



MARGIN EXPANSION SOLUTIONS
SMART ANALYTICS > PREDICTIVE GROWTH

Digital Lean Six Sigma The Next Frontier in Business Excellence

Today, **Operations Excellence (OPEX)** processes, knowledge and practices are mature, widely understood and adopted to varying degrees. Deployment of OPEX practices have yielded 1.5% - 2% margin expansion. However, for businesses which have adopted OPEX methods and harvested the associated benefits, future savings and run rates are eroding.

Are there any untapped opportunities in the OPEX methods? What is the next OPEX frontier?

Digital Lean Six Sigma (DLSS) is the next OPEX frontier. Productive data management and analytics, combined with sophisticated visualization capabilities will shape the foundation for the next generation OPEX. DLSS has the potential to provide 3% - 5% margin expansion.



Evolution of Operations Excellence

In the early 1950's, post-World War II, **Total Quality Management (TQM)** pioneer, W. Edward Deming advised that for continuous improvement of business operations, companies should: **"Improve constantly and forever the system of production and service to improve quality and reduce waste."**

Deming's philosophy became the foundation of Operations Excellence (OPEX). Processes and tool kits were developed to reduce waste, improve customer satisfaction, and uplift enterprise value.

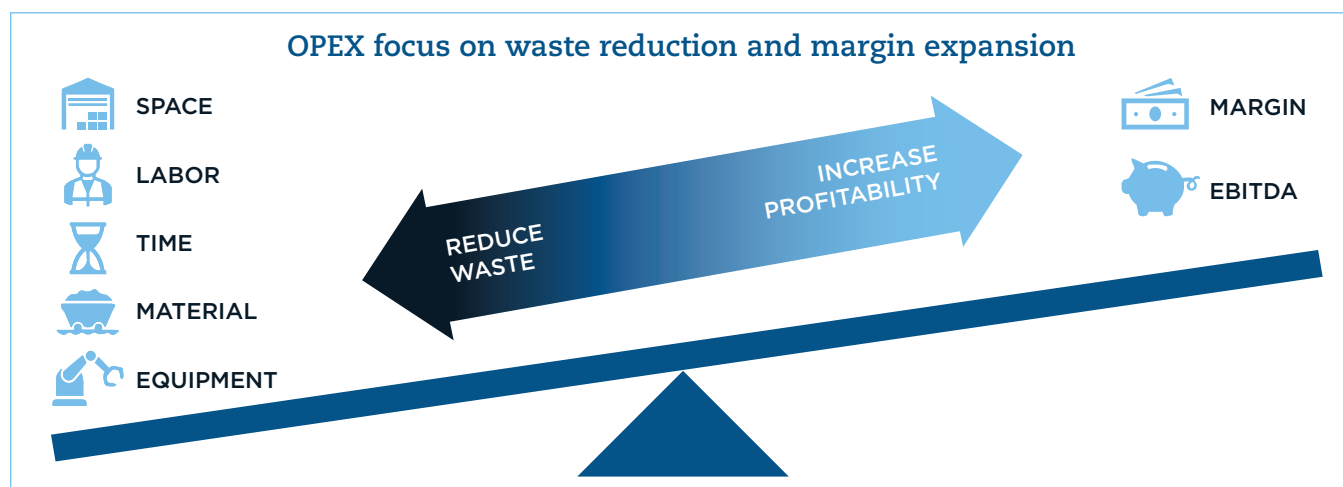
Operations Excellence processes deployed within the workplace yield ongoing business performance improvements

The processes focus on customer needs, keeping the employees positive and empowered, and continually improving current activities in workplace. Major outcomes of OPEX are:

- Improved teamwork and efficient problem solving
- Early detection of variations and problems
- Lean, predictable, and scalable processes
- Meet customer expectations
- Margin expansion

In Japan, Taiichi Ohno and Shigeo Shingo of Toyota Motor Co. in consultation with Deming, developed Toyota Production Systems (TPS) to manufacture automobiles with fewer resources: equipment, labor, space, time, and material. TPS put Toyota in top quartile in competitiveness and profitability. Following Japan, Bill Smith of Motorola in the US formulated the Six-Sigma methodology and tools. Motorola was the pioneer in deploying Operations Excellence processes to uplift the quality of their products and profitability of the business.

An estimated \$16B in savings was achieved at Motorola after adopting Six-Sigma principles.



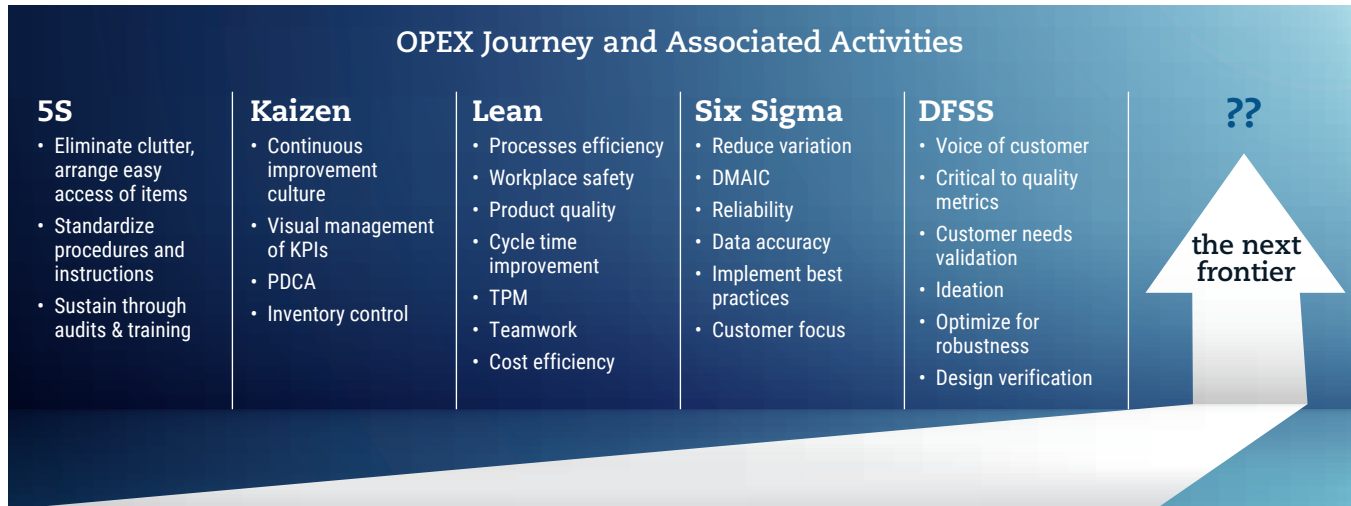
In the OPEX continuum there are five principal processes (methods) targeting excellence in various work streams of production, service, and innovation:

5S | Kaizen | Lean | Six Sigma | DFSS

OPEX methodologies have provided financial and cultural benefits to businesses. Deployment of OPEX practices have yielded 1.5% - 2% margin expansion, and a return of 2X on investment.

OPEX Journey and Associated Activities

Today, operations excellence processes, knowledge and practices are mature, widely understood and adopted to varying degrees. However, for businesses that have adopted OPEX methods and harvested the associated benefits, future savings and run rates are eroding. Are there any untapped opportunities in the OPEX methods? What is the next OPEX frontier?



Digital Transformation

Evolving Digital technologies offer untapped potential for OPEX and business excellence. Meta data and data are ubiquitous, data storage is secure and low cost, business intelligence tools are widely available and provide powerful insights. As businesses transition into the digital ecosystem, it is imperative that OPEX receive the benefits from data management and insights. Digital Lean Six Sigma (DLSS) is the next OPEX frontier. Productive data management and analytics, combined with sophisticated visualization capabilities will shape the foundation for the next generation OPEX.

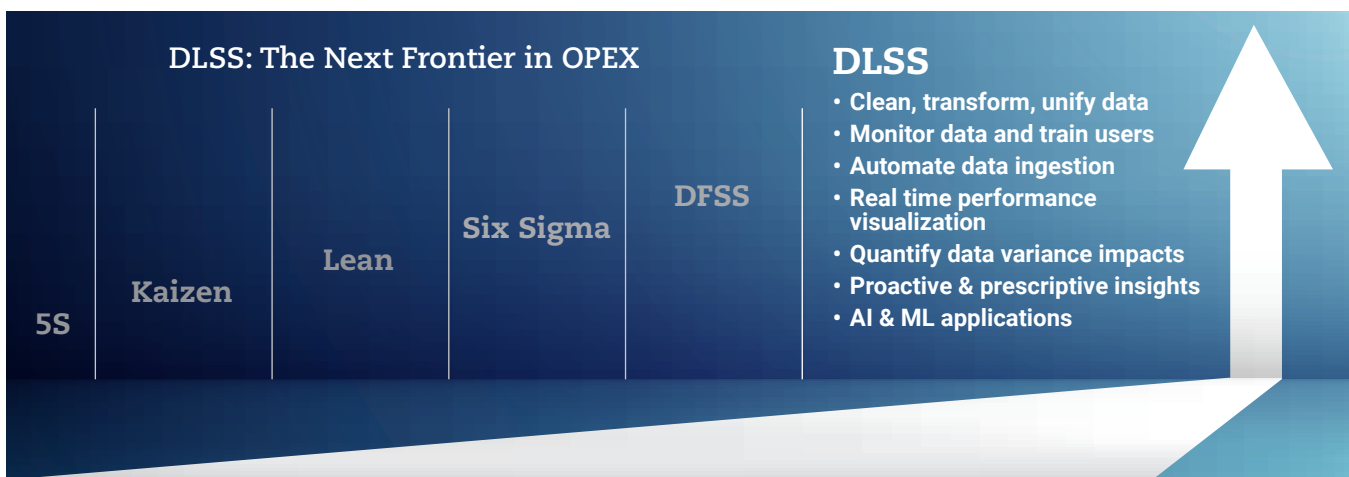
For all manufacturers and service providers, product and service excellence will be table stakes. DLSS provides the platform for competitive advantage and margin expansion in the race to achieve top quartile performance and enhanced shareholder value.

Digital Lean Six Sigma is the next OPEX Frontier. Optimum data journey or Digital Excellence will determine business position in the market as well as survivability into the next decade.

The DLSS Advantage

Most underlying objectives for 5S, Kaizen, Lean, Six Sigma, DFSS and other OPEX methods apply to DLSS. In the digital journey of DLSS, 'data' is analogous to 'items' (parts) in operations. DLSS unlocks an enormous potential by organizing and leveraging data efficiently yielding benefits in:

- Complexity reduction of data storage and access
- Automation of metadata and data ingestion
- Ubiquitous access to information
- Visibility and transparency of information
- Performance monitoring and reporting
- Variance analytics
- Business-relevant actionable insights
- Decision-making and accountability
- Forecasting and Risk Management



The Next Frontier

DLSS is the next frontier in the OPEX journey. Unsurprisingly, its application will yield enhanced outcomes in the same areas as traditional OPEX processes:

- Improved team engagement and proactive problem solving
- Early detection of variations and problems
- Lean, predictable, and scalable processes
- Meet customer expectations
- Margin expansion

All businesses retain data for variety of reasons (from devices, financial, regulatory, sales, etc.). The data sand box has grown and so have the tools to play in the sand box. It is time to evolve to the digital universe of data-driven smart analytics to drive market leadership, growth, and profitability.

Investment in traditional OPEX methodologies have yielded 1.5% - 2% margin expansion. DLSS is the next OPEX frontier. In the authors' experience and estimates, DLSS has the potential to provide 3% - 5% margin expansion.

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Accomplished business executive with thirty years of management experience, including seven years of international operations experience as an expat in Shanghai, China. He is adept at Innovation, COGS reduction, and margin expansion.

Ajay has worked at multi nationals such as Colfax, Diebold, Ingersoll Rand, Stanley Black & Decker, and Dresser Rand. He has held positions of increasing responsibility from Senior Engineer to Vice President of Engineering, including business experience in Europe, Asia Pacific and North America.

Ajay is an Entrepreneur, Coach and Consultant in the practice areas of business excellence, margin expansion, overseas supply chain management and production. He holds an MSME degree from RIT, NY and an executive MBA from Alfred University, NY.



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Experienced senior executive who has served as a key team leader responsible for global manufacturing, technology operations, research & development, strategic planning, and product development in the consumer, industrial, and commercial product sectors.

Richard has over 35 years of progressively responsible leadership roles in diversified industrial firms that include Ford Motor Company, Textron, Stanley Black & Decker, and Ingersoll Rand where he retired as Corporate Vice President of Engineering and Technology.

Richard is a seasoned private equity and angel fund investor with private company Board of Director experiences. He is a mechanical engineering graduate of Kettering University and attended MIT as a Sloan Fellow where he earned his MBA degree.

ABOUT MARGIN EXPANSION SOLUTIONS

Margin Expansion Solutions (MES) is a provider of products and services focused on business excellence. It delivers business leaders and stakeholders visibility to a dynamic, smart, data and facts-based platform for early interventions, corrective actions, and decisions to achieve predictable profitability. MES facilitates businesses in their digital transformation journey and unlocks the energy of an organization to enable best in class performance and sustainable change management.

For additional information visit www.margin-solutions.com



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