

# Managing Costs by Leveraging Procurement Information Intelligently

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*By Rajib Saha*

*Augment your enterprise's spend visibility  
and redefine your procurement strategies with the  
360° approach to enterprise cost management*

Chief procurement officers (CPO) today face great challenges to comprehend on how their organizations spend in buying diverse categories of materials and services. Without a clear understanding of dollar outflow, it becomes difficult for them to carve out cost-saving strategies that can come through improvement in procurement operations. Enterprise Cost Management (ECM) can help them understand their organization spend scenario and develop strategies to achieve cost saving.

ECM can be defined as the set of processes, tools and practices to achieve visibility and control on enterprise spend. ECM provides insights into areas for savings and exposes procurement process inefficiencies as well. With comprehensive view on spend through ECM

organizations can adopt appropriate strategies, policies and systems to improve procurement performance.

## **TWO VIEWS ON PROCUREMENT SPEND**

To deliver high-performance in procurement organizations need: (a) unified view of enterprise procurement data residing in multiple systems; (b) multi-dimensional analysis to transform data into information, and (c) integration of marketplace, process and technology aspects for comprehensive insight.

These above-mentioned objectives can be achieved through a two-pronged approach.

1) an 'inside-out' view of transactional spend data residing across multiple systems through advanced analytical software applications, and

2) an 'outside-in' view through category enrichment, supply market analysis, processes assessment and technology evaluation.

The 'inside-out' view provides visibility to operational performance whereas the 'outside-in' view drives strategies and policies. Through 'inside-out' view, by using spend analysis applications, one gets to know from historic data, how an organization has spent for a given past period. Deficiencies, if any, in the internal processes can be identified as a result of spend analysis. These analyses certainly lead to savings by addressing the identified anomalies. But they have limitations in unlocking

The 360° approach to ECM would be to follow a gradual approach to understanding enterprise spend landscape with the 'inside-out' view followed by 'outside-in' view. The 360° approach to ECM can help in understanding end-to-end enterprise spending through the combination of both side views. In the 360° approach, outcome from inside data analysis would be enriched with market, process and technology analysis to make better decisions. Before elaborating both views of ECM and comprehend 360-degree approach, one need to also understand cost management challenges that today's procurement department faces.

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*“Inside-out” and “Outside-in” views of procurement help enterprises have a 360° understanding of their cost management landscape*

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continuous value once the process anomalies are addressed. Therefore questions arise on –

- How to achieve incremental benefits?
- How to leverage changes happening within the business context to impact procurement performance?

The 'outside-in' analysis provide insights on the 'how' or 'what next' aspects of improvements by integrating external elements that are relevant to procurement. This analysis identifies incremental savings opportunities available to the enterprise due to changes in external environment, like supply market, input material price changes etc.

#### **COST MANAGEMENT CHALLENGES**

Organizational focus on procurement has radically altered over the last decade. Procurement has transformed from back office transaction processing department to a strategic function. Today, procurement departments play significant role in organizations in achieving competitive positioning and price leadership in the marketplace. Procurement executives are under significant pressure to contribute to their organization bottom-line. In industries like automotive or discrete manufacturing, where product cost would be a prime factor for competitive positioning, procurement function has emerged as strategic differentiator. To maintain profit margins, the need for high

performance in procurement would be obvious in such industries.

Procurement executives face a number of challenges while spearheading procurement transformation initiatives. Poor view of enterprise spend would be a key issue. This would be due to dispersion of data in multiple systems across the enterprise. Poor data quality and inconsistencies add further complexities. Without proper assessment decision-making becomes difficult. Traditional ERP or legacy systems do not provide the kind of reports that today's procurement executives need. Integrating market knowledge to the internal analysis to enhance sourcing decisions

ECM program enables enterprises overcome these challenges and draw a roadmap for a holistic performance improvement. The roadmap would be the outcome of deep analysis across multiple dimensions. ECM paves the path for CPOs to meet their cost savings targets and contribute to their organization bottom-line.

#### **SPEND ANALYSIS - THE 'INSIDE OUT' VIEW**

Spend analysis application enables enterprises to extract, enrich and analyze spend or procurement data. It allows enterprises understand spend patterns (by suppliers, categories, business units,

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*Spend analysis applications bring with them multiple benefits – primary among them being, getting insights on savings opportunities and process improvement areas*

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would be another challenge. There are issues with non-standard procurement processes and technologies among multiple units and regions of an enterprise.

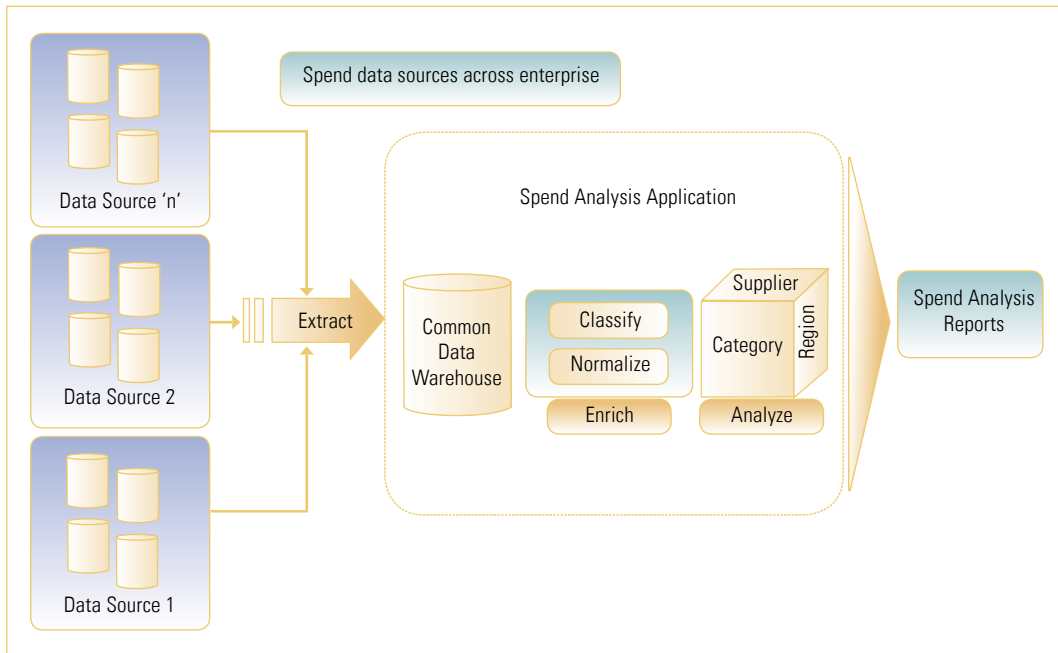
There are concerns regarding introduction of new vendors or switching away from incumbent vendors, even if that reduces cost. Then there are, other questions like -

- Which technology platforms or point solutions are to be given priority?
- What are the market changes in technology landscape that can be leveraged?
- Would procurement outsourcing be the right strategy?

regions) and spend leakages (non-compliance, price variance) happening within existing processes. It provides insights for identification of savings opportunities while also indicating at process improvement areas.

Spend analysis application can be described as a smart data warehouse with advanced data cleansing, classification and analysis tools. Some of the popular application providers in this space are Ariba, Zycus, Ketera, Verticalnet, The Buying Triangle, etc. The process of spend analysis happens in three stages - (1) extract (2) enrich, and (3) analyze.

**Extract** - Spend data resides in multiple systems like ERP, payment systems,



**Figure 1:** Spend Analysis - Extract, Enrich, Analyze for 'Inside-Out' View

**Source:** Infosys Research

e-procurement applications, procurement cards and T&E systems. More often than not, these systems are built over a period of time and they are not integrated. The data formats are different in these source systems. Moreover, an enterprise can have multiple units or regions with different type of applications to store spend data. To get any visibility through such dispersed data, pulling and storing them in one single place in a standard form would be mandatory. Spend analysis application extracts all instances of spend data across different systems within the enterprise into its common data warehouse. Most commercially available products (COTS) have ready interfaces to extract data from popular or standard applications and have tools for easy mapping of data formats of other systems to their common warehouse format.

**Enrich** - Once spend data from all dispersed systems are loaded into the common warehouse, cleansing, normalization and classification would be needed to make the data meaningful. Such data can be then used for further analysis. Normally data residing in multiple enterprise systems are inconsistent. Different systems or business units may follow different nomenclature and coding system for the same line item. For example, 'Desktop Computer' may be stored as 'Computer' or 'PC' or 'Personal Computer' in different systems. Different units or systems may follow some sort of product classification but they may not be standard across the enterprise. From analysis standpoint, unless data is properly classified and grouped, aggregation would not be possible. So understanding total spend for a line item for leveraged sourcing would not be possible. Neither can price variance be identified

for a single line item bought by different units. Another example of data inconsistency can be supplier-naming discrepancy. Without a central master data management process and formal data governance structure, different business units within an organization may register the same supplier in different ways. For example, 'Hewlett Packard' may be stored as 'HP', 'HP Inc', 'H.P.', 'Hwlt Pckrd' or 'Compaq'. It may be possible that the same supplier 'Hewlett Packard' may have been registered more than once (more than one supplier code) due to different addresses or may be registered under different GL codes (as IT product supplier, as IT service provider, as IT consultant etc) due to multiple line of products/ services supplies. Unless supplier data have been normalized, organization cannot estimate supplier relationship value (total spend) for better bargains.

Spend analysis application has capability to add taxonomy information to each record to arrive at some standard commodity structure for all products and services. Most COTS applications have artificial intelligence based algorithms -- like, Bayesian analysis, K-nearest neighbor analysis, natural language parsing and rich knowledge libraries. This enables granular classification aligned to various standard commodity taxonomies (like UNSPSC, SIC, eClass etc) or any custom taxonomy. Spend analysis applications have rule-based engines to normalize data inconsistencies like spelling errors, acronyms, similar descriptions, duplicate records, etc.

Also, links among suppliers can be identified to group them, normalize supplier data and recognize supplier families. Some niche spend analysis packages have high-end capabilities (web crawlers) to integrate information from external sources, like supplier catalogues and content providing sites with

existing suppliers data. Such capabilities allow enriching supplier data and keeping supplier related information auto-refreshed.

**Analyze** - In the previous two stages spend analysis application extract all enterprise spend data, integrate them and add necessary intelligence to them for meaningful analysis. In the final stage, the analysis capabilities (OLAP tools) of spend analysis application slice and dice the aggregated data across multiple dimensions, viz., category, supplier, region etc. The tools provide reports with in-depth insights on how an enterprise have been spending dollars in different categories with multiple suppliers in different units or regions. With such granular visibility, enterprises can perform the next level of analysis and roadmap planning to save money directly by negotiating prices with supplier or indirectly by improving spending related processes. Simply put, one can get answers to some key cost management questions like:

- How is the enterprise spending distribution by dimensions like categories, suppliers, units, regions etc?
- How is the Pareto analysis by category, by suppliers? Where to focus in strategic sourcing efforts?
- What is the aggregated enterprise spending for any category? What is the leverage opportunity?
- Who the key suppliers are? How much is the aggregated spending with these key suppliers? What is the leverage opportunity?
- Are there purchase price variations for any category? What is the savings opportunity?
- What is the contract compliance percentage for any category? How much

- spend is through non-preferred suppliers?
- Which units/regions are not following contracts? Which categories have high non-compliance?
  - Which categories have supplier consolidation opportunities? Are parts rationalization opportunities available?

#### LIMITATIONS OF 'INSIDE OUT' VIEW

Reports from spend analysis application provides visibility to understand what is happening within the procurement department of an enterprise. They also bring out intelligence residing within procurement related transaction data. Procurement executives can understand which departments/ buyers have not followed which corporate contracts. They may find that some suppliers are supplying same items to different units (within enterprise) at different prices.

Through these analyses spend analysis reports provide great insights for saving money and improving cost management metrics. But to take a more holistic approach one needs to know how organizations can reduce incidences of spend leakages by changing or improving processes. It is required to know what technology up-gradation would be needed in procurement portfolio to overcome barriers of manual processing. Such questions would not be answered by spend analysis application.

Spend analysis application cannot take into context the effects of changing external environment. For example, changes in prices of crude oil would have an impact on spend of packaging supplies (laminates). The effect on laminates' prices would be significant for any CPG manufacturer. The spend analysis tool cannot provide such information. From spend analysis reports, one may discover that within the enterprise some suppliers are receiving

online payment from a few business units while others are still continuing paper based payment for those same supplier(s). To correct such anomalies it would be imperative to know the process in both scenarios to identify optimum 'to-be' process for payment to such vendors. Such process related views are not available through spend analysis.

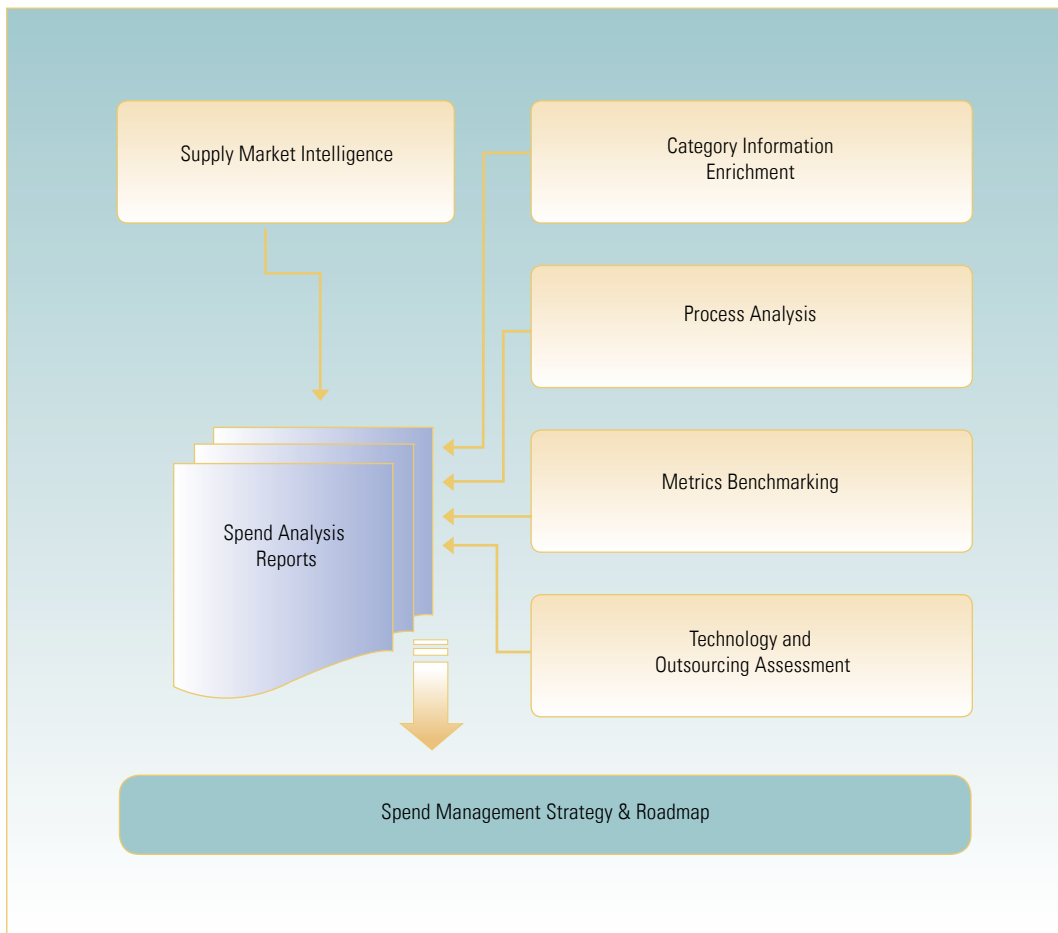
Some of the key procurement areas that need visibility beyond spend analysis applications are

- Categories amenable for strategic sourcing and their risks-benefits scenarios
- Process changes required to improve performance and implement compliances
- Metrics definition to track process performance
- Technology up-gradation and outsourcing opportunities.

If one tries to create the roadmap from spend analysis reports, it would be based only on internal information. But that would limit better business decisions and would not help realize greater benefits of enterprise cost management. Strategies made without taking the external view would not reflect the marketplace opportunities.

#### THE 'OUTSIDE IN' VIEW DRIVES 'WHAT NEXT'

To identify incremental opportunities and to deliver high performance, enrichment of spend analysis reports would be needed by integrating other analyses. Without integrating external or 'outside-in' view with available spend analysis reports, ECM programs would not yield great returns. Figure 2 depicts on how after such integration, the 'outside-in' view drives 'what next' in terms of spelling out spend management



**Figure 2:** ‘Outside-In’ View Drives ‘What Next’

**Source:** Infosys Research

roadmap. Enrichment through ‘outside- in’ analysis happens in the following dimensions –

- Supply Market & Category
- Process & Benchmarking
- Technology & Outsourcing.

**Supply market & category** – Spend analysis provides granular visibility on dollar outflows made in different categories in the past period for the enterprise. What would be important from an implementation plan perspective is the

identification and prioritization of categories for strategic sourcing. The spend analysis reports would not provide clear direction on this. Two factors drive the decisions for strategic sourcing: a) estimated savings opportunities, and b) category risk

‘Estimated savings opportunities’ here refers to the savings identified after enrichment of spend analysis reports based on market facts. That would not be just the opportunity value (dollar value) as an outcome of spend analysis application but also properly validated for

possibilities in actual business context. Or the opportunity may be identified only after integrating market information. For example, for certain categories, the input prices may have changed over the past few months and those may affect costs of those categories. Technology improvements could result in changes in prices of certain materials like IT hardware. Such market information needs to be factored in while evaluating savings. Or initiating low-cost country sourcing for some categories may emerge as a lucrative option. China or India has emerged as preferred sourcing destinations for many categories like electrical accessories, electronics parts and small-size automobile components. So what can be the impact of sourcing from China or India? Reports from spend analysis enriched through external information on supplier markets and/ or category related information can help determine 'estimated savings opportunities' for different categories.

Finding 'estimated savings opportunities' would not be sufficient for decision on strategic sourcing. The risk associated with categories needs to be examined and estimated. To assess risk of supplier change or new supplier introduction through strategic sourcing, understanding of supplier market dynamics would be crucial. The spend analysis application may show, through supplier 'grouping' and 'parent-child' linking, that significant amount of spend would be possible through establishing one supplier across the enterprise for some categories (single vendor scenario). That would depict as opportunities for volume leverage and savings. However, while assessing category risk one may discover that those items are proprietary in nature and the leverage would not be feasible for cost-savings. While category risk assessment is done, one should assess areas like:

- Supply disruption possibilities
- Vendor switching costs
- Business impact on failure
- Technical complexities
- Internal organizational resistance and change management issues
- Commitment with incumbent suppliers
- Supplier industry competitiveness.

From rapid execution standpoint, it would be prudent to take template-based approach for assessing 'estimated savings opportunities and 'category risk'. Otherwise it would be difficult to capture the right information in a structured format. Template driven process programs can make the process of enrichment and subsequent assessment standard and repetitive. Once estimation of both parameters is complete, one can create a 'category matrix' based on 'estimated savings opportunity' on one axis and 'category risk' on the other. The matrix helps prioritize categories and phase-out strategic sourcing implementation plan.

**Process & benchmarking** - Processes are core to metrics improvement within any business function and procurement is no exception. Process views are essential to relate findings of spend analysis to process deficiencies. For example, maverick spending or non-compliance to contracts is the result of non-existence of processes to integrate contract prices to e-procurement systems. To improve on metrics or to implement compliance requirements, process analysis exposes gaps to plan for process re-engineering. For a comprehensive process view, it would be essential for process owners to get the 'as-is' process maps across business units for different category groups (direct, indirect, MRO materials and services procurement) and

functionalities (requisition, procure-to-pay, contract management, supplier registration, supplier collaboration and supplier performance management). Such process analysis allows identifying best practices within the enterprise and plan for enterprise process harmonization. However, harmonization would be easier said than done. There are multiple challenges ranging from system variations to internal people issues.

The other side of process view is defining and tracking of key metrics that can be rolled up to measure procurement performance. Unless the existing performance can be measured and benchmarking metrics can be set, planning would never be objective. As a result of improper planning, implementation would falter. Metrics for benchmarking need to be defined at three different levels that address metrics view requirements of different users within the organization -

- 1) **Executive** - For example, total spend as % of sales, no. of suppliers per billion dollar of spend, procurement operations cost per billion dollar spend, no. of FTE per billion dollar spend, customer satisfaction rating, etc.
- 2) **Operational** - For example, cost reduction as a percentage of spend, % of suppliers that consume 80% of spend, % of spend under procurement, cost per purchase order, % spend through strategic sourcing, % spend through eProcurement system, etc.
- 3) **Process** - For example, requisition to PO cycle time, PO to settle cycle time, contract compliance %, % of contracts negotiated centrally, % late payments to suppliers, no. of POs processed per FTE, etc.

While defining procurement metrics, linking them across levels needs to be kept in mind. That enables procurement performance measurement by rolling up as well performance improvements through cumulative impacts.

**Technology & outsourcing** - enterprise procurement technology landscape is fragmented. On the one side are traditional ERP or legacy systems to maintain transaction and master data and on the other, there are niche applications for specific functionalities (like contract management, order collaboration, e-procurement, catalog buying etc.) or specific category management (like travel & expenses, print, contract labor etc). Then there are a host of standards for supplier connectivity, collaboration and architecture viz., EDI, Rossettanet, XML, SOA.

Outsourcing is rapidly growing in the procurement space. For industries, like automotive or industrial manufacturing, procurement can be a core competency area and strategic to operations. For many others, like banking or financial services, procurement would be non-core and a support function. So it may be feasible to transition entire procurement function to outsourcing service provider(s) in certain industries while it would be limited to specific processes or categories in other verticals.

Technology and outsourcing assessment provide insights for technology implementation roadmap. To start with, one needs to understand the existing application portfolio, IT architecture and standards used by the enterprise. The 'as-is' system landscape blueprint helps identify bottlenecks that need technology intervention.

For technology requirement analysis, a step-by-step approach can be followed. First, requirement of solutions that meet the

organization's priorities can be ascertained and application providers' market can be screened to shortlist vendors. Then high-level selection criteria template needs to be defined based on functional and technological fitment requirements. The packages that match the criteria can then be evaluated for cost and proof-of-concept. Thus available technology options can be evaluated and baseline plan for technology implementation can be drafted.

For procurement outsourcing assessment, it would be better to understand overall organization plan on outsourcing. Then it would be prudent to work on creating business cases for procurement outsourcing. To do so, one needs to know

- Which processes or categories would be feasible to outsource? What would be the risk?
- How would transition take place? What time frame would be required for steady state?
- What would be the new process and organization scenario?
- What would be the cost arbitrage savings, long-term benefits and ROI?

Answering these questions needs granular analysis of the 'as-is' process map created earlier, plus a scrutiny of organizational changes and governance structure. This can be achieved through a two-pronged approach -

- 1) Assessment of processes for their fitment to offshoring/ outsourcing and associated benefits thereof, and
- 2) Analysis of organizational and governance structural changes through frameworks like RACI.

The objective of such assessment would be to identify outsourcing feasibilities and development of appropriate business case.

### NEED FOR TEMPLATES

Analyses across these multiple dimensions external to transaction data enable procurement teams to create a transformation roadmap. They would be able to make informed decisions on the initiatives that are to be pursued and hence plans can be prioritized. The shift from 'what happened' to 'what next' and 'how' would result in tangible benefits of ECM. Such shift would be possible only after enriching spend analysis reports through these 'outside-in' views.

However, driving ECM for long-term benefits would require template driven program management. But creating enterprise wide templates and assessments of widely diverse categories, processes, technology and outsourcing require substantial expertise. The crucial aspect is that these methodologies and processes must be repeatable. Without template based data collation and evaluation process, repeatability cannot be achieved. That would make the program a one-time affair and incremental improvements would not be possible. Organizations would need their resident subject matter experts to chip-in to create templates and drive these complex evaluation processes. In many areas, organizations may need to engage external procurement consultants.

This would be especially true especially for MRO (maintenance, repair and operations items) and indirect procurement categories (categories that are not used directly into end product) where organizations may not have adequate skill set, market knowledge or resources. In industries like banking or financial services, such expertise may not reside at all within the organizations.

## BENEFITS OF 360° APPROACH

The 360° approach integrates enterprise spending insights with other relevant analysis and external information. By leveraging internal procurement data with external information organizations realize two-pronged benefits-

1. Identification of saving opportunities and strategies to achieve those savings like - increased strategic sourcing, aggregation of purchases, supplier consolidation, price rationalization, part standardization etc.
2. Identification of areas for improving process efficiencies by process changes, technology adoption and outsourcing. These impact cost metrics and adherence to contracts and regulatory requirements.

## SELF-SERVICE OR MANAGED SERVICE

ECM provides organizations significant gains that are not easy to ignore. With more and more companies adopting such programs, ECM would be a key area for any organization. However, the important question would be whether ECM programs can be carried out in-house or to through managed service route. The answer lies within the broader organizational approach to information systems management and outsourcing. If answers to a majority of the below-mentioned questions are not in the affirmative, it would be prudent to take managed service route or a hybrid approach -

- Is procurement core to enterprise operation and strategic to competitive positioning?
- Are in-house experts available to track and integrate market information to the majority of categories?
- Can resources be deployed to map enterprise wide 'as-is' process and systems?


- Can evaluation of technology solutions be carried out in-house?
- Are investments in a spend analysis tool an organizational priority? Would the ROI in spend analysis investment be significant and make the investment attractive?
- Are there resources available to manage such applications and maintain it?

## CONCLUSION

In today's competitive market, procurement departments of organizations are under pressure to deliver high performance, especially, in cost management metrics. To overcome cost management challenges it would be imperative to get comprehensive knowledge about enterprise dollar outflows and the available opportunities (internal or external driven) to control it. The 360-degree approach to cost management provides complete view of 'as-is' procurement state as well as identifies available opportunities to reduce cost. With combination of 'in-side out' and 'out-side in' analysis through 360° approach, organizations can get insights into their transactional data as well as understand the effects of external dynamics. That allows them to adopt appropriate strategies, IT systems and processes that meet the demands of their cost management objectives. It would be prudent to drive ECM through template-driven program processes so that such programs can be initiated at regular intervals. Equipped with 'glass pipe' view through ECM, enterprises can thus achieve procurement transformation.

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