This is an entry in the newly published ***Encyclopedia of Operations Management – 2018 Edition*** by Professor Arthur V. Hill. This book is available as an eBook from Amazon Kindle and in hardcopy format from www.ClamshellBeachPress.com.

spend analysis – A careful examination and evaluation of where a purchasing organization is currently spending its purchasing dollars with the purpose of finding opportunities to reduce cost or improve value.

Overview – Spend analysis answers questions such as:

- How much are we spending in total?
- How much are we spending in each category?
- How much are we spending for each supplier?
- How much are we spending in each commodity group?
- How can we stratify our suppliers?
- How can we *leverage our spend* to reduce cost?
- How can we reduce our usage?
- Where are we at risk with our spend?

Motivation – Some authors argue that a $1 reduction in spend is often roughly equivalent to a $3 to $5 increase in sales.[1] In other words, the contribution to profit of a $1 reduction in purchase cost can be roughly the same as the contribution to profit of increasing sales by $3 to $5. Spend analysis typically achieves savings by identifying opportunities to *leverage the spend*. This means that the organization requires that all business units use the same suppliers, which enables the organization to negotiate a lower price. Other spend analysis tools include reducing demand (e.g., make it harder for workers to make photocopies), substituting cheaper products (e.g., requiring reused toner cartridges), and segmenting suppliers so more important commodities are managed more carefully.

Kraljic's purchasing portfolio model – Kraljic (1983) developed a purchasing portfolio model (shown below) that can be used to segment items and suppliers, prioritize and mitigate risks, and leverage buying power. Each of the four options requires a different sourcing strategy. Non-critical items require efficient processing, product standardization, and inventory optimization. Leverage items allow buyers to exploit purchasing power. *Bottleneck* items have high risk but low profit impact and therefore require risk mitigation strategies. Strategic items require careful attention that might result in strategic partnerships.

Kraljic's purchasing portfolio model

Profit impact	Supply risk: Low	Supply risk: High
High	Leverage items	Strategic items
Low	Non-critical items	Bottleneck items

Adapted from Kraljic (1983)

Limitations of the Kraljic model – Geldermana and Van Weeleb (2003) note that it is difficult to measure the dimensions in Kraljic's model. They also suggest that the model should allow for movement between quadrants. Other dimensions that might be used to segment suppliers or items collected by this author include total spend, supplier risk score, number of buyers in the market, number of suppliers in the market, number of qualified suppliers in the firm's current supplier base, buyer/supplier power, generic items (*commodity*) versus customized (engineered) items, supply leadtimes (average and variance), supplier financial viability, supplier willingness to hold inventory, and degree of supplier involvement in product development. See *sourcing* entry for more detail.

A supplier segmentation model – This author has developed the following model for segmenting suppliers with the help of several sourcing executives.

Supplier segmentation model

		Supplier segment: Strategic	Supplier segment: Preferred	Supplier segment: Standard
Dimensions	Selection criteria	Higher spend, higher risk, engineered components, few suppliers in the market, unique technology/service	Medium to high spend, large number of suppliers in market	Suppliers that are not strategic or preferred
	Description of the overall relationship	Business partnership: Shared commitments, jointly managed costs, co-developed products	Strong business relationship: Some longer term commitments, not just transactional	Transactional relationship: No long term commitments, only transactional
	Planning	Long term schedules, annual commitments	Purchase orders for 1-2 quarters	Short-term purchase orders
	Performance reviews and scorecards	Frequent 4-12 times per year	Infrequent 2-4 times per year	Rare As needed

[1] *This is not always true. The numbers here depend on a number of parameters and assumptions.*

	Agreement length	Longer term 3-5 years	Medium term 1-3 years	Short term Up to 1 year
	Product development	Product portfolio visibility, sole use for technology, co-develop technology, access to senior executives	Preferred choice for projects	None
	Pricing	Volume and savings based	Volume and savings based, bidding	Purchased order based or annual with bidding
	Typical inventory relationship	Supplier owned Supplier managed	Buyer owned Supplier managed	Buyer owned Buyer managed

Source: Professor Arthur V. Hill

Tail-spend – Most firms apply *Pareto's Law* to focus on the important few and de-emphasize the trivial many. However, a focus on the trivial many can sometimes yield significant savings, particularly if these items and suppliers are not well-managed. *Tail-spend* analysis focuses on the low-annual spend items, non-contracted spend items, *Maintenance-Repair-Operations (MRO)* items, and infrequently-used suppliers. This includes the 80% of the items that make up roughly 20% of the annual spend.[2]

See *leverage the spend*, *Maintenance-Repair-Operations (MRO)*, *Pareto's Law*, *purchasing*, *sourcing*, *supplier*, *supply chain management*, *tail-spend*.

[2] *The actual percentages could be quite different from these values.*