

The Lean Machine – How Good Technology Generates Competitive Advantage

Well implemented technology should generate efficiencies across the board, and drive profitability to generate growth and improve shareholder return.

However some software technology is very inefficient, and will never realise its return on investment potential due to its' incredibly high cost of development, poor time to implementation and high ongoing costs of upgrades and maintenance. Such systems put their owners at a severe disadvantage and allow the competition to move ahead.

We investigate some solutions to this dilemma via the adoption of LEAN methods.

Required Conditions for Success

The correct adaptation of LEAN technology can fundamentally change an organisations efficiency and profitability via progressive improvement. It is focused on the elimination of waste of resources and energy, and optimisation of profitability.

Success Factors

The amount of profit that can be generated and its rate of return is determined by the organisation's capability to correctly identify those processes that will bring the greatest business benefit. By speedily developing those applications that will automate these processes, and bringing them into production as quickly as possible the following business imperatives can be achieved:

- **Driving down operational costs** –e.g. reducing the costs of labour, technology, vehicles and plant, factory and warehouse overheads etc.
- **Minimising the cost of error and delay** – e.g. streamlining order processing, delivery, and cash recovery.
- **Reducing the risk of incurring potential costs (risk)** – e.g. avoiding breaches in service level agreements, health and safety requirements or regulations.
- **Improving product design** – e.g. upgrading product quality to surpass the competition.
- **Optimising cash flow** – e.g. by delivering 'just in time' stock control processes, minimising cash tied up in stock holdings, avoiding delivery errors and speeding the sales and cash collection cycle.
- **Generating new income streams** – e.g. by providing access to new markets and enabling new channels - such as the internet or wireless communication.
- **Optimising the sweating of assets** – e.g. minimising stock loss, optimising warehouse throughput and increasing the productivity of plant (e.g. forklifts and vehicles) and personnel.

The Goal of LEAN Technologies - End to End (Straight Through) Processing

End-to-end processing is a real time implementation that will minimise human intervention (and lower the costs involved in processing) from origination of the sales order to the point of cash collection. The process typically uses the data generated during order processing to drive provisioning, manufacturing, warehousing, transport and delivery, accounting and cash collection. Some of these processes will be supported by disparate 'legacy systems'.

Problems with Legacy Systems

Legacy systems are those which are already in production – they may not necessarily need to be very old or obsolete. Some older systems however were designed and built as one holistic machine, containing many disparate process components, which were not assembled until all of the components were built, and tested. The inherent problem with this method, which often takes several years to execute, is up front investment is heavy, and the implementation and payback cycle is lengthy.

Such systems can incur incredibly high overhead and allow newer competitors, using LEAN technologies, to streamline faster, achieve better profits, and generate higher capital investment and growth.

The options for operators of legacy systems are limited. There is often little appetite for replacing these systems, and it is more expedient to integrate them with a newer platform which provides the flexibility the business requires, perhaps gradually replacing costly legacy components in a series of timely steps.

Who Leads the Way?

Experts advocate that such system change must be sponsored and led at senior board level. Middle management may not have the holistic insight, experience or bandwidth to successfully direct acquisition or implementation.

Most large organisations avoid some of these issues by establishing project committees. These committees assess, vet and control internal applications for the funding of schemes that 'improve the business'. However smaller organisations often cannot afford, or have the bandwidth to, enable this process.

Project implementation team managers have the most critical function as they endeavour to co-ordinate all activity, and will try to determine and control the speed at which processes can be fully implemented, the cost of the roll-out, and all ongoing costs of the programme.

Under them, LEAN technologists analyse and map the current process flow and pinpoint where wastage occurs (bottlenecks, error, etc.) and associate values to each process step. The process map assigns a value and ROI of automating each step, and prioritises those that will yield the greatest ROI by eliminating waste, error and time-lags.

Within this paradigm it is critical that managers and personnel accept the changes to working practices, be actively consulted and involved, and correctly trained.

Importance of Cost Effective Development

It is the application developers who significantly determine the cost, pace and quality of project delivery. Not only initial development costs are considered but also the cost of upgrades and maintenance, while the pace of development, if hindered, can cause deadlines to slip and important revenue generating opportunities to be missed.

Advantages of LEAN Technology Implementation and Development Techniques

LEAN technologies are 'open' i.e. they can work alongside other I.T. products and platforms. They seamlessly pass information across each separate process component, speeding the sales order cycle and converting orders into production schedules, and stock into cash. They minimise necessary stock holding, just enough to ensure the 'customer does not walk' into the arms of the competition.

LEAN technology platforms can both integrate with legacy systems and accommodate newer technologies - such as voice base picking, web sales order processing and wireless instructions from remote vehicles that can process orders, as well as raise invoices as soon as goods have been delivered.

LEAN technology implementers will prioritise the automation of those components that provide the greatest payback and demonstrate quick wins and fast ROI. Other components of the implementation follow-on under a planned progressive roll-out.

LEAN technology development is relatively fast and cost effective. Developers prefer to customise existing modules, already packed with features and capabilities built up over many years.

The Role of a LEAN Technology Provider

The selection of a good LEAN technology provider is strategically important. Each should be assessed on their capability to work with the customer to:

- **Assess the optimal and most cost effective use of IT within the business** - by understanding key business issues and specify, develop, integrate, implement, inform and train. Such suppliers will provide invaluable experience gained through implementing many similar systems successfully.
- **Help maximise their return on investment** - by using their industry knowledge to identify those processes that achieve the greatest return in the shortest timescale.
- **Ensure the return on investment is sustained throughout the systems lifecycle** - by using technologies that will integrate with legacy, new, and up and coming technologies – a technical imperative that is often overlooked.
- **Implement quickly and accurately** - having established modules and custom development processes that are proven, can be installed and implemented quickly to maximise on ROI, and avoid specification drift.
- **Keep the customer ahead of the competition** – by providing regular and up-to-date information concerning automation methods, and providing regular system updates to ensure running costs are minimised and process efficiency is optimised.