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## Lean, agile and resilient pharmaceutical supply chains: Jargon or action?

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# IMPROVING SUPPLY CHAIN PERFORMANCE

The international pharmaceutical business environment continues to develop at a rapid rate and Ireland remains a key global location for the sector. The important role of supply chain management (SCM) in better serving global markets cost effectively is widely acknowledged in the industry, and recent years have seen major developments in this area.

However, development of an understanding of SCM and its role in improving business performance is often complicated by the terminology which has evolved over the years. This article explores the lean, agile and resilient concepts, with specific reference to their respective meanings and potential roles in improving supply chain performance in the pharma sector.

## LEAN SUPPLY CHAINS

A cursory glance at a dictionary or thesaurus indicates that possible synonyms for 'lean' might include 'thin', 'trim' or 'slim'. The most widely quoted antonyms of these words (i.e. words with the opposite meaning) include 'fat', 'messy' and 'out of shape'.

In the context of a business or a supply chain, lean was originally used to describe the situation where many of the non-value adding activities (NVAs) had been identified and eliminated. NVAs are activities which add cost without necessarily adding value. Value in this context can best be described as something which a customer is willing to pay for.

Another perspective on NVAs is that they are activities which add time to supply chain processes without necessarily adding value from a customer point of view. The latter is important in two respects. Firstly, time is money and, therefore, taking unnecessary or wasteful time out of processes should lead directly to cost reductions. Secondly, taking wasteful time out of processes should result in faster product supply and, as a result,

*Lean, agile and resilient pharmaceutical supply chains: jargon or action? Edward Sweeney, Director of Learning, NITL, provides the answers.*



improve this important aspect of customer service. From a financial perspective, going lean should reduce operating costs and facilitate more effective use of working capital and fixed assets, thus contributing significantly to overall profitability. This approach suggests that in going lean, the major benefits are derived directly from efficiency improvements.

Lean thinking was popularised by the 1990 book "The Machine that Changed the World". This book illustrated the significant performance gap between Japanese and western companies in the automotive sector and attributed the main reasons for this gap to the fact that Japanese approaches tended to use less of everything (e.g. less human effort, less stock and less time) across supply chain processes. In other words, Japanese supply chains tended to be leaner.

## AGILE SUPPLY CHAINS

In the case of the word 'agile', a dictionary or thesaurus indicates that possible synonyms might include 'swift', 'responsive' or 'nimble'.





### RESILIENT SUPPLY CHAINS

In the case of the word 'resilient', a dictionary or thesaurus indicates that possible synonyms might include 'flexible', 'durable' or 'quick to recover'. Antonyms of these words might include 'rigid' and 'inert'. The reality is that contemporary supply chains operate in uncertain and risky environments. Sources of risk include economic volatility, unpredictable natural phenomena (e.g. earthquakes, tsunamis, hurricanes) and political instability.

In this context, there is a pressing need to develop supply chains which are resilient, i.e. that are capable of operating successfully in the face of these and other risks. Writing in a forthcoming book (Sweeney, 2009) a leading expert in this area, Professor Richard Wilding of Cranfield School of Management suggests that when building a resilient supply chain, four key things need

to be considered. These are:

ble'. The most widely quoted antonyms of these words include 'clumsy', and (as with 'lean') 'out of shape'. This suggests that the concepts of 'speed of response' and 'flexibility' are the keys to distinguishing between lean and agile. The need for agility in SCM is based on increasingly volatile market demand patterns and shortening product life cycles.

The leading academic authority on agility, Professor Martin Christopher of Cranfield School of Management, states that: "Whilst 'leanness' may be an element of 'agility' in certain circumstances, by itself it will not enable the organisation to meet the precise needs of the customer more rapidly."

This implies that lean is effectively a subset of agile. Furthermore, the emphasis on speed is evident in Christopher's use of the word 'rapidly'. The implication here is that time is a key competitive weapon, with reduced new product introduction (NPI) and order fulfilment times, for example, providing the potential for significant performance improvement.

to be considered. These are:

- Supply chain design;
- Creation of supply chain agility (see above);
- Building collaborative supply chain relationships;
- Creation of a supply chain risk management culture.

Each of these areas is important in its own right. However, it can be argued that collaboration with key suppliers and customers is one of the foundational principles for creating a resilient supply chain.

### CONCLUSION

The recent volatility in global markets has resulted in a situation where the effective management of pharma supply chains is becoming increasingly regarded as a major source of competitive advantage. However, this requires that the key SCM concepts of 'lean', 'agile' and 'resilient' are properly understood. The regulatory environment in which the industry operates, and the strict requirements associated with Good Manufacturing Practice (GMP) and Good Distribution Practice (GDP), bring particular challenges. However, the wider adoption of effective SCM has the potential to further improve shareholder value in all parts of the sector.

### ABOUT THE AUTHOR

EDWARD Sweeney is Director of Learning at NITL, where he has overall responsibility for all aspects of training and education provision. He is also active in research and carries out projects on many aspects of SCM on behalf of client companies.

NITL (the National Institute for Transport and Logistics) is Ireland's leading centre for education, research and consultancy in all aspects of sustainable transport and SCM. It is part of the Dublin Institute of Technology (DIT).

### FOR MORE INFORMATION:

'SUPPLY Chain Management and Logistics in a Volatile Global Environment' by Edward Sweeney (2009) - with contributions from Martin Christopher, Richard Wilding and others - is available from Blackhall Publishing (visit <http://www.blackhallpublishing.com/PGContent.php?UID=677>).