SYM-AM-16-036

PROCEEDINGS
OF THE
THIRTEENTH ANNUAL ACQUISITION RESEARCH SYMPOSIUM

WEDNESDAY SESSIONS
VOLUME I

Mining for Gold: Developing and Implementing a Strategic Sourcing Prioritization Model for the United States Air Force

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Published April 30, 2016

Approved for public release; distribution is unlimited.

Prepared for the Naval Postgraduate School, Monterey, CA 93943.

The research presented in this report was supported by the Acquisition Research Program of the Graduate School of Business & Public Policy at the Naval Postgraduate School.

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Panel 7. Current Issues in Contracting

Wednesday, May 4, 2016	
1:45 p.m. – 3:15 p.m.	**Chair: Elliott Branch,** Deputy Assistant Secretary of the Navy, Acquisition & Procurement ***Mining for Gold: Developing and Implementing a Strategic Sourcing Prioritization Model for the United States Air Force*** Maj Karen Landale, USAF, Assistant Professor, NPS Roger Westermeyer, Col, USAF (Ret.) Maj John Sharkey Rick Keller Carl Parson MSgt Michael Rankin SSgt Justin Keeney ***An Economic Analysis of the Truth in Negotiations Act (TINA)*** Chong Wang, Associate Professor, NPS Rene Rendon, Associate Professor, NPS 1st Lt Crystal Champion, USAF Capt Meredith Ellen, USAF Capt Jenny Walk, USAF ***Freedom of Market Navigation Versus Duty of Economic Rescue: The U.S. Department of the Navy’s Use of Set-Asides Parity, Discretion, and Simplified Acquisitions to Contract With Hubzone Small Businesses*** Max Kidalov, Assistant Professor, NPS

Mining for Gold: Developing and Implementing a Strategic Sourcing Prioritization Model for the United States Air Force

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Abstract

Strategic sourcing involves aligning the processes and effects of the purchasing and supply management function to the organization’s overall business strategy. Strategic sourcing aims to add value to the organization through enhanced supplier relationships, total ownership cost reduction, and demand management. In the Air Force (AF), the agency charged with implementing strategic sourcing for all installation-level spend is the Air Force Installation Contracting Agency (AFICA). AFICA needed a way to determine which supplies and services represent the best strategic sourcing opportunity—a prioritization model that “digs” through the mountain of spend to find veins of “gold.”

This research develops a spend analysis prioritization model that mirrors those used by the commercial sector. It marries internal AF spend data to external market data to gain a comprehensive view of each supply and service, and its potential as a strategic sourcing opportunity. Ultimately, 1,706 supplies and services are ranked based on their strategic sourcing opportunity score, thus providing a guidepost for AFICA to assign resources to opportunities with the most potential value. Using this new approach, AFICA can combine supplies and services into related categories to more strategically manage related spend, allowing Category Management teams to thoroughly understand demand, underlying costs, and the market.

Introduction

The Air Force Installation Contracting Agency (AFICA) is tasked with “managing and executing above-Wing-level operational acquisition solutions, across the Air Force enterprise” (AFICA, 2016). In years past, strategic sourcing projects were selected using pivot tables that examined the attributes of each federal supply code (FSC) or product service code (PSC).[1] The process involved examining dollars obligated, number of contracts written, number of suppliers, and other basic attributes that were readily available in the data. Projects were also selected based on customer demand, meaning that if a customer felt their project was worthy of being strategically sourced, AFICA (and its predecessor organizations) would dedicate a team to investigate the potential cost and process savings associated with the project and make a decision to proceed or not based on those potential savings. This process is labor-intensive, and AFICA soon realized it must take a more proactive approach to finding new strategic sourcing opportunities in order to more easily find the veins of “gold” hidden in their “mountain” of spend.

The purpose of this research is to discuss the new proactive approach that was designed as a collaborative effort between AFICA/KA (Strategic Plans and Communication Directorate) and the Naval Postgraduate School (NPS). This new approach mirrors the spend analyses that have been performed in industry for decades. It marries internal Air Force (AF) spend data to external market data to gain a comprehensive view of each FSC/PSC and its potential for strategic sourcing. Ultimately, 1,706 FSCs/PSCs are ranked based on their opportunity score, thus providing a guidepost for AFICA to assign resources to FSCs/PSCs with the most potential value.

Using this new approach, AFICA can combine FSCs/PSCs into related categories in order to more strategically manage AF installation spend.[2] Those categories are managed by Category Management teams, whose primary goal is to thoroughly understand the demand, the underlying costs, and the market related to the category in order to properly manage the category’s spend. The value of our research lies in understanding which FSCs/PSCs represent the best strategic sourcing opportunities for the AF in order to properly assign limited resources to exploit potential category savings. We want AF “miners” to “dig” in locations with the highest likelihood of “gold.”

The remainder of this paper proceeds as follows: The next section discusses the growing literature related to strategic sourcing and spend analysis, to include a discussion of the government’s strategic sourcing goals. The Methodology section details the methods we used to create and implement the algorithm that prioritizes the PSCs. The Results section provides results of the algorithm, and the final section concludes the research and discusses next steps.

Literature Review

Purchasing Transformation—Strategic Sourcing in the Commercial Sector

Transformation in the purchasing function began in the commercial sector in the 1990s. As the business world became more global, organizations began looking for new ways to not only compete on a global scale, but also to gain competitive advantages. They soon discovered that a more strategic approach to managing their costs and supply base could reap huge savings, allowing them to produce at lower cost—and often better quality—than their competitors. Purchasing moved from a relatively ignored administrative function, to a more holistic supply management function that aimed to cross organizational boundaries in order to better predict supply needs and deliver better quality goods and services. The tactical function of purchasing was no longer useful in the global marketplace. In its stead came a "more transformational process, performed at higher organizational level … [that] examine[s] the whole supply network, its linkages, and how they impact procurement and purchasing decisions" (Wallace & Xia, 2014). This process is known as strategic sourcing.

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[1] “Also referred to as federal supply codes, product service codes are used by the United States government to describe the products, services, and research and development purchased by the government” (Outreach Systems, 2016). FSCs describe products, while PSCs describe services. We examine both in our analysis.

[2] While this research examines all AF spend data—installation and weapon system—we are only interested in finding strategic sourcing opportunities in the installation portion of the data.

Strategic sourcing was developed to better align the mission of the supply management function to the organization's overall business strategy. In short, strategic sourcing aims to add value to the organization through enhanced supplier relationships, reduced total ownership costs, and demand management. Dwyer and Limberakis (2011) identify organizations that are Best-in-Class strategic sourcing performers using the following criteria: (1) spend under the management of the procurement group, (2) procurement contract compliance, and (3) realized/implemented cost savings (p. 2). In their study of 315 companies across the globe, they found that Best-in-Class performers achieved

- 37% higher spend under management
- 72% higher contract compliance
- 52% higher realized/implemented cost savings

Clearly, implementing strategic sourcing can vastly improve the purchasing and supply management function. So why haven't all procurement organizations implemented a strategic sourcing process? Most find it difficult to get past the very first step.

Spend Analysis

Laseter's (1998) Balanced Sourcing Model involves seven steps: (1) spend analysis, (2) industry analysis, (3) cost/performance analysis, (4) supplier role analysis, (5) business process reintegration, (6) savings quantification, and (7) implementation. This research focuses mainly on Step 1, the purpose of which is to understand the organization's historical spend patterns by examining them from many different angles. We also touch briefly on Step 2, as external market data is critical to developing a sound sourcing strategy. Many regard spend analysis as the most difficult step in the strategic sourcing process (RAND, 2004; Handfield, 2006; Pandit & Marmanis, 2008). It takes the longest amount of time to implement and it requires a team of persistent researchers who are willing to diligently track down the disparate data required to truly understand the organization's history of spend (or "profile") in the category. Even after the data are aligned, they are often not readily analyzable, that is, they require a large amount of cleaning to achieve accurate results. Take Handfield's (2006) bleak assessment:

> Be careful! Doing a spend analysis can in some cases mean diving into a black hole. In about 80 percent of the companies we interviewed, an initial venture into spending analysis proved to be a data nightmare. For example, many companies found that their spend analyses were tracked using Excel spreadsheets. (p. 110)

Despite these difficulties, all agree that the spend analysis is the most critical step, as all subsequent steps rely on the information gathered therein.

> Although such an analysis can be time-consuming and labor-intensive, private enterprises have found that without a spend analysis it is difficult to

> identify prospective targets for applying better [purchasing and supply management] practices, develop supply strategies for specific commodities, select the best suppliers, manage suppliers in a way to maximize rewards and minimize risks, and convince all senior leadership of the need to shift to best [purchasing and supply management] practices and of the need for resources for the shift. (RAND, 2004, p. 7)

Naturally, an organization must first understand its history of spend in a given supply or service in order to make decisions to improve sourcing. “Spend analysis is the starting point of strategic sourcing and creates the foundation for spend visibility, compliance, and control” (Pandit & Marmanis, 2008, p. 5). A spend analysis “can help enterprises improve their purchasing practices in the areas where they are likely to produce the greatest benefits” (RAND, 2004, p. vii). Once an organization understands their spend history, they can develop ways to reduce or aggregate demand, rationalize suppliers to the optimal number, achieve volume discounts by leveraging spend, develop methods to improve supplier performance, and minimize transaction costs. In short, strategic sourcing cannot happen without first conducting a spend analysis.

A spend analysis begins with the collection of data. For most organizations new to spend analysis, this often involves consolidating data across several different databases, as few organizations have their data organized at the corporate level. Data consolidation is often a cumbersome process—data fields do not match perfectly, making them difficult to combine into a rich set of data that contains all the information needed for a spend analysis.[3] Once the data have been collected and consolidated, the next step in the spend analysis is to identify opportunities for strategic sourcing.

Opportunity Assessment

Handfield (2006) defines an opportunity as supplies or services that have “a reasonable possibility of adding more value,” with value coming in the form of time, money, and/or quality (p. 54). Therefore strategic sourcing opportunities are those that can save the organization time and/or money while maintaining or increasing quality.

Spend-level opportunities can be identified by examining as many of the following variables as possible (Pandit & Marmanis, 2008):[4]

- Number of vendors per supply or service (known as vendor fragmentation)
- Number of purchasing offices per supplier
- Number of contracts across purchasing offices
- Number of purchases from preferred/non-preferred suppliers

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[3] The ideal spend analysis application contains components that allow for data definition and loading, data enrichment, spend data analytics, and knowledgebase management (Pandit & Marmanis, 2008).

[4] Notably, not all of these variables are available in AF’s spend data. However, many of these variables were used in the RAND (2004) report that uses spend analysis to identify strategic sourcing opportunities for the AF. Their report focuses on all AF spend, and the results point to achieving more value in weapon systems spend. Our research focuses on where to achieve more value using only *installation* spend data.

- Diversity spend compliance (known as socio-economic factors in the government)
- Amount of spend with suppliers with good performance/bad performance

Each of the variables should be examined for each supply or service. Then, once the information has been unraveled at the lowest possible level, aggregation into appropriate categories can occur. Once aggregated, categories can be scored to show which present the best opportunities for strategic sourcing. Clearly, those with the largest potential for savings with the easiest implementation should be the top priority. Pandit and Marmanis (2008, p. 81) use an "implementation wave" analogy to determine which opportunities to address first, shown in Figure 1.

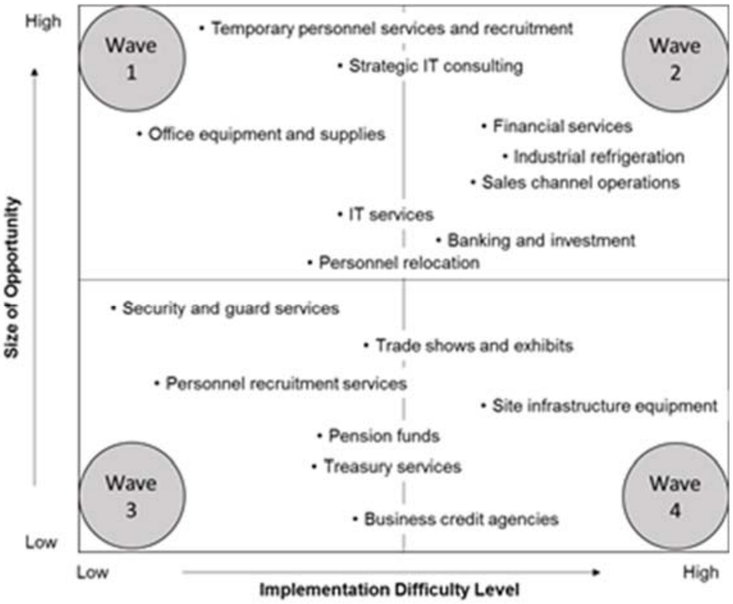
High
Wave 1
• Temporary personnel services and recruitment
• Strategic IT consulting
Wave 2
• Office equipment and supplies
• Financial services
• Industrial refrigeration
• Sales channel operations
• IT services
• Banking and investment
• Personnel relocation
Size of Opportunity
• Security and guard services
• Trade shows and exhibits
• Personnel recruitment services
• Site infrastructure equipment
• Pension funds
• Treasury services
Wave 3
• Business credit agencies
Wave 4
Low
Low
High
Implementation Difficulty Level

Figure 1. Opportunity Implementation Wave
(Pandit & Marmanis, 2008)

Opportunity assessment does not stop after all the internal spend analysis has been completed. Instead, the internal data are married to external data (Step 2 in Laseter's model) that addresses the market conditions associated with the supply or service. "A spend analysis integrates internal spend data and external supplier and market data and applies analytical techniques to help identify risks and opportunities for performance improvements and savings by applying best practices in purchasing and supply management" (RAND, 2004, p. 8). Using internal and external data, the most viable strategic sourcing opportunities are identified, cross-functional teams are created to further develop the profile of the category (i.e., develop cost/time savings and demand management estimates), and the process continues through the remainder of Laseter's (1998) model.

Purchasing Transformation—Strategic Sourcing in the Federal Government

The Federal government began the purchasing transformation in the early 2000s. In 2003, then-principal deputy under secretary for acquisition, technology, and logistics (USD/AT&L), Michael W. Wynne, challenged the DoD to make improvements to the acquisition process by generating value-added changes (Rendon, 2005). In 2004, then-director of defense procurement and acquisition policy, Deidre Lee, noted that "strategic sourcing and commodity councils [are] procurement processes that are designed so more could be done with less by migrating large contracts to regional centers and consolidating like services" (Rendon, 2005, p. 13). The Office of Management and Budget (OMB) issued a memorandum to all Chief Acquisition Officers, Chief Financial Officers, and Chief Information Officers to "leverage spending to the maximum extent possible through strategic sourcing" (OMB, 2005, p. 1). Agencies were expected to develop strategic sourcing governance, goals and objectives, performance measures, and communication and training strategies to begin implementing strategic sourcing.

In response to these calls to action, the AF began the process of strategic sourcing in 2003 with the advent of the Information Technology Commodity Council. This commodity council was charged with standardizing the computers available to AF units while reducing spend. To do that, they developed three computer configurations that were available for purchase and negotiated a deal with Dell Computers for 12,500 computers. The savings from this deal allowed the AF to purchase 2,500 more computers than planned for in the initial procurement (Rendon, 2005).

With its first success under its belt, the AF created the Enterprise Sourcing Squadron (ESS) in 2010. Along with other responsibilities, the squadron was tasked with finding more opportunities for strategic sourcing. ESS later became the Enterprise Sourcing Group (ESG) and in 2013, the AFICA. During that timeframe, the OMB issued another memorandum that provided more detailed strategic sourcing guidance to the agencies, including the designation of Strategic Sourcing Accountable Officials, an Interagency Strategic Sourcing Leadership Council, and identification of the characteristics that all government-wide strategic sourcing vehicles should have (OMB, 2012). Using this guidance, agencies have been working hard to establish their strategic sourcing programs.

The AFICA currently has six commodity councils under its purview, including: Information Technology, Medical Services, Furnishings, Force Protection, Civil Engineering, and Knowledge Based Services (U.S. Air Force, n.d.). While these councils have been successful at managing demand, reducing costs, and improving quality, the organization must constantly search for the next supply or service to strategically source. The AF is a very large buyer, purchasing an average of $59.8 billion in supplies or services annually.

A 2012 GAO report found that as of fiscal year 2011, the DoD, the Department of Homeland Security, the Department of Energy, and Veterans Affairs—which collectively account for 80% of federal procurement spending—spent only 5% of their funding using strategic sourcing techniques (p. 7).[5] In defense of these organizations, spend analysis is a difficult and time-consuming process, made worse by the fact that the data required to conduct spend analyses exist in many different systems that are not linked for easy consolidation. Further, most federal agencies lack the required employee expertise to lead strategic sourcing efforts.

Despite these limitations, the AF is the leading strategic sourcing organization in the DoD (Defense Procurement & Acquisition Policy, n.d.). Recognizing the need to identify installation-level strategic sourcing opportunities by conducting a thorough spend analysis,

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[5] The DoD was just slightly better than the average among the four departments, with 5.8% of spend via strategic sourcing. AF efforts in FY11 account for 3.7% of spend via strategic sourcing, which is higher than any other military service component.

AFICA partnered with NPS to develop a strategic sourcing prioritization model. We detail the methods used to develop and implement the model in the next section.

Methodology

Data

Our analysis uses five years of data (FY2010–FY2014) from the Federal Procurement Data System–Next Generation (FPDS–NG). Data held in this system are input via DD350s–Individual Contract Action Reports (CARs), and consist of 699,522 cases.[6]

Although the data were readily available to us, they did not come without limitations. AF spend data is not particularly “clean”—there are known problems related to user input. The system relies on input from several thousand users—that alone increases the potential for input error. Further, many of those doing the inputting do not know what ultimately happens with the data, therefore they have little incentive to be perfectly correct with their input.

Another limitation of the data is that it is not as comprehensive as we would like it to be, another typical problem with research-related empirical data. FPDS–NG does not currently capture all the fields needed to perform the most rigorous spend analysis possible. See RAND (2004) for a detailed assessment of the issues related to AF spend data.

While we recognize our data are not perfect, using it is far better than continuing to rely on a reactive approach to strategic sourcing. Thus we proceeded with the research, which involved two overarching steps: (1) creating the prioritization algorithm that uses internal spend data to determine which FSCs/PSCs have the most potential for strategic sourcing, and (2) matching the related external market data to those FSCs/PSCs to further assess strategic sourcing viability.

Prioritization Model

The prioritization model was created by (1) culling the data for variables most useful for conducting a spend analysis, and (2) assigning weights to select for the variables we feel are most important. We discuss each of these steps in detail.

Selecting Variables

FPDS–NG contains more than 250 variables. To be parsimonious, we trimmed the number of factors to the seven available in the data that are most similar to those used by the private sectors to perform their spend analyses, and those we believe have the highest reliability.[7] Those seven variables are: (1) number of contracts, (2) number of suppliers, (3) number of purchasing offices, (4) number of offers received, (5) total obligated dollar amount, (6) contracts per time period, and (7) number of AF major commands (MAJCOMs) that purchased the supply or service.

The first variable, number of contracts, assesses how many times in the last five years a contract action has been performed to purchase the supply or service. The larger the number of contracts, the higher potential that a strategic sourcing opportunity exists to gain volume discounts and reduce transaction costs by consolidating purchases.

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[6] In this case, a case is a contract action.

[7] In this case, reliability refers to the likelihood that the data were input correctly—that the user filled out the DD350 correctly and/or that the system generates the input automatically, thus reducing input error.

The second variable, number of suppliers, assesses how many suppliers the AF uses to purchase the supply or service. The larger the number of suppliers, the higher potential that a strategic sourcing opportunity exists, as strategic sourcing involves rationalizing the supply base to the appropriate number of suppliers to match the value and risk profile for the supply or service.[8]

Number of purchasing offices, the third variable, assesses how many different contracting organizations purchased the supply or service over the last five years—it assesses the commonality of the requirement. The larger the number of purchasing offices, the higher potential that a strategic sourcing opportunity exists, as consolidating purchases for the supply or service allows the AF to leverage their strength as an enterprise (e.g., volume discounts, valuable customer benefits, etc.), rather than appearing as dozens of smaller customers (i.e., individual purchasing offices) to the suppliers.

The fourth variable, number of offers, assesses the level of competition received in the last five years. The larger the number of offers, the higher competition there appears to be in the market. Higher competition indicates the buyer has more power over suppliers, which equates to higher potential that a strategic sourcing opportunity exists.

The fifth variable, total obligated dollar amount, is a simple additive total of the spend for each FSC/PSC over the last five years. Naturally, the more the AF spends on a particular supply or service, the more interested the organization is in getting that spend under management, i.e., the more interested they are in strategically sourcing the supply or service to reap cost and process savings.

The sixth variable, contracts per time period, is an estimate of the trend in purchases for the supply or service. We examine whether the number of contracts is increasing, decreasing, or remaining relatively unchanged over the five-year period. Clearly, an increasing trend indicates that the AF should consider strategically sourcing the supply or service. Unlike the other variables, this variable received binary coding, where an increasing trend received a score of 1, and a decreasing or unchanged trend received a score of 0.

Finally, the seventh variable, number of MAJCOMs that purchased the supply or service, assesses the universality of the supply or service. In other words, are all MAJCOMs purchasing the supply or service, or is it only being purchased by a certain subset of the MAJCOMs? For instance, consider transient alert services. This service is only used for bases with flight lines, which may limit the MAJCOMs who purchase the service to Air Combat Command, Air Mobility Command, and Air Force Education and Training Command. Using this variable, we are attempting to assess if strategically sourcing the supply or service should be handled at the enterprise-level (AFICA) or at the MAJCOM-level.

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[8] We recognize that an extremely small number of suppliers is also cause to strategically source, as the AF would benefit from developing closer relationships with critical suppliers who have little competition in their markets. In our data, we found that FSCs/PSCs with extremely small numbers of suppliers related mostly to weapon systems spend. Because we are focusing on installation-level spend, we assume that the larger the number of suppliers, the better potential strategic sourcing opportunity.

Before weighting, our prioritization algorithm is given in Equation 1.

$$FSC/PSC\ Score = \#Contracts + \#Suppliers + \#PurchOffices + \#Offers + \$Obligated + Trend + \#MAJCOM \tag{1}$$

Weighting Variables

We recognize that each variable does not have equal influence in determining the overall prioritization score for the PSC. Some variables matter more than others. We used a group of subject matter experts to discuss and assign weights to each variable. After weighting, our prioritization algorithm is given in Equation 2.

$$FSC/PSC\ Score = .20(\#Contracts) + .20(\#Suppliers) + .20(\#PurchOffices) + .15(\#Offers) + .12(\$Obligated) + .08(Trend) + .05(\#MAJCOM) \tag{2}$$

When summed, the weights total to 1.00, or, in terms of percentages, 100%. Number of contracts, number of suppliers, and number of purchasing offices are the highest weighted variables, each receiving a weight of .20, or 20%. The subject matter experts weighted these variables heaviest because they are common variables used by industry experts to examine commercial spend for strategic sourcing opportunities. Number of offers received a weight of .15, or 15%. Existence of competition is important as it signals the AF's ability to leverage its large buying power to get a better deal.

Total dollars obligated received a weight of .12, or 12%. Some readers might find it odd that total spend for the supply or service received a relatively smaller weight. This decision was made purposefully, in recognition that high spend does not necessarily mean higher potential for a strategic sourcing. Some high-spend categories may already be operating on thin margins—the savings have already been sifted out. It is important to note that we do not simply ignore high-spend supplies and services. We take special measure to include those FSCs/PSCs in the opportunity assessment, which is discussed later.

The lowest weighted categories took the least precedence for identifying a potential strategic sourcing opportunity in the eyes of our subject matter experts. Trend received a weight of .08, or 8%, and number of MAJCOMs received a weight of .05, or 5%.

Applying the Weights

Each FSC/PSC was given a point score on each variable that could not exceed the weight. In other words, the FSC/PSC with the largest number of contracts received the full weight: .20. The FSC/PSC with the next larger number of contracts received less than the full weight, a decrease equal to the proportional decrease in the number of contracts. For example, FSC 7030, ADP Software, had the highest number of contracts. It received a score of .20 points. The next highest number of contracts belongs to FSC 7110, Office Furniture. It received a score of .1209 points. This scoring method was performed for each variable, with the total points available for each variable equal to the weight for the variable. If a FSC/PSC were to score the max on each of the variables, its overall score would be 1.00; thus the closer to 1.00 in overall score, the higher potential that a strategic sourcing opportunity exists.

Once the weights were applied to each variable, the points were summed for each FSC/PSC, creating a total score for each FSC/PSC. Those FSCs/PSCs with the highest scores are considered the highest potential strategic sourcing opportunities. Finally, external market data were matched with the highest scoring FSCs/PSCs to complete the spend analysis.

Results

We examined the weighted total scores from two different angles: total score and total spend. Using this method, we capture FSCs/PSCs that scored highly using the algorithm as well as FSCs/PSCs that may not have scored highly in the algorithm, but represent a substantial amount of spend. This method simultaneously recognizes that spend may not necessarily be the most important variable (hence the lower weighting in the algorithm), but it is still an important factor in spend analysis.

First, with the FSCs/PSCs ranked by *total score*, we asked the following questions:

- Which FSCs/PSCs have the highest overall scores?
- How much spend is accounted for in the top 100 FSCs/PSCs?
- How many FSCs/PSCs account for 80% of the total spend?

Table 1 shows the top 40 FSCs/PSCs based on overall score. The top 100 FSCs/PSCs account for 64% of total spend. When ranked by algorithm score, it takes 281 FSCs/PSCs to account for 80% of the total spend. Second, with the FSCs/PSCs ranked by *total obligation*, we asked the following questions:

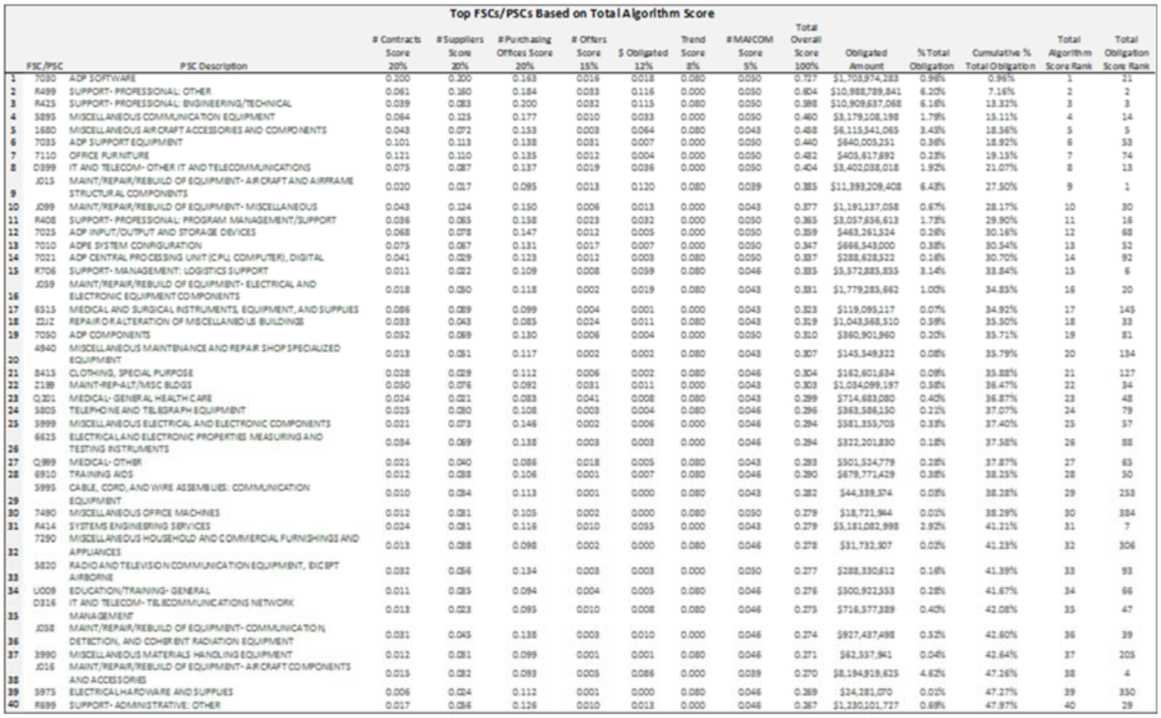
- Which FSCs/PSCs have the highest total obligation (spend)?
- How many FSCs/PSCs account for 80% of the total spend?

Table 2 shows the top 40 FSCs/PSCs based on total obligation. The top 67 FSCs/PSCs account for 80% of the total spend.

Because we wanted to focus on a smaller subset of FSCs/PSCs (not the full 1,706 FSCs/PSCs), we chose to use the 67 FSCs/PSCs that account for 80% of the spend. We selected the top 67 FSCs/PSCs based on total algorithm score and the top 67 FSCs/PSCs based on total spend score. Thirty-two of the FSCs/PSCs were duplicates—there were a total of 102 unique FSCs/PSCs that fell into the top 67 in each category (total algorithm score and total spend).

Next, we performed an analysis to see how many FSCs/PSCs scored in the top 67 across the algorithm variables. We sorted the data by each algorithm variable and selected the top 67 FSCs/PSCs for each variable. Note that we did not include two variables in this analysis: Trend and Number of MAJCOMs. These variables do not discriminate well across FSCs/PSCs, so they were not useful in this analysis. When lined up next to each other, we were able to determine how many times a specific FSC/PSC scored in the top 67. Naturally, the more times an FSC/PSC scored “high” (i.e., in the top 67), the more potential it has as a strategic sourcing opportunity. See Table 3 for the results. Table 3 highlights how many times an FSC/PSC scored in the top 67. The table shows many blue- and green-shaded FSCs/PSCs. That indicates that many FSCs/PSCs scored in the top 67 across four or more variables in the algorithm. That is a positive indication that the model is identifying the FSCs/PSCs with the highest potential for strategic sourcing.

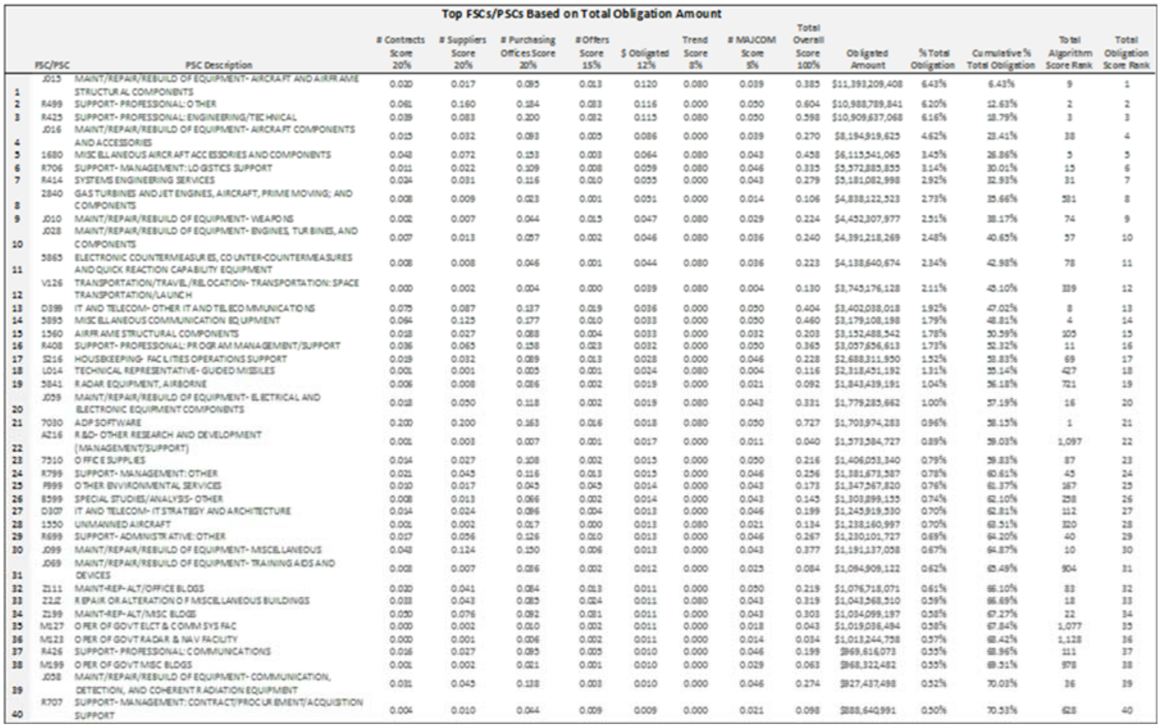
Table 1. Top FSCs/PSCs Based on Total Algorithm Score



Top FSCs/PSCs Based on Total Algorithm Score

	FSC/PSC	PSC Description	# Contracts Score 20%	# Suppliers Score 20%	# Purchasing Offices Score 20%	# Offers Score 15%	$ Obligated 12%	Trend Score 8%	# MAJCOM Score 5%	Total Overall Score 100%	Obligated Amount	% Total Obligation	Cumulative % Total Obligation	Total Algorithm Score Rank	Total Obligation Score Rank
1	7030	ADP SOFTWARE	0.200	0.200	0.163	0.016	0.018	0.080	0.050	0.727	$1,703,974,283	0.96%	0.96%	1	21
2	R499	SUPPORT- PROFESSIONAL: OTHER	0.061	0.160	0.184	0.033	0.116	0.000	0.050	0.604	$10,988,789,841	6.20%	7.16%	2	2
3	R425	SUPPORT- PROFESSIONAL: ENGINEERING/TECHNICAL	0.039	0.083	0.200	0.032	0.115	0.080	0.050	0.598	$10,909,637,068	6.16%	13.32%	3	3
4	5895	MISCELLANEOUS COMMUNICATION EQUIPMENT	0.064	0.125	0.177	0.010	0.033	0.000	0.050	0.460	$3,179,108,198	1.79%	15.11%	4	14
5	1680	MISCELLANEOUS AIRCRAFT ACCESSORIES AND COMPONENTS	0.043	0.072	0.153	0.003	0.064	0.080	0.043	0.458	$6,115,541,065	3.45%	18.56%	5	5
6	7035	ADP SUPPORT EQUIPMENT	0.101	0.113	0.138	0.031	0.007	0.000	0.050	0.440	$640,005,251	0.36%	18.92%	6	53
7	7110	OFFICE FURNITURE	0.121	0.110	0.135	0.012	0.004	0.000	0.050	0.432	$405,617,692	0.23%	19.15%	7	74
8	D399	IT AND TELECOM- OTHER IT AND TELECOMMUNICATIONS	0.075	0.087	0.137	0.019	0.036	0.000	0.050	0.404	$3,402,038,018	1.92%	21.07%	8	13
9	J015	MAINT/REPAIR/REBUILD OF EQUIPMENT- AIRCRAFT AND AIRFRAME STRUCTURAL COMPONENTS	0.020	0.017	0.095	0.013	0.120	0.080	0.039	0.385	$11,393,209,408	6.43%	27.50%	9	1
10	J099	MAINT/REPAIR/REBUILD OF EQUIPMENT- MISCELLANEOUS	0.043	0.124	0.150	0.006	0.013	0.000	0.043	0.377	$1,191,137,058	0.67%	28.17%	10	30
11	R408	SUPPORT- PROFESSIONAL: PROGRAM MANAGEMENT/SUPPORT	0.036	0.065	0.158	0.023	0.032	0.000	0.050	0.365	$3,057,656,613	1.73%	29.90%	11	16
12	7025	ADP INPUT/OUTPUT AND STORAGE DEVICES	0.068	0.078	0.147	0.012	0.005	0.000	0.050	0.359	$463,261,524	0.26%	30.16%	12	68
13	7010	ADPE SYSTEM CONFIGURATION	0.075	0.067	0.131	0.017	0.007	0.000	0.050	0.347	$666,543,000	0.38%	30.54%	13	52
14	7021	ADP CENTRAL PROCESSING UNIT (CPU, COMPUTER), DIGITAL	0.041	0.029	0.123	0.012	0.003	0.080	0.050	0.337	$288,628,522	0.16%	30.70%	14	92
15	R706	SUPPORT- MANAGEMENT: LOGISTICS SUPPORT	0.011	0.022	0.109	0.008	0.059	0.080	0.046	0.335	$5,572,885,855	3.14%	33.84%	15	6
16	J059	MAINT/REPAIR/REBUILD OF EQUIPMENT- ELECTRICAL AND ELECTRONIC EQUIPMENT COMPONENTS	0.018	0.050	0.118	0.002	0.019	0.080	0.043	0.331	$1,779,285,662	1.00%	34.85%	16	20
17	6515	MEDICAL AND SURGICAL INSTRUMENTS, EQUIPMENT, AND SUPPLIES	0.086	0.089	0.099	0.004	0.001	0.000	0.043	0.323	$119,095,117	0.07%	34.92%	17	145
18	Z2JZ	REPAIR OR ALTERATION OF MISCELLANEOUS BUILDINGS	0.033	0.043	0.085	0.024	0.011	0.080	0.043	0.319	$1,043,568,510	0.59%	35.50%	18	33
19	7050	ADP COMPONENTS	0.052	0.069	0.130	0.006	0.004	0.000	0.050	0.310	$360,901,960	0.20%	35.71%	19	81
20	4940	MISCELLANEOUS MAINTENANCE AND REPAIR SHOP SPECIALIZED EQUIPMENT	0.013	0.051	0.117	0.002	0.002	0.080	0.043	0.307	$145,549,322	0.08%	35.79%	20	134
21	8415	CLOTHING, SPECIAL PURPOSE	0.028	0.029	0.112	0.006	0.002	0.080	0.046	0.304	$162,601,634	0.09%	35.88%	21	127
22	Z199	MAINT-REP-ALT/MISC BLDGS	0.030	0.076	0.092	0.031	0.011	0.000	0.043	0.303	$1,034,099,197	0.58%	36.47%	22	34
23	Q201	MEDICAL- GENERAL HEALTH CARE	0.024	0.021	0.083	0.041	0.008	0.080	0.043	0.299	$714,683,080	0.40%	36.87%	23	48
24	5805	TELEPHONE AND TELEGRAPH EQUIPMENT	0.025	0.030	0.108	0.003	0.004	0.080	0.046	0.296	$363,586,150	0.21%	37.07%	24	79
25	5999	MISCELLANEOUS ELECTRICAL AND ELECTRONIC COMPONENTS	0.021	0.073	0.146	0.002	0.006	0.000	0.046	0.294	$581,355,705	0.33%	37.40%	25	57
26	6625	ELECTRICAL AND ELECTRONIC PROPERTIES MEASURING AND TESTING INSTRUMENTS	0.034	0.069	0.138	0.003	0.003	0.000	0.046	0.294	$322,201,830	0.18%	37.58%	26	88
27	Q999	MEDICAL- OTHER	0.021	0.040	0.086	0.018	0.005	0.080	0.043	0.293	$501,524,779	0.28%	37.87%	27	63
28	6910	TRAINING AIDS	0.012	0.038	0.106	0.001	0.007	0.080	0.046	0.290	$679,771,429	0.38%	38.25%	28	50
29	5995	CABLE, CORD, AND WIRE ASSEMBLIES: COMMUNICATION EQUIPMENT	0.010	0.084	0.113	0.001	0.000	0.080	0.043	0.282	$44,339,374	0.03%	38.28%	29	253
30	7490	MISCELLANEOUS OFFICE MACHINES	0.012	0.031	0.105	0.002	0.000	0.080	0.050	0.279	$18,721,944	0.01%	38.29%	30	384
31	R414	SYSTEMS ENGINEERING SERVICES	0.024	0.031	0.116	0.010	0.055	0.000	0.043	0.279	$5,181,082,998	2.92%	41.21%	31	7
32	7290	MISCELLANEOUS HOUSEHOLD AND COMMERCIAL FURNISHINGS AND APPLIANCES	0.013	0.038	0.098	0.002	0.000	0.080	0.046	0.278	$31,732,307	0.02%	41.23%	32	306
33	5820	RADIO AND TELEVISION COMMUNICATION EQUIPMENT, EXCEPT AIRBORNE	0.032	0.056	0.134	0.003	0.003	0.000	0.050	0.277	$288,330,612	0.16%	41.39%	33	93
34	U009	EDUCATION/TRAINING- GENERAL	0.011	0.035	0.094	0.004	0.005	0.080	0.046	0.276	$500,922,553	0.28%	41.67%	34	66
35	D316	IT AND TELECOM- TELECOMMUNICATIONS NETWORK MANAGEMENT	0.013	0.023	0.095	0.010	0.008	0.080	0.046	0.275	$716,577,389	0.40%	42.08%	35	47
36	J058	MAINT/REPAIR/REBUILD OF EQUIPMENT- COMMUNICATION, DETECTION, AND COHERENT RADIATION EQUIPMENT	0.031	0.045	0.138	0.003	0.010	0.000	0.046	0.274	$927,437,498	0.52%	42.60%	36	39
37	3990	MISCELLANEOUS MATERIALS HANDLING EQUIPMENT	0.012	0.031	0.099	0.001	0.001	0.080	0.046	0.271	$62,557,941	0.04%	42.64%	37	205
38	J016	MAINT/REPAIR/REBUILD OF EQUIPMENT- AIRCRAFT COMPONENTS AND ACCESSORIES	0.015	0.032	0.093	0.005	0.086	0.000	0.039	0.270	$8,194,919,625	4.62%	47.26%	38	4
39	5975	ELECTRICAL HARDWARE AND SUPPLIES	0.006	0.024	0.112	0.001	0.000	0.080	0.046	0.269	$24,281,070	0.01%	47.27%	39	350
40	R699	SUPPORT- ADMINISTRATIVE: OTHER	0.017	0.056	0.126	0.010	0.013	0.000	0.046	0.267	$1,230,101,727	0.69%	47.97%	40	29

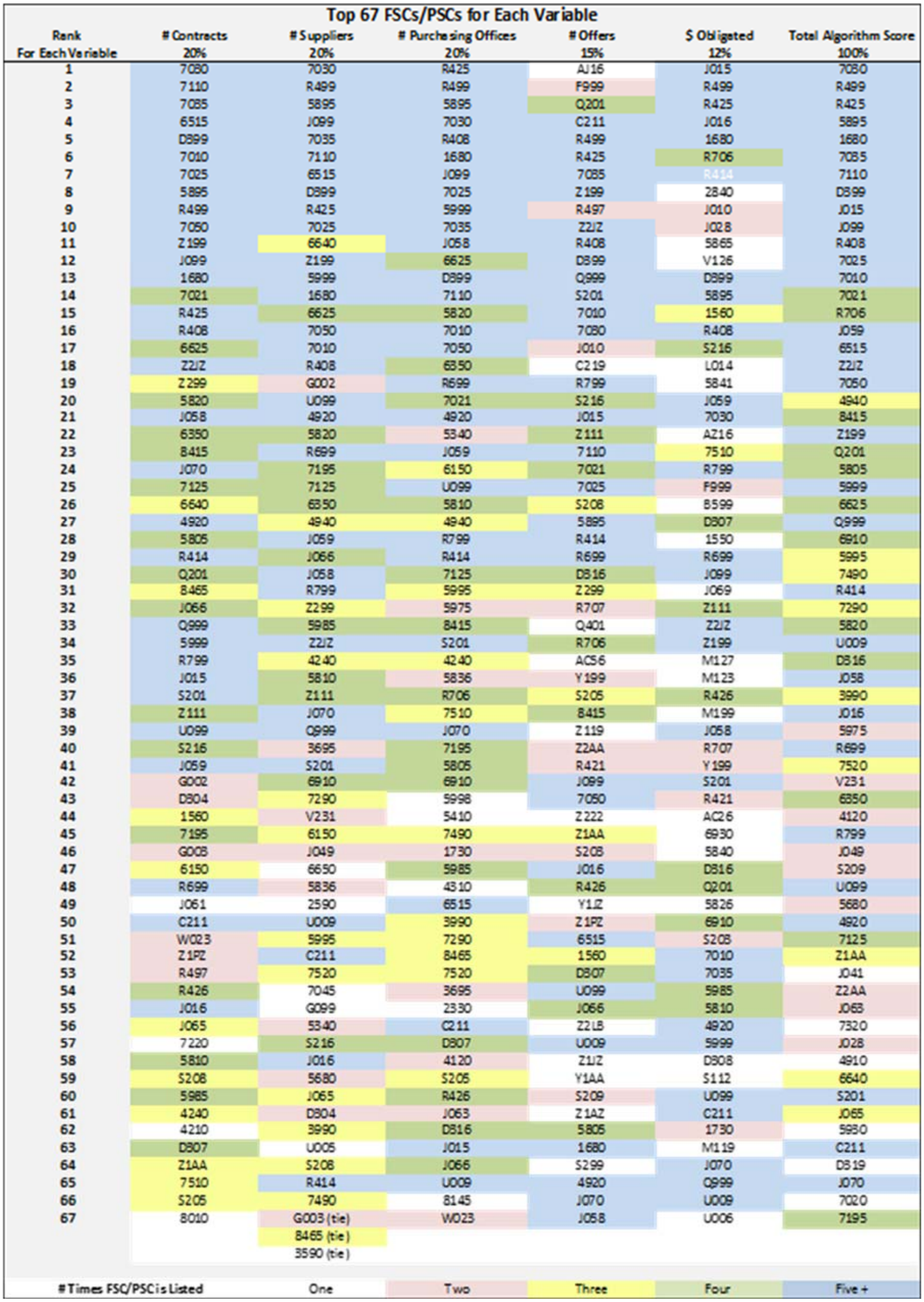
Table 2. Top FSCs/PSCs Based on Total Obligation Amount



Top FSCs/PSCs Based on Total Obligation Amount

	FSC/PSC	PSC Description	# Contracts Score 20%	# Suppliers Score 20%	# Purchasing Offices Score 20%	# Offers Score 15%	$ Obligated 12%	Trend Score 8%	# MAJCOM Score 5%	Total Overall Score 100%	Obligated Amount	% Total Obligation	Cumulative % Total Obligation	Total Algorithm Score Rank	Total Obligation Score Rank
1	J015	MAINT/REPAIR/REBUILD OF EQUIPMENT- AIRCRAFT AND AIRFRAME STRUCTURAL COMPONENTS	0.020	0.017	0.095	0.013	0.120	0.080	0.039	0.385	$11,393,209,408	6.43%	6.43%	9	1
2	R499	SUPPORT- PROFESSIONAL: OTHER	0.061	0.160	0.184	0.033	0.116	0.000	0.050	0.604	$10,988,789,841	6.20%	12.63%	2	2
3	R425	SUPPORT- PROFESSIONAL: ENGINEERING/TECHNICAL	0.039	0.083	0.200	0.032	0.115	0.080	0.050	0.598	$10,909,637,068	6.16%	18.79%	3	3
4	J016	MAINT/REPAIR/REBUILD OF EQUIPMENT- AIRCRAFT COMPONENTS AND ACCESSORIES	0.015	0.032	0.093	0.005	0.086	0.000	0.039	0.270	$8,194,919,625	4.62%	23.41%	38	4
5	1680	MISCELLANEOUS AIRCRAFT ACCESSORIES AND COMPONENTS	0.043	0.072	0.153	0.003	0.064	0.080	0.043	0.458	$6,115,541,065	3.45%	26.86%	5	5
6	R706	SUPPORT- MANAGEMENT: LOGISTICS SUPPORT	0.011	0.022	0.109	0.008	0.059	0.080	0.046	0.335	$5,572,885,855	3.14%	30.01%	15	6
7	R414	SYSTEMS ENGINEERING SERVICES	0.024	0.031	0.116	0.010	0.055	0.000	0.043	0.279	$5,181,082,998	2.92%	32.93%	31	7
8	2840	GAS TURBINES AND JET ENGINES, AIRCRAFT, PRIME MOVING; AND COMPONENTS	0.008	0.009	0.023	0.001	0.051	0.000	0.014	0.106	$4,838,122,523	2.73%	35.66%	581	8
9	J010	MAINT/REPAIR/REBUILD OF EQUIPMENT- WEAPONS	0.002	0.007	0.044	0.015	0.047	0.080	0.029	0.224	$4,452,307,977	2.51%	38.17%	74	9
10	J028	MAINT/REPAIR/REBUILD OF EQUIPMENT- ENGINES, TURBINES, AND COMPONENTS	0.007	0.013	0.057	0.002	0.046	0.080	0.036	0.240	$4,391,218,269	2.48%	40.65%	57	10
11	5865	ELECTRONIC COUNTERMEASURES, COUNTER-COUNTERMEASURES AND QUICK REACTION CAPABILITY EQUIPMENT	0.008	0.008	0.046	0.001	0.044	0.080	0.036	0.223	$4,138,640,674	2.34%	42.98%	78	11
12	V126	TRANSPORTATION/TRAVEL/RELOCATION- TRANSPORTATION: SPACE TRANSPORTATION/LAUNCH	0.000	0.002	0.004	0.000	0.039	0.080	0.004	0.130	$3,745,176,128	2.11%	45.10%	339	12
13	D399	IT AND TELECOM- OTHER IT AND TELECOMMUNICATIONS	0.075	0.087	0.137	0.019	0.036	0.000	0.050	0.404	$3,402,038,018	1.92%	47.02%	8	13
14	5895	MISCELLANEOUS COMMUNICATION EQUIPMENT	0.064	0.125	0.177	0.010	0.033	0.000	0.050	0.460	$3,179,108,198	1.79%	48.81%	4	14
15	1560	AIRFRAME STRUCTURAL COMPONENTS	0.018	0.027	0.088	0.004	0.033	0.000	0.032	0.203	$3,152,488,542	1.78%	50.59%	105	15
16	R408	SUPPORT- PROFESSIONAL: PROGRAM MANAGEMENT/SUPPORT	0.036	0.065	0.158	0.023	0.032	0.000	0.050	0.365	$3,057,656,613	1.73%	52.32%	11	16
17	S216	HOUSEKEEPING- FACILITIES OPERATIONS SUPPORT	0.019	0.032	0.089	0.013	0.028	0.000	0.046	0.228	$2,688,311,950	1.52%	53.83%	69	17
18	L014	TECHNICAL REPRESENTATIVE- GUIDED MISSILES	0.001	0.001	0.005	0.001	0.024	0.080	0.004	0.116	$2,318,451,192	1.31%	55.14%	427	18
19	5841	RADAR EQUIPMENT, AIRBORNE	0.006	0.008	0.036	0.002	0.019	0.000	0.021	0.092	$1,843,439,191	1.04%	56.18%	721	19
20	J059	MAINT/REPAIR/REBUILD OF EQUIPMENT- ELECTRICAL AND ELECTRONIC EQUIPMENT COMPONENTS	0.018	0.050	0.118	0.002	0.019	0.080	0.043	0.331	$1,779,285,662	1.00%	57.19%	16	20
21	7030	ADP SOFTWARE	0.200	0.200	0.163	0.016	0.018	0.080	0.050	0.727	$1,703,974,283	0.96%	58.15%	1	21
22	AZ16	R&D- OTHER RESEARCH AND DEVELOPMENT (MANAGEMENT/SUPPORT)	0.001	0.003	0.007	0.001	0.017	0.000	0.011	0.040	$1,573,584,727	0.89%	59.03%	1,097	22
23	7510	OFFICE SUPPLIES	0.014	0.027	0.108	0.002	0.015	0.000	0.050	0.216	$1,406,053,340	0.79%	59.83%	87	23
24	R799	SUPPORT- MANAGEMENT: OTHER	0.021	0.045	0.116	0.013	0.015	0.000	0.046	0.256	$1,381,673,587	0.78%	60.61%	45	24
25	F999	OTHER ENVIRONMENTAL SERVICES	0.010	0.017	0.045	0.045	0.014	0.000	0.043	0.173	$1,347,567,820	0.76%	61.37%	167	25
26	B599	SPECIAL STUDIES/ANALYSIS- OTHER	0.008	0.013	0.066	0.002	0.014	0.000	0.043	0.145	$1,303,899,155	0.74%	62.10%	258	26
27	D307	IT AND TELECOM- IT STRATEGY AND ARCHITECTURE	0.014	0.024	0.096	0.004	0.013	0.000	0.046	0.199	$1,245,919,530	0.70%	62.81%	112	27
28	1550	UNMANNED AIRCRAFT	0.001	0.002	0.017	0.000	0.013	0.080	0.021	0.134	$1,238,160,997	0.70%	63.51%	320	28
29	R699	SUPPORT- ADMINISTRATIVE: OTHER	0.017	0.056	0.126	0.010	0.013	0.000	0.046	0.267	$1,230,101,727	0.69%	64.20%	40	29
30	J099	MAINT/REPAIR/REBUILD OF EQUIPMENT- MISCELLANEOUS	0.043	0.124	0.150	0.006	0.013	0.000	0.043	0.377	$1,191,137,058	0.67%	64.87%	10	30
31	J069	MAINT/REPAIR/REBUILD OF EQUIPMENT- TRAINING AIDS AND DEVICES	0.008	0.007	0.036	0.002	0.012	0.000	0.025	0.084	$1,094,909,122	0.62%	65.49%	904	31
32	Z111	MAINT-REP-ALT/OFFICE BLDGS	0.020	0.041	0.084	0.013	0.011	0.000	0.050	0.219	$1,076,718,071	0.61%	66.10%	83	32
33	Z2JZ	REPAIR OR ALTERATION OF MISCELLANEOUS BUILDINGS	0.033	0.043	0.085	0.024	0.011	0.080	0.043	0.319	$1,043,568,510	0.59%	66.69%	18	33
34	Z199	MAINT-REP-ALT/MISC BLDGS	0.030	0.076	0.092	0.031	0.011	0.000	0.043	0.303	$1,034,099,197	0.58%	67.27%	22	34
35	M127	OPER OF GOVT ELCT & COMM SYS FAC	0.000	0.002	0.010	0.002	0.011	0.000	0.018	0.043	$1,019,036,494	0.58%	67.84%	1,077	35
36	M123	OPER OF GOVT RADAR & NAV FACILITY	0.000	0.001	0.006	0.002	0.011	0.000	0.014	0.034	$1,013,244,758	0.57%	68.42%	1,128	36
37	R426	SUPPORT- PROFESSIONAL: COMMUNICATIONS	0.016	0.027	0.095	0.005	0.010	0.000	0.046	0.199	$969,616,073	0.55%	68.96%	111	37
38	M199	OPER OF GOVT MISC BLDGS	0.001	0.002	0.021	0.001	0.010	0.000	0.029	0.063	$968,322,482	0.55%	69.51%	978	38
39	J058	MAINT/REPAIR/REBUILD OF EQUIPMENT- COMMUNICATION, DETECTION, AND COHERENT RADIATION EQUIPMENT	0.031	0.045	0.138	0.003	0.010	0.000	0.046	0.274	$927,437,498	0.52%	70.03%	36	39
40	R707	SUPPORT- MANAGEMENT: CONTRACT/PROCUREMENT/ACQUISITION SUPPORT	0.004	0.010	0.044	0.009	0.009	0.000	0.021	0.098	$888,640,991	0.50%	70.53%	628	40

Table 3. Top 67 FSCs/PSCs for Each Variable



Top 67 FSCs/PSCs for Each Variable						
Rank For Each Variable	# Contracts 20%	# Suppliers 20%	# Purchasing Offices 20%	# Offers 15%	$ Obligated 12%	Total Algorithm Score 100%
1	7030	7030	R425	AJ16	J015	7030
2	7110	R499	R499	F999	R499	R499
3	7035	5895	5895	Q201	R425	R425
4	6515	J099	7030	C211	J016	5895
5	D399	7035	R408	R499	1680	1680
6	7010	7110	1680	R425	R706	7035
7	7025	6515	J099	7035	R414	7110
8	5895	D399	7025	Z199	2840	D399
9	R499	R425	5999	R497	J010	J015
10	7050	7025	7035	Z2JZ	J028	J099
11	Z199	6640	J058	R408	5865	R408
12	J099	Z199	6625	D399	V126	7025
13	1680	5999	D399	Q999	D399	7010
14	7021	1680	7110	S201	5895	7021
15	R425	6625	5820	7010	1560	R706
16	R408	7050	7010	7030	R408	J059
17	6625	7010	7050	J010	S216	6515
18	Z2JZ	R408	6350	C219	L014	Z2JZ
19	Z299	G002	R699	R799	5841	7050
20	5820	U099	7021	S216	J059	4940
21	J058	4920	4920	J015	7030	8415
22	6350	5820	5340	Z111	AZ16	Z199
23	8415	R699	J059	7110	7510	Q201
24	J070	7195	6150	7021	R799	5805
25	7125	7125	U099	7025	F999	5999
26	6640	6350	5810	S208	B599	6625
27	4920	4940	4940	5895	D307	Q999
28	5805	J059	R799	R414	1550	6910
29	R414	J066	R414	R699	R699	5995
30	Q201	J058	7125	D316	J099	7490
31	8465	R799	5995	Z299	J069	R414
32	J066	Z299	5975	R707	Z111	7290
33	Q999	5985	8415	Q401	Z2JZ	5820
34	5999	Z2JZ	S201	R706	Z199	U009
35	R799	4240	4240	AC56	M127	D316
36	J015	5810	5836	Y199	M123	J058
37	S201	Z111	R706	S205	R426	3990
38	Z111	J070	7510	8415	M199	J016
39	U099	Q999	J070	Z119	J058	5975
40	S216	3695	7195	Z2AA	R707	R699
41	J059	S201	5805	R421	Y199	7520
42	G002	6910	6910	J099	S201	V231
43	D304	7290	5998	7050	R421	6350
44	1560	V231	5410	Z222	AC26	4120
45	7195	6150	7490	Z1AA	6930	R799
46	G008	J049	1730	S208	5840	J049
47	6150	6650	5985	J016	D316	S209
48	R699	5836	4310	R426	Q201	U099
49	J061	2590	6515	Y1JZ	5826	5680
50	C211	U009	3990	Z1PZ	6910	4920
51	W023	5995	7290	6515	S208	7125
52	Z1PZ	C211	8465	1560	7010	Z1AA
53	R497	7520	7520	D307	7035	J041
54	R426	7045	3695	U099	5985	Z2AA
55	J016	G099	2330	J066	5810	J063
56	J065	5340	C211	Z2LB	4920	7320
57	7220	S216	D307	U009	5999	J028
58	5810	J016	4120	Z1JZ	D308	4910
59	S208	5680	S205	Y1AA	S112	6640
60	5985	J065	R426	S209	U099	S201
61	4240	D304	J063	Z1AZ	C211	J065
62	4210	3990	D316	5805	1730	5980
63	D307	U005	J015	1680	M119	C211
64	Z1AA	S208	J066	S299	J070	D319
65	7510	R414	U009	4920	Q999	J070
66	S205	7490	8145	J070	U009	7020
67	8010	G003 (tie) 8465 (tie) 3590 (tie)	W023	J058	U006	7195
# Times FSC/PSC is Listed		One	Two	Three	Four	Five +

Within Table 3, there are 145 individual installation-level FSCs/PSCs.[9] We separate those 145 FSCs/PSCs into two categories: Winners and Weirdos. Winners are those FSCs/PSCs that had a high total score from the algorithm (top 67 on algorithm) and scored in the top 67 across three or more different algorithm variables. Clearly, these FSCs/PSCs present a high likelihood of successful strategic sourcing, thus they are considered Winners. There are 45 installation-level FSCs/PSCs considered Winners.

The FSCs/PSCs in the second category are considered Weirdos—they are not clear Winners, but they are also not clear losers. These FSCs/PSCs require further investigation to determine if they should be elevated to the Winner category, or if they do not have the potential for successful strategic sourcing and should be dropped from analysis. There are two ways a FSC/PSC could be considered a Weirdo: (1) the FSC/PSC scored in the top 67 in total algorithm score, but scored in the top 67 in just two (or fewer) algorithm variables, or (2) the FSC/PSC was in the top 67 of overall spend, but did not score in the top 67 in total algorithm score. There are 71 installation-level FSCs/PSCs considered Weirdos.

After separating the FSCs/PSCs into Winners and Weirdos, we added an assessment of the market for each FSC/PSC by using the IBIS Buyer Power score. IBISWorld publishes business intelligence reports, including detailed reports of industries and procurement reports that provide information about the market, average purchase prices, trends in the market, buyer power in relation to the market, etc. For this research, we are particularly interested in their procurement reports, specifically the buyer power score. IBIS measures buyer power based on a weighted average of Price Trend, Market Structure, and Market Risk. It is an aggregated measure of the softness of the market, where a score of 1 means the supplier has more power and a score of 5 means the buyer has more power. The average score for our FSCs/PSCs was 3.48. The FSCs/PSCs were ranked according to buyer power score, where 1 = highest buyer power.[10] Total algorithm score ranks were then added to buyer power score ranks to compute a Total Rank Score for each FSC/PSC. Thus, each FSC's/PSC's Total Rank Score is equal to their internal AF rank (using the total algorithm score) plus their external market rank (using the buyer power score). Naturally, the lower the Total Rank Score, the more potential opportunity exists to strategically source the FSC/PSC. See Table 4 for a list of FSCs/PSCs ordered by Total Rank Score.

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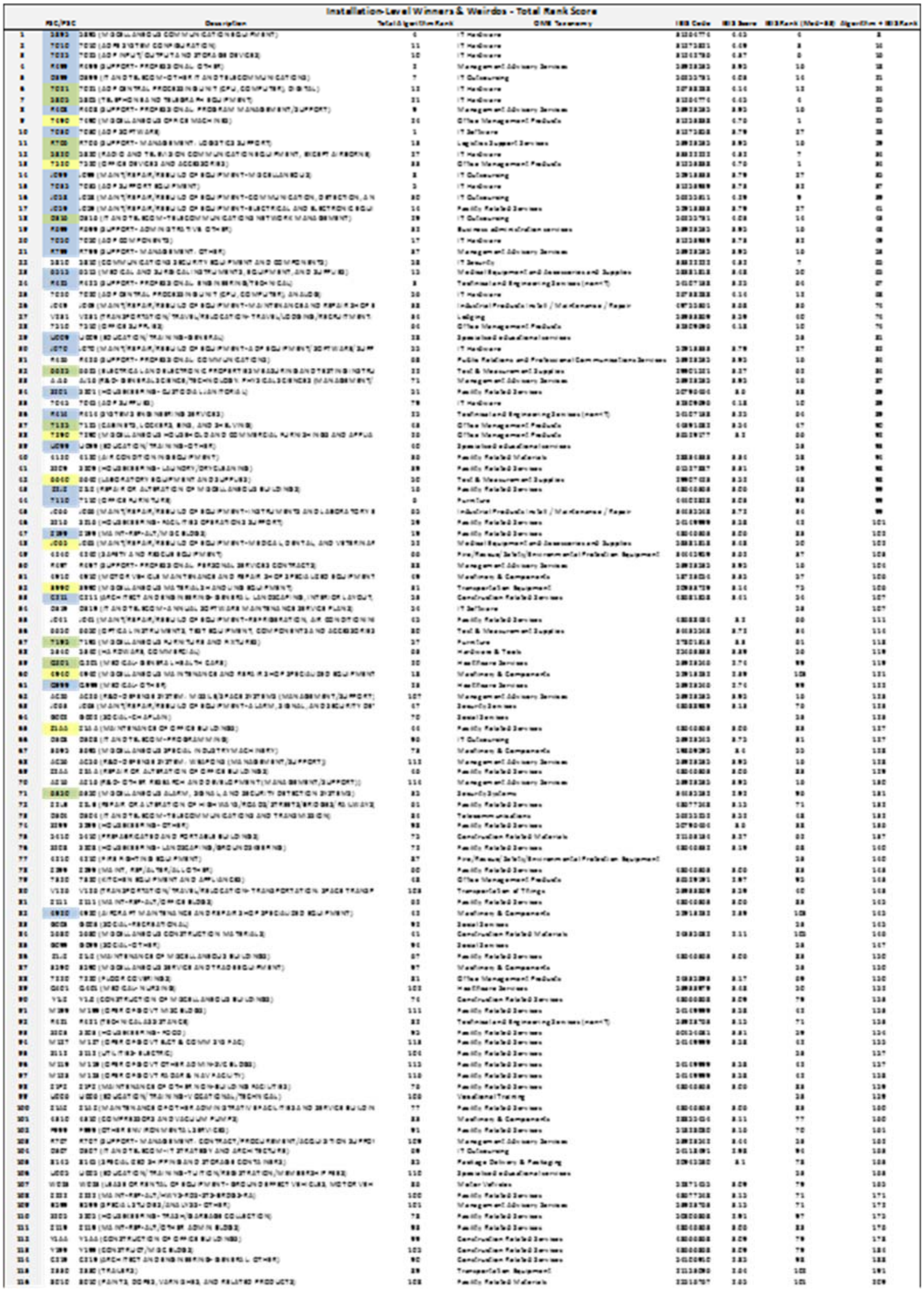
[9] These results show 29 FSCs/PSCs that belong to the Air Force Sustainment Center (AFSC). While not carried forward in this analysis, they represent potential strategic sourcing opportunities for the AFSC.

[10] The median rank was 53, thus a rank of 53 was assigned to all FSCs/PSCs that did not have a corresponding IBIS Report.

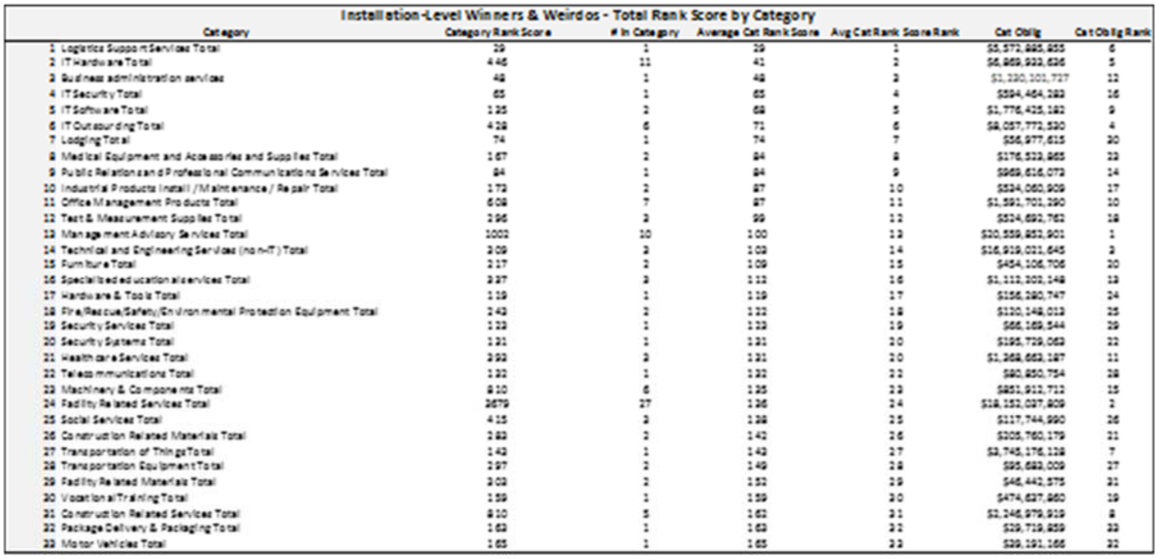
Table 4. Installation-Level Winners and Weirdos—Total Rank Score



Installation-Level Winners & Weirdos - Total Rank Score

Finally, using the OMB taxonomy of categories (Rung & Sharpe, 2015), the FSCs/PSCs were summed into their respective categories. Categories then received an average rank score (an average rank score of all FSCs/PSCs included in the category), and the categories were ranked according to total average rank score and total spend. Naturally, those categories with the lowest rank score and highest amount of spend represent the best potential category strategic sourcing opportunities. See Table 5 for the results by category.

Table 5. Installation-Level Winners and Weirdos—Total Rank Score by Category



Installation-Level Winners & Weirdos - Total Rank Score by Category

	Category	Category Rank Score	# In Category	Average Cat Rank Score	Avg Cat Rank Score Rank	Cat Oblig	Cat Oblig Rank
1	Logistics Support Services Total	29	1	29	1	$5,572,885,855	6
2	IT Hardware Total	446	11	41	2	$6,869,933,636	5
3	Business administration services	48	1	48	3	$1,230,101,727	12
4	IT Security Total	65	1	65	4	$594,464,283	16
5	IT Software Total	135	2	68	5	$1,776,425,182	9
6	IT Outsourcing Total	428	6	71	6	$8,057,772,530	4
7	Lodging Total	74	1	74	7	$56,977,615	30
8	Medical Equipment and Accessories and Supplies Total	167	2	84	8	$176,522,865	23
9	Public Relations and Professional Communications Services Total	84	1	84	9	$969,616,073	14
10	Industrial Products Install / Maintenance / Repair Total	173	2	87	10	$534,060,909	17
11	Office Management Products Total	608	7	87	11	$1,591,701,290	10
12	Test & Measurement Supplies Total	296	3	99	12	$524,692,762	18
13	Management Advisory Services Total	1002	10	100	13	$20,559,852,901	1
14	Technical and Engineering Services (non-IT) Total	309	3	103	14	$16,919,021,645	3
15	Furniture Total	217	2	109	15	$454,106,706	20
16	Specialised educational services Total	337	3	112	16	$1,112,302,148	13
17	Hardware & Tools Total	119	1	119	17	$156,280,747	24
18	Fire/Rescue/Safety/Environmental Protection Equipment Total	243	2	122	18	$120,148,013	25
19	Security Services Total	123	1	123	19	$66,169,544	29
20	Security Systems Total	131	1	131	20	$195,729,063	22
21	Healthcare Services Total	393	3	131	20	$1,268,663,187	11
22	Telecommunications Total	132	1	132	22	$80,850,754	28
23	Machinery & Components Total	810	6	135	23	$851,912,712	15
24	Facility Related Services Total	3679	27	136	24	$18,152,037,809	2
25	Social Services Total	415	3	138	25	$117,744,990	26
26	Construction Related Materials Total	283	2	142	26	$205,760,179	21
27	Transportation of Things Total	143	1	143	27	$3,745,176,128	7
28	Transportation Equipment Total	297	2	149	28	$95,683,009	27
29	Facility Related Materials Total	303	2	152	29	$46,442,575	31
30	Vocational Training Total	159	1	159	30	$474,627,860	19
31	Construction Related Services Total	810	5	162	31	$2,246,979,919	8
32	Package Delivery & Packaging Total	163	1	163	32	$29,719,859	33
33	Motor Vehicles Total	165	1	165	33	$39,191,166	32

Conclusion

Our results suggest that Logistics Support Services, IT Hardware, and Business Administration Services had the best Total Rank Score and would likely make good strategic sourcing candidates. Further, large total obligation categories like Management Advisory Services, Technical and Engineering Services (non-IT), and Facility Related Services account for nearly one-third of all the spend—these categories would also make good strategic sourcing candidates. More research into each category is needed to assess the true viability of the category (i.e., estimated cost and process savings and how demand management might affect the category).

Spend analysis is just the first step in strategic sourcing. While we identify categories that represent a higher likelihood of strategic sourcing success in this research, our results are based solely on the available data—they do not take into account the often-richer data found via qualitative analysis. RAND (2004) warns that the data collected via the DD350 (CAR) can help identify potential strategic sourcing opportunities, "but they should not be used to make final decisions to develop specific supply strategies without additional data validation, cleaning, enhancement, and analyses by substantive experts and manual resolution of anomalies" (p. 15). We agree with this assessment, and, to that end, AFICA has a process in place to assign Category Management teams the task of digging deeper into the details of each category and sub-category of spend to verify if savings exist, where specifically those savings can be garnered, and how to adjust policies and practices to realize those savings and better manage consumption (demand).

AFICA plans to profile each category using Category Intelligence Reports (CIRs). Category teams are tasked with completing four steps to confirm and estimate potential savings. After the spend analysis is complete, they (1) work with the customer to identify and leverage any existing customer data in order to better understand the demand patterns and potential of the category for strategic sourcing, (2) perform a more in-depth market analysis to understand the processes of the commercial sector and how they might apply to the AF, (3) perform a gap analysis that estimates where AF processes are different from commercial processes, and how to minimize the gap to better align the AF's practices to those of the commercial sector (when beneficial), and (4) develop courses of action to present to leadership (i.e., AFICA leadership and customer leadership), who then decide whether to proceed with strategic sourcing, and, if so, which course of action to use.

In summary, the goal of this research was to develop a prioritization list of AF strategic sourcing opportunities using available internal spend and external market data. We aimed to develop an easily repeatable process that quickly enables AFICA "miners" to find the "gold" in their mountain of spend. The algorithm we developed mirrors those used in the commercial sector and can be used by other service components to quickly identify and prioritize their strategic sourcing opportunities.

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Acknowledgments

This research was conducted as a collaborative effort between AFICA and the Naval Postgraduate School (NPS). Special thanks to the AFICA team for their hard work on this project: Col (Ret.) Roger Westermeyer, Maj John Sharkey, Mr. Rick Keller, Dr. Carl Parson, MSgt Michael Rankin, and SSgt Justin Keeney. Many thanks to Brig Gen Cameron Holt for helping shape this research.

Many thanks to our NPS Air Force students for their contributions toward developing the algorithm and the training materials for the Category Intelligence Reports (in alphabetical order): Capt Rebecca Ban, Capt Brett Barnes, Capt Matthew Comer, Capt Jamie Davis, Capt John Ellis, Capt Mark George, Capt Jacques Lamoureux, Capt Marcus Miller, Capt Michael Murrow, and Capt Clinton Walls.

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