results on management practices and planning are presented in the next section.

U.S. Manufacturing/Merchandising Firm Supply Chain Managers

Outsourcing implications. Supply chain managers should consider both outsourcing and offshoring as critical aspects of supply chain management strategic planning efforts. When considering which supply chain activities to outsource, managers should determine which activities are core/distinctive competencies or strategic and which are not. Activities that are not strategic can be considered for outsourcing (Maltz and Ellram, 1999). To determine viable candidates for outsourcing, managers should evaluate the impact of outsourcing an activity on corporate efficiency (total costs, human resources and assets), effectiveness (customer value created) and competitive position (flexibility, technical capability).

In firms where currently few or no supply chain activities are outsourced, supply chain managers should focus initial outsourcing efforts on non-core transportation, warehousing and production activities (See Figure 3). These activities are frequently outsourced and have a significant history of being outsourced. Additionally, these 3 functions typically represent a significant portion of operations cost and involve significant fixed assets (eg. plants, warehouses, vehicles, equipment).

In firms where many supply chain activities are outsourced, supply chain managers should consider outsourcing non-core information systems, human resource management and procurement activities (See Figure 5). These activities are receiving more attention as possible outsourcing candidates. Specifically, buying services and materials, supplier quality assurance and managing material inventories could be considered.

A likely consequence of outsourcing more activities will be more business partners which may result in increased supply chain complexity. As supply chain managers strive to improve integration across supply chain partners, they

will need to focus more attention on the following: (1) global supply chain measures and assessment tools; (2) information technology integration and inventory visibility capabilities; and (3) more standardized policies/procedures/contracts for managing supply chain activity outsourcing.

Offshoring implications. Offshoring is a growing practice of U.S. firms. The research results indicate that sixty-one percent of respondents practice offshoring and that forty-one percent of these firms plan to increase offshoring spend, some by more than fifty percent.

Supply chain managers in firms currently not offshoring should consider if material and/or labor cost savings from offshoring supply chain management activities will be greater than the increased logistics costs. Managers who are or will use offshoring for activities involving materials will face increased operational risk from longer and more variable leadtimes, extended material pipelines and more complicated material flow (e.g., border crossings, shipping capacity issues) (Stalk, 2006). Managers should be prepared to mitigate the effects of potential supply chain disruptions through a number of strategies including: global information systems that provide inventory visibility and timely information, safety stocks and alternate local sources of emergency supply, among others.

Supply chain managers following an offshoring strategy involving materials will most likely face a more complex transportation challenge involving governmental officials from multiple countries, multiple modes of transportation, required international paperwork, banks and more. Managers should identify global third party logistics (3PL) providers that fit their needs and develop 3PL provider partnerships to facilitate global transportation efforts.

Supply chain managers that undertake offshoring must understand that global supply chains are especially vulnerable to disruptions

caused by a myriad of man made and natural disasters. Such supply chain disruptions can devastate corporate performance and profitability (Hendricks and Singhal, 2005). As a result, managers must assess the vulnerability of their global supply chains and help the firm develop disaster plans to mitigate and detect disasters and then respond and recover (Crone, 2006). As part of this effort, managers should maintain a heightened awareness of U.S. security policies that may affect international shipments.

3PL Managers and U.S. Transportation Planners

Outsourcing implications. As U.S. firms increase the scope of supply chain activities outsourced, 3PL managers should consider adding new supply chain activities to their firms' service offerings to broaden their service capabilities (See Table 3). As Harry Sink (2006) reported in a recent *Journal of Transportation Management* issue, 61 percent of the buyers of 3PL services considered "multiple, integrated services provided by a single 3PL" to be the critical differentiating factor in selecting a 3PL service provider.

Respondents indicated that outsourcing growth over the next three years will come primarily from firms that currently outsource. As a result, 3PL managers should use a Market Penetration Strategy—focus on expanding the relationship and service offering with existing customers. 3PL managers should work with existing customers to (1) manage a larger percentage of an activity that is currently outsourced or (2) manage a new activity that is not currently outsourced.

Offshoring implications. As offshoring grows, it will become increasingly important for 3PL firms to have an international capability as part of their service offering. International capability is becoming a critical 3PL competitive factor (Sink, 2006).

As U.S. firms continue to expand offshoring efforts, 3PL managers should continue to

improve Chinese, Indian, Japanese and Western European supply chains to meet existing customer requirements. 3PL managers should be developing new global supply chain capabilities/partnerships to serve low labor cost Asian countries, Mexico, Eastern Europe and South America to meet changing customer needs.

As offshoring to Asia continues to grow (annual container throughput could double in seven years (Crone, 2006)), U.S. transportation planners should focus efforts on increasing U.S. west coast port capacity, expanding containerized cargo handling capabilities and adding rail and road infrastructure to and from ports.

In response to heightened global supply chain security concerns and new U.S. regulations, 3PL managers and U.S. transportation planners should continue to focus efforts on improving and implementing technologies that meet security requirements and increase shipment visibility and flow at border crossings.

CONCLUSION

Caution should be used in applying these results to a larger population because this research was exploratory in nature and the sample size was very small. While the results do not represent all

U.S. firms, they do reflect the outsourcing/offshoring practices and plans of CPO's from 151 U.S. firms.

Over 90 percent of respondents outsource at least one supply chain activity with 4 activities being the median number outsourced. Current outsourcing focuses on logistics and production activities while future outsourcing plans target information systems, human resource management and purchasing activities. Firms are benefitting from outsourcing supply chain activities and over one-third of the firms plan to increase outsourcing spend. Regarding offshoring, 60 percent of firms surveyed are currently outsourcing offshore, and of these firms, 41 percent will increase their offshore spend and over one-quarter of these increases will be greater than 50 percent. Current popular offshoring locations are Southeast Asia, Southern Asia and Western Europe. Future plans target less expensive Southeast Asian countries, Eastern Europe and South America.

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