GOVERNMENT PURCHASING: TAKING PROCUREMENT CARD PROGRAMS TO THE NEXT LEVEL

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ABSTRACT. Spend analysis has long been a proven business tool for achieving cost savings. In the private sector, companies using spending analysis save an average of 10-16% savings in overall costs (Pikulik, 2005). Over the past 10-20 years many government activities have started and grown Procurement Card (PCard) programs. These organizations have realized benefits that include lower transaction costs, bank card rebate incentives, speed and convenience; however, a review of government PCard policies and procedures shows that most government programs do not require any spend analysis of PCard data. This paper explains how the Tacoma School District Purchasing Department used data mining and spend analysis to achieve cost savings and a more effective PCard program. The paper shows how taking its PCard program to the next level has saved the District over $1 million in the 30 months since its plan was implemented. Using spend analysis of PCard data to achieve cost savings is the next level for government PCard programs.

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INTRODUCTION

According to the 2010 Purchasing Card Benchmarking Survey Results, "26% of respondents reported that their organization uses purchasing card data to obtain a higher discount for goods or services from a vendor" (Palmer and Gupta, 2010, p. 10). I should point out that respondents to this survey include both public and private sector entities. I think government tends to lag behind the private sector relative to adoption of best practices, so it seems likely that something less than the 26% figure are doing much with their PCard data in the public sector.

Unfortunately, many government purchasing activities may be content to just have a PCard program. Why do they need to take it to the next level? After all, most PCard programs already save time and money. Some believe it will require advanced systems to extract the data needed. In reality, although the operational environment has changed, using PCard data is not difficult even without advanced systems.

In 1992 my boss at the time decided that the Department of Defense purchasing unit I managed would be the first in his organization to have a program for using credit cards to make routine purchases. As my organization dutifully moved forward to make this happen, we discovered there was not a lot of guidance available. We started with four credit cards, to be used strictly for purchases under $1000, and developed our own procedures manual for using them. I doubt that our unit did any more than a hundred transactions that first year.

Over the past 20 years I have observed many government entities nurturing and growing their PCard programs. Today, the use of PCards by government entities is pervasive. PCards are used for everything from routine purchases to more complex payments, such as utility bills and major contract purchases.

For small, frequent purchases, there is no doubt that the PCard saves considerably when compared with a standard requisition to check procurement process. Over the years I have heard a variety of

numbers tossed around about the savings generated by having a PCard program. According to the 2010 Purchasing Card Benchmarking Survey Results, "The average administrative cost of procuring and paying for a good or service via the traditional purchase-order based process is reported by respondents to be approximately $93 per transaction, while the average cost associated with a purchasing card transaction is estimated to be $22—a net savings attributable to purchasing card use of about $71 per transaction (or, a 76% cost reduction)" (Palmer and Gupta, 2010, p. 65).

With this substantial transaction savings potential, the PCard has become an essential program in most government organizations.

It is reasonable to assume that most government entities with an annual spend above $10 million, have some type of PCard program. However, as many purchasing professionals know, one negative about a PCard program is that card holders don't always have the time or take the time to make a best value purchase. An early argument espoused by proponents of PCards was that this negative was worth it due to the counter benefits of convenience and the significant transaction cost savings generated by a PCard program. Personally, while this argument may have been true 10-15 years ago, I do not think it is any longer credible. This is because in today's workplace environment, one can easily get price comparison information on-line in just a few minutes - something that may have taken hours or days to obtain 15 years ago. Also, more sophisticated financial systems are allowing purchasing departments to compress the time and cost it takes to process a purchase order to a fraction of what it once was.

A commonly held belief for improving a PCard program involves taking steps to drive more spending to the PCard. While this may be a worthwhile endeavor, I believe that changes in the purchasing environment, as well as ever shrinking government budget dollars, mean we need to also take steps towards making smarter PCard purchases. We should not accept a PCard program that offers convenience but not best value. We need to take our PCard programs to the next level by using spend analysis to achieve cost savings.

The purpose of this paper is to answer the question: How can public procurement professionals take their PCard program to the next level?

BACKGROUND

To set the stage for how we approached this question in the Tacoma School District, let's take a brief look at the history of the District's PCard Program.

The District has over 28,500 students in grades kindergarten through grade 12 and 3,500 employees. There are 37 elementary schools, 9 middle schools, 5 comprehensive high schools and 14 alternative learning sites. The PCard program was started in 1999 with the issuance of about 100 cards to administrative staff. In the first year, the PCard program accounted for purchases totaling nearly $1.5 million. The primary initial focus of the program was to expand use and maximize the volume of spend captured by PCards. When I started with the District Purchasing Department in 2006, the program had grown to purchases of $4 million. The program included 500 card holders, resulting in excellent district-wide coverage of those people responsible for acquiring goods and services in the District. I reviewed the program and found it to be a well run program with appropriate controls. The bank card company had an adequate on-line reconciliation system, but customer service was slow. Further, this company offered a relatively small rebate rate for its customers, which in my opinion was costing the District potential revenue. Overall, the program had reached a "comfort zone" that translated to a few years of no growth. In addition, I reviewed hundreds of past PCard purchases and concluded that many of the District's PCard users were not making best value purchases, meaning they were paying more than necessary.

PCARD PROGRAM IMPROVEMENT APPROACH

The Plan. Like many public entities, our District started seeing declining budgets in 2008, meaning schools had less money available for purchases. Fortunately, our Department had started work on an action plan for taking our PCard program to the next level with a focus on data and spend analysis. We were confident we could develop a plan that would help us lower costs for purchases. We began implementation of this improvement plan in 2009 with the following planned actions:

- Finding the Best Bank Card Company
- Mining PCard Data
- Spend Analysis
- Changing Purchasing Actions
- Increase PCard Usage and Purchasing Volumes

Finding the Best Bank Card Company

The first objective of our plan for improving our PCard program was to determine if we had the best bank card company for our particular needs, especially access to data. The Government Finance Officers Association (GFOA) lists automated approval and recommendation software as well as a broad selection of reports as elements to look for in a purchasing card provider (GFOA, 2011). Our Department approached this issue just like we would any planned acquisition of services. First we identified our requirements:

- On-line reconciliation capability
    - Excellent set-up and user interface features
    - Robust reporting (for data mining)
    - Ease of use for end users (cardholders)
    - Effective training available on-line
- Designated account representative
- Fast and responsive customer service
- Good rebate program

The next step was to conduct market research. There are literally hundreds of bankcard services providers. The National Association of Purchasing Card Professionals (NAPCP) offers members a provider directory that is updated annually (NAPCP, 2012).

Instead of conducting our own bid for these services, we decided to narrow our search to bankcard providers on a cooperative contract. We compared five different companies by rating them against our requirements. We narrowed it down to two companies and contacted current customer references for each. We selected the U.S. Bank Visa card program available to us through a Western States Contracting Alliance (WSCA) cooperative contract.

Our decision ultimately came down to training, ease of use for our end users, and most importantly, on-line access for data we could use for spend analysis. With 500 card holders to be trained, we could not afford lengthy, classroom training. U.S. Bank offered a simple, on-line training program and their references were very high on the ease of use for end users. We also determined that our annual rebate would increase by $30,000 when compared with the incumbent card services provider's rebate. Also, the reporting information provided by U.S. Bank would make it easier to mine data.

Mining PCard Data

A central focus for our Department was PCard data mining. We discovered that this sounds more difficult than it actually is. At its basic level, PCard data mining seeks to quantify what cardholders are purchasing and the prices being paid. Data mining may be used to improve your card program by helping you identify:

- Purchases of unauthorized items
- Frequently purchased items
    - Prices being paid for these purchases
    - Sources for these items
    - Volume of these transactions

In order to mine PCard data, you do not need a sophisticated system, but you need to understand what transaction detail is available to you.

There are three levels of transaction detail, also known as point of sale data. Level 1 includes the merchant name, the transaction date and the amount of sale. With Level 2 data, the merchant may also include sales tax information (Sudbay and Alley, 2011). However, it is only with Level 3 data that the merchant provides line item detail (NAPCP, The P-Card Process, 2012), for example, how many of a specific item you bought at what unit price. Generally, larger businesses, such as national retailers, provide Level 3 data. There is little to learn from purchase data if all you can see is the merchants name, date and amount of sale. Fortunately, for our District, much of the PCard spend was made with large retailers who provide Level 3 data.

Here is an example of the type of data that can be seen if level 3 data is available:

Mfr Product Code	Item Description	Quantity	Unit Cost	Total w/Tax
434357	PENCIL POUCH,TRANSLUCENT	100.0000	$1.00	$1.09
433656	PORTFOLIO,POCKET,TWIN,10	10.0000	$1.41	$1.54
493122	BNDR,3RG,VNL,2",BLK	100.0000	$2.69	$2.94
227480	GLOVES,NITRILE POWDER FR	1.0000	$8.12	$8.88
944264	LABEL,LSR,FILE,ASTD,750C	1.0000	$13.14	$14.36
289953	Probe,Cover,M031,for,Mod	12.0000	$14.99	$16.38
396291	BINDER,PL,VIEW,1",WHITE	46.0000	$1.44	$1.57
327025	LABEL,IJ,FILE,WHT,750CT	1.0000	$13.11	$14.33
409528	PAD,EASEL,BLEED BLOCKER,	4.0000	$8.83	$9.65
203034	MARKER,SET,SCENT,MR SKTC	4.0000	$5.99	$6.55
412596	BADGE,NAME,LASER,400PK,B	2.0000	$4.99	$5.45
409600	PAD,EASEL,BLEED BLOCKER	4.0000	$5.46	$5.97

A manual approach to data analysis is necessary for those without sophisticated systems. Analysis can be performed with nothing more than ordinary tools like Microsoft Excel and a sharp pencil (Wikipedia, 2012). It is relatively simple using programs such as Excel to create spreadsheets with enough information to facilitate spend analysis. Yes, this requires time to manually sort through data in order to identify frequently purchased items, but the payback was worth it for us.

Spend Analysis

Spend analysis is the process of aggregating, classifying, and leveraging spend data for the purpose of gaining visibility into cost reduction, performance improvement, and contract compliance opportunities (Wikipedia, 2012). We collected detailed information on thousands of purchases, but mining the data gets you very little unless you develop a method for analyzing it with the intent of either changing bad habits or creating new opportunities. As mentioned in the Introduction, according to the 2010 Purchasing Card Benchmarking Survey Results, only "26% of survey respondents reported that their organization used PCard spending data to obtain a higher discount for goods or services from a vendor" (Palmer and Gupta, 2010, p.10). There are savings opportunities to be found in the PCard data., so we felt *spend analysis* was the most important element of our PCard improvement plan. With an eye towards the future, we definitely wanted our PCard holders to be able to make smarter purchases.

Identifying Savings Opportunities. The main purpose of our *spend analysis* was to identify savings opportunities. We looked at PCard data from the previous two years to determine what items had a high frequency or volume of purchases. Items showing a high volume of usage become candidates for an analysis to determine how to best optimize annual spend on these items. During this analysis we identified items that were already stocked in the District warehouse or could be purchased using a District contract. The remaining items would require further market and price analysis. We discovered

approximately 180 items purchased from various retailers that should have been obtained from the District Warehouse or through a District contract.

In an April 2011 article in his Federal Computer Week blog, Steve Kelman addresses a downside to the use of PCards with the following observation:

"Many [federal] offices have been using the [purchase] card to buy things at local retail stores. This is quick, but it condemns the U.S. government – the largest purchaser in the world – to paying the same retail prices available to any individual consumer coming in off the street!" (Kelman, 2011)

I call this **Bad Shopping Decisions.** When we first started mining PCard data, we hoped to identify whether there were commonly purchased items that we could buy in bulk and stock in our central supply warehouse. But, as we drilled further into the PCard data we discovered that many purchases were just bad shopping decisions by the purchasers, most with good intentions. As an article in Business Finance points out, "Although most employees do not intentionally squander company resources, their poor decisions on routine, discretionary expenditures, taken collectively, are far more likely to bruise the bottom line than the occasional whopper an ethically challenged employee might slide onto an expense report." (Krell, 1999). In other cases it was shopping decisions based on expediency. The Arizona State University Purchasing Card Guide states about PCard shoppers that "we have become addicted to speed. We want it now!" (Arizona State University, 2012). Speed can be a benefit, but most alarming for us among these "want it now" purchases were those for stocked or contract items. These items could have been obtained at a much lower cost if the purchaser had just taken the time to look at the District's on-line stock catalog and contracts. The District Warehouse stocks about 700 commonly used school and office supplies, as well as common maintenance, repair and operations (MRO) items. The Purchasing Department uses competitive bids and large quantity purchases to buy these items. We do comparison shopping for the same items and develop a "market basket" for the items we stock. In 2009, a typical item in the warehouse was over 30% lower priced than a comparable item from a

retailer. Today, in 2012 that difference has grown to over 40%. Using the PCard data to determine the average price paid for stock items purchased with a PCard, item, we were able to create a spreadsheet that compared District stock sales with the same items purchased with a PCard from an outside vendor. Here is an example of what we discovered for five stocked items.

Description	Annual District Usage	District Stock Price	Annual PCard Usage	Average PCard Purchase Price
Copy Paper	7,420	$25.67	844	$41.65
Pencil Sharpener	386	$21.75	78	$32.88
Whiteboard Markers	639	$8.19	157	$13.71
1.5" Binders	710	$1.67	112	$4.37
Marking Pens	426	$4.85	189	$11.51

This data told us that while most of the annual purchases were from the District warehouse, a significant number of PCard purchases were for stock items. The additional annual cost to the District for just these 5 items was over $16,500. Obviously, we needed to change the spending habits of some PCard users.

Other Items. Frequently purchased PCard items that were not stock or contract items were also identified. This category resulted in a list of 120 items in the *other* category. The list included the average PCard purchase prices paid.

The savings from using spend analysis to obtain better pricing can be substantial. According to the 2010 Purchasing Card Benchmarking Survey Results, "Of those organizations using purchasing card spending data to obtain higher discounts, 60% report obtaining higher discounts. The absolute improvement in the discount, on average, is 2.2%. If the improvement in the discount applied to all purchasing card spending, an organization with $1 million per month in purchasing card spending would generate an additional savings of $264,000 per year" (Palmer and Gupta, 2010, p. 10).

Whether the PCard item was a stock item, contract item, or other item, our next action involved taking steps aimed at *Changing Purchasing Actions*.

Changing Purchasing Actions

With the information generated by our *spend* analysis we turned to the development of implementable steps aimed at *changing purchasing actions.* Our eventual goal was to *direct the spend* on certain items purchased by PCard holders to a best value source.

Stock and Contract Items. As we mined the data, it bothered us to find a PCard purchase for a case of paper at $40, when that same case of paper was available from the District Warehouse for $25. However, we did not want the Purchasing Department to become the enforcement police. Besides, with 65 school and alternative learning locations and 3,500 employees, it would be nearly impossible to micro-manage. So, we started "advertising" our warehouse pricing and our contract pricing to let users know how much could be saved. We created an on-line, search-able catalog of stocked items that gave customers the ability to quickly check for these items. As we found examples of PCard purchases of Warehouse stocked items or contract items, we sent a note to the purchaser. The following is an example of the note:

> *Be advised that on January 20, 2011 you purchased 3 cases of copy paper from "Big Box Retailer" at a cost of $124.95. This same purchase from the District Warehouse would have cost only $74.80 saving your school $50. Please check the Warehouse on-line catalog for commonly used items before making a PCard purchase from a retailer. Future violations of good PCard management may result in the loss of this privilege.*

After three years, this *gentle* approach has steadily reduced the instances of stock or contract items being purchased from retailers. Sales from the Warehouse have grown by nearly 20% during this same time period. The compliance rate for using District contracts is now above 90%.

Other Items. This group of items required a much greater investment of time than stock or contract items. Each item had to be evaluated in order to determine the best sourcing options available. For example, let's say the data shows increasing sales on an office supply item for which we can identify a name brand and product number. From the data we determine an average purchase price of $X each. Further, we estimate that total annual demand for this item is 1,000. Our Purchasing Department Buyer then solicits informal quotes or searches on-line for best pricing options in order to assess which of the following may apply to this item:

1) Volume or bulk purchasing will result in significant pricing advantage
2) Pricing and service (delivery) may improve through competitive bidding
3) A preferred provider exists for this product.

This assessment may result in one of the following three outcomes:

1) **Volume purchasing.** Our general rule of thumb is to stock frequently demanded items in the District warehouse if we can purchase them in bulk at a savings of 20% or more. In a typical year we will add 6-8 items to our stock catalog using this analysis. This is about the same number of items typically eliminated from the stock catalog each year due to obsolescence or lack of demand.

   Example: *We discovered that a large number of school PCard holders were purchasing a new whiteboard marker from on-line retailers at an average cost of $6.00 per box. Our cost for bulk purchase of this same item was $2.77. A decision was made to stock the item. Demand has been about 2,500 boxes per year resulting in an annual school budget cost avoidance or savings of over $7,500.*

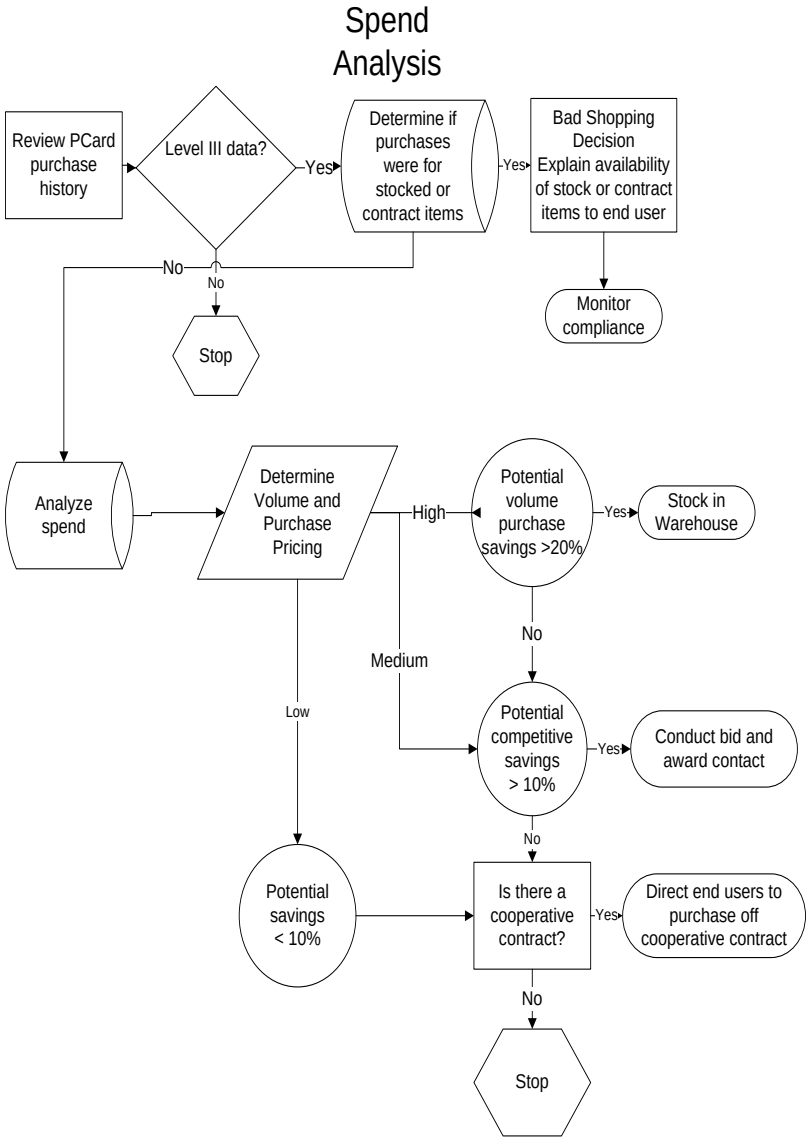
2) **Conduct Competitive Bid.** Certain items are not good candidates for a stocking solution, but would benefit from competitive bidding. The ideal outcome from a competitive bid is a contract for the items which calls for on-line

purchases using the PCard for payment. Generally, if market analysis indicates we can save more than 10%, we will conduct a competitive bid and award a contract. Contract items become mandatory for PCard purchases. Monthly PCard data is randomly checked in order to determine if there are cardholder compliance issues.

Example: *The District has over 4,000 inkjet and laserjet printers, so it was no surprise when we saw hundreds of PCard purchases for ink cartridges. We estimated annual expenditures for 75 different types of ink cartridges at $350,000. We created a sealed bid that required all purchases be made on-line with payment by PCard. The competition consisted of 18 bids. The result of the contract award has been a reduction of, the District's annual costs for ink cartridges of $170,000. District end users have appreciated the ease of use of the new contract, plus the tangible savings in their budgets, so there has been very little off-contract "leakage" to other sources.*

3) **Direct PCard Spend to Preferred Provider.** The assessment may determine that neither volume purchasing nor a competitive bid makes sense. Data was reviewed to determine if there were PCard purchased items that were available on a cooperative contract or from a reliable on-line source. In this case, if the buyer can identify a preferred provider (defined as the source that offers the best price and delivery options), the PCard holders are directed to purchase the item(s) solely from the preferred provider.

Example: *Many items purchased lacked the volume of sales to warrant stocking or bidding. However, we determined that card holders could save money by using cooperative contracts available from cooperatives such as US Communities and TCPN. We assist our PCard holders with access to various cooperative contracts so that when they make purchases from these contract holders, they get the cooperative negotiated prices. Our conservative estimate is savings of 5-15%.*



Process Flow Chart

Process. The three basic approaches described earlier become a process for *changing purchasing actions* by allowing us to use the data obtained from *spend analysis* to direct a greater percentage of the District's spend to best value sources. The flow chart above provides a depiction of this process.

Bragging. "Most procurement functions make a significant contribution to 'corporate' goals. The trouble is, no one knows it. Spikes (2012). Keep track of all the savings (or cost avoidance) generated so you can brag to the boss and senior leadership. This is a great way to demonstrate the value of Purchasing to the organization. We report savings on a monthly basis. Over the past 30 months we have reported savings of over $1.1 million. For the benefit of its members, the National Institute of Governmental Purchasing, in partnership with Spikes-Cavell Inc, now provides its members with a tool called "MEASURE". MEASURE was created by Spikes-Cavell for capturing and reporting the value that procurement professionals bring to their agencies every day (www.spikescavell.com) Spikes (2012).

CONCLUSION

By 2006, the Tacoma School District PCard program was a stable, well managed program. However, the program had reached a "comfort zone" plateau. In 2009, our Purchasing Department developed a plan for taking our PCard program to the next level and out of the "comfort zone".

The most important discovery we made regarding our mature PCard program was the importance of understanding the current PCard spend. *Data mining* allowed us to assess our current spend data. According to the 2010 Purchasing Card Benchmarking Survey Results, "best practice purchasing card programs are more likely to assess purchasing card program potential by analyzing check payments, reviewing purchase requisition traffic, and comparing organizational card performance against published benchmark figures" (Palmer and Gupta, 2010, p. 17).

Our *spend analysis* work allowed us to *identify savings opportunities*, reduce *bad shopping decisions*, and research *other items* for best value potential. We then took actions aimed at *changing purchasing actions*. This resulted in the creation of more mandatory sources for certain items, either as a warehouse stock item, contract item, or cooperative agreement item. We now monitor our PCard holders to ensure they are using the best value sources that we have identified for certain items. According to the 2010 Purchasing Card Benchmarking Survey Results, "best practice purchasing card programs are more likely to require cardholders to use "preferred vendors" for specific types of goods or services" (Palmer and Gupta, 2010, p. 17). A measure of our success in *changing purchasing actions* is achieving savings of over $1.1 million in the 30 months since we began our PCard improvement plan.

In conclusion, there is a 'next level' for government PCard programs using spend analysis. "Unfortunately, few government activities understand how much they spend, but ironically 80 percent of activities surveyed regard spend analysis as critical to their success" (Makhija, 2006). The Tacoma School District Purchasing Department has achieved success with its PCard program by mining data, doing spend analysis and changing purchasing actions. So, what are you waiting for? Take your procurement card program to the next level by taking the data you already have and conducting spend analysis. You will be able to identify actions leading to smarter PCard purchases. The end result will be cost savings and a more effective PCard program.

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