Spend Analysis (A New Way of Saving)
Ratnesh Sharma
Student, Dronacharya College of Engineering, Gurgaon, Haryana, India

ABSTRACT
This paper explores the area of spending analysis, control of expenses and controlling suppliers. This explains the need for a process of spending analysis, the advantages and savings that can help to implement such a plan. We present flowchart of the method of spend analysis. We present an overview of current spending analysis.

KEYWORDS: procurement, Spend Analysis

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INTRODUCTION SPEND ANALYSIS
WHAT IS SPEND ANALYSIS?
Spending analysis is the process of analyzing spending on procurement to minimize costs, maximize productivity or strengthen supplier relationships. Procurement spend analytics is a process for collecting, cleaning, classifying and analyzing spent data through either dedicated software or one-off spending cubes.

Spending analytics is one of the main techniques procurement companies are using to proactively identify savings opportunities, manage risks and maximize the purchasing power of their company. It is also seen as the essential foundation of sourcing. This is a resource that superior performance engineers may use to source executives. Spend analysis data will increase insight in corporate spending, as well as drive progress in efficiency, contract enforcement, and most importantly cost savings.

Analysis of procurement spending provides data that can be used as a basis for assessing progress, as well as providing accurate data to assess strategies for achieving short- and long-term savings. When procurement shifts toward a more strategic role within the company, spending analysis is the fundamental strategic strategy that sets out a parallel mechanism that guides senior leaders and budget holders in extracting value for the dollar of the organization.

TYPES OF SPEND
Direct spending on procurement refers to goods and services that are directly related to the production of products. Examples may include raw materials, components, hardware and services relating to manufacturing processes.

Indirect spending on procurement is the procurement of goods and services that are not directly related to the manufacture of products. Indirect procurement enables companies to maintain and develop their operations.

ERP SYSTEMS
Enterprise resource planning (ERP) is a mechanism used by businesses to handle and incorporate essential business components. Many ERP software applications are important to businesses because they help them incorporate resource planning by integrating all the processes needed to operate their businesses on a single system. In addition, an ERP software program can combine planning, inventory transactions, procurement, marketing, accounting, human resources and more.

You can think of an enterprise resource planning system as the glue for a large organization which binds together the different computer systems. Every department will have the program tailored for their particular tasks without an ERP framework. Each department still has its system with ERP software but all systems can be accessed with one interface with one application.

ERP systems also allow the different departments to more effectively interact and exchange information with the rest of the business. It gathers information about the operation and condition of the different departments, making this information accessible to other sections, where it can be used productively. ERP apps can help a firm become more self-aware by linking development, finance, delivery, and...
human resources information together. An ERP program can remove expensive redundant and incompatible technology as it integrates various technologies used by each part of a company. The method also combines into one program accounts payable, stock management systems, order-monitoring systems, and customer databases.

Throughout the years, ERP services have developed from conventional software models making use of physical database servers to cloud-based software that provides online, web-based access.

2. TOOLS & TECH. USED
For Spend analysis we use different tools for different steps, all the tools very powerful to analyse data provided by the client.

MICROSOFT EXCEL
Microsoft Excel, even though it has been on the market for more than 30 years, is still an outstanding platform for creating efficient dashboards that can provide timely data and insights. Most people use Excel to evaluate the spending data, but fail to do so in the most secure and effective way. Typically the spend data classified by manufacturer or by name is considered as raw data. When this data is in an Excel spreadsheet, it gives an summary of their purchasing structure to an organization and helps them understand which aspect of the supply chain needs to be given priority.

QLIKVIEW
QlikView is a Business Intelligence (BI) tool which allows a user to create reports and dashboards for any application. This is widely used as a key differentiator for business users who consider modeling the data as well as planning data before doing the analysis and visualizations / dashboards. On top of that, Qlik and its proprietary associative technology allow a consumer to discover relationships within the various sources of data. It also encapsulates the data in compressed memory for faster analytics versus other providers that rely mainly on direct connections to the data sources.

PYTHON
Python is a language of programming that is interpreted in general, interactive, object-oriented, and high-level terminology. Guido van Rossum produced it during the period from 1985-1990. As with Perl, under the GNU General Public License (GPL), Python source code is available as well.

Python is a scripting language of high quality, interpreted, collaborative and object-oriented. Python is designed to be highly legible. It also uses English keywords where punctuation is used as other languages, and it has less syntactical constructions than other languages.

OPENREFINE
OpenRefine, formerly known as Google Refine and prior to that Freebase Gridworks, is a standalone open source software framework for data cleanup and translation into other formats, the practice known as data wrangling. It is similar to applications with spreadsheets (and can work with spreadsheet file formats); but, it is more like a database.

This runs on rows of data with cells under columns, which are very close to the tables in relational databases. An OpenRefine project consists of one table. Using facets that specify filtering criteria (for example, displaying rows where given column isn’t empty), the user may filter the rows to view. Unlike spreadsheets, most operations in OpenRefine are done on all visible rows: transformation of all cells in all rows under one column, creation of a new column based on existing column data, etc. All activities performed on a dataset are stored in a database and can be replayed on a different data set.

3. STEPS INVOLVED IN SPEND ANALYSIS
While spend analysis projects vary in shape and size, they typically include six key steps from spend identification to analysis.

STEP 1: IDENTIFY DATA SOURCES
The first step is to test the magnitude of the spending to start an analysis of the spending. Doing so helps you to limit everything you need to purchase to only a few, rather than scouting through thousands. You can divide the spending into various categories and from there, you can assess all available spending data sources from all agencies, plants and business units. Begin by defining your business areas where transactions such as procurement, financing, and marketing are made. All available sources for spending data, from all the divisions, plants and business units. This covers payable accounts, general ledger, pCard, eProcurement schemes, etc.

STEP 2: DATA EXTRACTION
After narrowing the distance, you can now collect and integrate your data into a single database. Data is typically collected in various formats, languages and currencies, so it would be difficult to collect it from a single source. Computer programs are however available to simplify this move.

STEP 3: DATA CLEANSING
Cleansing is about identifying inaccuracies and eliminating a collection of data from compromised documents and redundancies. To ensure its accuracy, this involves identifying and correcting errors and inconsistencies in definitions and transactions. Data cleaning helps you to recognize which contacts are missing or irrelevant in your database. Typos are deleted, and missing codes for up - to - date details are checked and fixed.

STEP 4: GROUPING
Your manufacturers are trying to better handle supplies. All transactions made from Google, Google Corp., or Google Inc. will be combined because they are the same provider. Data enrichment refers to the process of upgrading, refining, and improving raw spending data. It also involves standardizing the data that is spent for easy viewing. Enriching the data spent guarantees that all the names and descriptions of headers and line-levels are correct and to a common naming norm. Different fields frequently lack data, and erroneous orthographies and abbreviations are popular — as are incorrectly coded fields.

STEP 5: CLASSIFICATION
Group the vendors for a better control of the supplies. All should be grouped together for e.g. transactions made from Google including Google Ads, Youtube and Floor. At the same time, classify the data into relevant categories ( e.g.: marketing, office supplies, software) to determine how and where the company spends its money. The integration of
heterogeneous spending data into explicitly defined categories makes spending easier to control and tackle across the entire organization. Classification is about harmonizing all purchasing transactions under a common taxonomy, allowing procurement under achieve global spending exposure and make better purchasing decisions.

If you are using UNSPSC, eClass or your own company-specific categories, you need to be able to decide where you are spending your money. Office equipment, marketing transportation, legal, direct and indirect expenses should all be properly classified.

**STEP 6: ANALYSIS OF DATA**

Now that data is collected, washed, enriched, and graded, it can be analyzed to find savings opportunities and other improvements to procurements. For example, to make sure you have secured the best contract offers per supplier, review your data and verify if all your customers are purchasing from preferred suppliers. Through this, you can find ways to split suppliers by category and secure better prices. The most possible cost-savings approach can only be realized after careful estimation of the verified estimates.

4. **BENEFITS OF SPEND ANALYSIS**

Spending analysis provides a range of key benefits for procurement organisations, including approaches to:

- Get full visibility of procurement spending
- Define future savings and realize incremental savings
- Improve and coordinate procurement processes across business units
- Control risk and maverick spending to guarantee compliance
- Evaluating supplier efficiency to better control relationships
- Inside or with colleagues, benchmark success
- Perform strategic, data-driven sourcing
- Work in collaboration with other organizations.

5. **CONCLUSION**

Based on findings of the study, the proponent concluded following:

1. Spend Analysis is very important for every large capital company as their spends can be in millions in a month, which could save them a lot of capital for futures.
2. Growth of a company can be affected if their spend is not managed or analyzed by the company or the management properly.

**REFERENCES**

[1] https://trumpexcel.com/