

The Learning Organisation

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What place does service improvement have within an organisation's OD strategy and its training and development programmes?

How do we view service improvement? Do we view our organisation as a learning organisation, one which improves day by day, hour by hour or is it the type of organisation that identifies one key area for improvement, spends three months developing an implementation plan, starts to implement it and then transfers to the new key area of improvement and never really completes the task it set out to with any real degree of success?

Do we have the capability, capacity and mindset to detect and solve problems as they arise? Or do we keep the wheels turning at all costs?

It is fair to say that there is a fundamental premise in the U.K. National Health Service (NHS) that service improvement should be part of everyone's job and done by people not done to them. There is often talk of emulating a continuous improvement culture and arguably one of, if not, the best examples is Toyota. Toyota spend 3.8% of payroll hours on service improvement outside of the day job (This is 2.6% full time roles and 1.2% whole-time equivalent part-time allocation of peoples' roles. For a 3,000 person DGH – ie 78 full-time and 36 WTEs). It is quite difficult to reconcile the argument that service improvement should be part of someone's day job and that we should be attempting to emulate organisations such as Toyota when they commit so much time to improving the way they work outside of the day job..

In October 2006, we were fortunate enough to be offered the opportunity to visit Northwestern Memorial Hospital (NMH) in Chicago and Toyota Industrial Equipment (TIE) in Columbus Indiana. Our backgrounds were varied – three health care lifers with more years of experience than one would care to mention and two from industry with approximately 25 years of manufacturing experience and 18 months of health care experience in the NHS. There were two objectives to this trip. The first was to see how a world class tertiary and quaternary health care provider in the US has approached service improvement; the second was to see the Toyota Production System in action.

During the course of these two visits we witnessed the remarkable progress that organisations can make by taking advantage of their most valued assets, their employees. The examples provided here are merely highlights and do not do either

organisation real justice in demonstrating how far they have come and how successful they've been.

Table 1 provides a summary of the highlights from TIE and NMH,

Table 1: Highlights – TIE and NMH

Improved quality and safety	-57% reduction in potentially avoidable severe harm events in 2 years, <i>Northwestern Memorial Hospital (NMH)</i> -Warranty Costs due to assembly issues reduced 70% in 5 years, <i>Toyota Industrial Equipment (TIE)</i>
Reduced inventory	6 deliveries per day from suppliers, 2.5 days of finished goods in inventory, <i>TIE</i>
Increased market share	from zero to 18% market share in the US and 25% in the world in 15 years, <i>TIE</i>
Reduced staff turnover	70% reduction in staff turnover in 15 years, <i>TIE</i>
Return on investment in improvement	4:1 return on investment in specialist resources dedicated to improvement, <i>NMH</i>
Phenomenal levels of staff engagement	70% of employees at all levels of the organisation involved in improvement initiatives, generating 800 ideas per month, of which 80% are implemented within 24 hours and 98% within 45 days, <i>TIE</i>
Attracting employees	6 month waiting list for new recruits, <i>TIE</i>
Increased productivity	300% increase in output over 15 years, with less than a 40% increase in staff, <i>TIE</i>
Reduced supplier costs	3% year on year reduction from suppliers, <i>TIE</i>
Employment continuity guarantees	Toyota adopts a "no layoff policy" and employees accept the requirement to re-train as required.
Cash flow	Average of 17% operating cash flow margin for last 20 years, <i>NMH</i>

Toyota Industrial Equipment (TIE) manufactures forklift trucks. Whilst Toyota is more famous for its automobiles and its production system which was brought to the world's attention through the book *The Machine that Changed the World* (Womac, Jones and Roos), the forklift truck division has steadily made similar gains within the forklift market that the cars have made within the automobile market. The level of improvement achieved by TIE is outstanding.

Between 1990 (plant opening) and 1999, 100,000 Forklift trucks were made (10k per year). Between 2000 and year end 2004 a further 100,000 were produced (20k per year). Between 2005 and 2006 a further 50,000 were produced (25k per year). In 2006, in excess of 32,000 trucks will be produced, a 320% increase in production. All this was achieved with less than a 40% increase in staff.

An interesting side note to TIE's growth over the last decade is that post 9/11 the US economy suffered from an industrial recession. Demand for forklift trucks decreased by approximately 10% from September 2001 for the following 12 months. A large number of people were laid off and made redundant following 9/11 as demand for products decreased but Toyota decided not to lay off a single member of staff. They accepted that they needed 10% fewer staff (approximately 30 of the 300 strong manufacturing workforce in place at the time) to meet demand but rather than lay staff off they chose to second them internally from Manufacturing to a Service Improvement team.

For the 12 months following 9/11 these staff worked on projects that would improve efficiency once demand picked back up. The rationale behind this strategy was that whilst customers were not going to buy new trucks following 9/11, eventually they would, and once they did they would have to make the trucks that were not bought during the year in which demand fell as well as the trucks that would normally have been bought that year.

One year after 9/11 staff were seconded back from Service Improvement to production, demand for trucks increased to levels greater than pre 9/11 due to customers ordering trucks that they should have bought during the recession as well as customers ordering trucks that were due for replacement and not one member of staff was laid off during this period.

TIE have seen a 70% reduction in staff turnover since 1990, from 30% to 9%, compared to a local level of 13%. There is a six month waiting list for staff to start and TIE no longer advertise for employees.

Up until the late 90's the turnover at Toyota Industrial Equipment (TIE) was as high as 30% and much higher than comparable organisations within the area.

This was the impetus to examine their induction program and they made it a three week long training program involving the following in 2001:

- Week 1 Complete paperwork and administrative material and training (TPS, Push / Pull, Kanban), meet with Personal

trainer to develop physical training program specific to the role they will be carrying out (e.g. if lifting and swinging heavy material a program that reflects that) and starting to do on the job training in the Training Laboratory in welding, fabricating or another part of it

- Week 2 Continue to follow training program in lab and gym in preparation for working on the line and start to spend 1 hour per day on line with the team they will be working with and after an hour return to the Training Lab to practice the parts they had difficulty with on the shop floor
- Week 3 Divide time between the shop floor with the team and practicing areas requiring improvement in the lab. The personal training program continues in the gym to build stamina required to work on the line for 8 to 10 hours per day.

While it was not immediately apparent, the culture at TIE is distinct. What we observed was a learning system, which has been carefully knitted together to produce something outstanding. Yes, continuous improvement is a way of working, but there is also the recognition that staff need time out of the day job to solve problems to root cause.

Employees are empowered to generate ideas for continuously improving the way that they work. The expectation at TIE is that all 500 shop floor employees will generate 2 new ideas per month. This amounts to at least 800 new ideas per month or 9600 ideas per year. 80% of ideas are actioned within 24 hours and the remaining 18% within 45 days. The conversation that the team leader has with the team member about their new idea is not "why should we do this?" it starts with "yes" and "why shouldn't we do this"? When asked if each idea is evaluated before it is implemented, TIE's response was "Why question the implementation of an idea if it does not compromise quality and safety or require investment, construction or a change in standard operating procedure? If it makes life better for staff we just do it." This raises morale and encourages staff to bring forward even better ideas. "If we are generating 9600 ideas per year we will eventually hit a home run".

TIE employs 3 full time members of staff who are immersed in one major systems redesign project for up to 12 months at a time. A further 10 full time members of staff are dedicated to fabricating items for the new ideas. The new ideas fabricating team is made up of 5 full time skilled machinists and 5 employees seconded from the shop floor. TIE only releases its best staff to work in this team. It is therefore considered a privilege to be seconded. Perfect attendance is a pre-requisite for secondment.

Staff are incentivised and rewarded for their contribution to service improvement. Of the 500 shop floor staff about 70% contribute two additional hours per month paid overtime to work on a service improvement project over the course of a year. The overtime payment is only for hourly paid staff. In reality they work far more than their paid overtime allocation. Upon completion of a project staff present their results to the senior management team. The top three projects go to the National Toyota Conference and present to the Toyota North American Council who pick the best project from each of Toyota's North American plants. The winning teams are invited to Japan to compete for the best service improvement project in the world.

Senior managers and directors create constancy of purpose through giving clear and consistent messages about the vision and strategic objectives. They understand and coach others in the Toyota Way.

As part of their day job team leaders own and solve problems day to day. At TIE team leaders are expected to document defects or errors in their area the same day and put in place countermeasures for preventing the same defect from occurring by the next day. This might be a simple fix, an escalation plan or a plan outlining resource requirements. Performance management systems are in place to ensure that there is accountability for actions.

Every employee at TIE has the power and the obligation to stop the assembly line when a defect or error is identified or even suspected. This ensures that problems are fixed at source and are not embedded in the final product.

Interestingly, we saw no evidence of Rapid Improvement Events (RIEs) as a mechanism for delivering change.

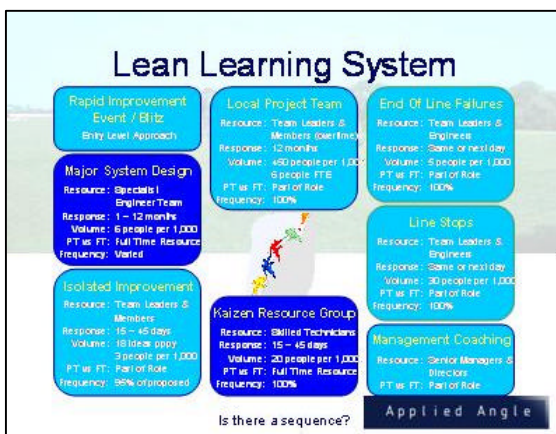


Figure 1: The Lean Learning System

What we saw at TIE could be described as a learning system (Figure 1). Layers of the learning system allow TIE to continuously learn and improve quality, safety, cost, delivery, customer and staff satisfaction. Each layer has played a part in where TIE is today. Moving from left to right of Figure 1 there are levels of maturity. Line stops and preventing end of line failures take longer to establish than RIEs or isolated improvements. The dark blue boxes are full time resource. The light blue boxes are part-time resource. Boxes with a blue outline are proactive and boxes with a green outline are reactive.

What is right for TIE will not necessarily be right for another organisation, but we can learn from the TIE approach. The key message is that service improvement does require a level of investment. Staff need time out of their day job to solve problems.

The learning system might answer why TIE don't make much use of Rapid Improvement Events (RIEs). While RIEs are a useful entry level approach, in particular for building momentum through demonstrating the impact of service improvement, TIE has developed a culture which is receptive to change and there are a number of other mechanisms in place.

The immediate response would be "there's not that much variety in forklifts" and therefore it will still be easier to plan. Unlike Toyota's automobile manufacturing, no forklift is manufactured without a specific order, so in much the same way as health care they do not know what they are going to have to make in 2 to 3 months time. At their facility in Columbus Indiana, TIE manufacture trucks based on 93 basic models however currently about 40% of the trucks they manufacture are custom built to carry out a specific task. The result is that whilst there are 93 basic models there is an infinite level of variety on top of this standard work. Once you start to see that the variety is limitless and that everything is made to order the parallels to health care become a little more apparent.

Some might argue that this is a "Toyota thing or a Japanese thing" and is therefore not possible in other organisations or countries. Toyota has achieved similar levels of performance at plants throughout Japan, the US and Europe with local employees working in the Toyota way. TIE successfully took over a BT Raymond plant in 2001 demonstrating that they are able to change an established culture.

The second leg of our visit was to Northwestern Memorial Hospital (NMH) in Chicago. NMH has been pursuing its own service improvement agenda for the past five years and might be an organisation

we feel is more relevant to our own organisations and yet they too have made remarkable progress.

The whole hospital is designed around flow and the attention to detail is incredible. The underlying design principles are like a Disney theme park, that there is on stage and off stage. On stage are the public spaces and reception areas where you will never see a patient unless they are directly admitted off the street. Off stage is where patients are transported, moved and where materials and the running of the hospital occurs beyond the public's view.

On stage public areas are carpeted. Off stage patient areas have floor coverings that assist in minimising hospital acquired infections. There is no abstract art within the hospital, all the art is "healing art". All the rooms are private and all the windows in the rooms are low enough that bed ridden patients can see out and down. The north facing wall of the hospital is all glass. The south facing wall is all brick allowing patients and visitors to get their bearings. The east wing is outpatients, the west wing is inpatients and the first eight floors are shared so inpatient and outpatient diagnostics are on the same floor and resource can be flexed

From the design of the building to the internal environment in which care is provided NMH strives to provide the best patient experience from the patient's perspective; recruit and retain the best people who share the organisation's values and achieve results; and achieve exceptional financial performance. 9 quality improvement leaders work full time on multiple service improvement projects. Since 2002 NMH has undertaken 125 improvement projects resulting in a 57% reduction in potentially avoidable severe harm events and a greater than 4:1 annual financial benefit from improvement. There is an annual quality day where all improvement project teams present the status of their projects to 300 senior managers and clinicians. There is a board retreat for half a day per year. The focus of the retreat is on quality and safety. All potentially avoidable incidents are reviewed and actioned immediately or become the focus of future improvement projects.

Every improvement project has a dedicated quality improvement leader (service improvement member of staff) who works closely with the process owner (manager/clinician from the process area). There is also an executive sponsor (board level), clinical sponsor and project sponsor (director level) for every project. The process owner and quality improvement leader present the status of their project to a panel of executives in a monthly 15 minute interview.

Providing the best patient experience is of paramount importance to NMH and an example of this can be seen in their outpatient clinics. Upon arrival a patient goes to the well sign posted reception area. Should they have any difficulty orientating them selves, the north side of the building is entirely glass, the east, west and south are masonry and glass making it easier to find ones bearings. Upon arrival at their clinic they are booked in and take a seat in the reception area. When it is time for their appointment a clinician or other member of staff will come out of the clinic and enter the reception area, go straight to the patient and greet them by name and ask them to come back to the clinic with them. They achieve this level of personal service by providing the reception staff and the clinical staff with a map of the reception area with the seats on it, each seat is numbered and when a patient takes a seat the receptionist emails the clinician to let them know where they are. This allows every patient to be greeted individually.

What sets TIE and NMH apart from other organisations is their:

- ability to stay focussed on their long-term vision in the face of short-term pressures
- relentless pursuit to continuously improve quality for the customer
- ability to involve, empower and retain staff who share the organisation's values and get results
- strong clinical, managerial and executive leadership creating constancy of purpose
- recognition that staff need time out of the day job to improve services
- excellence in solving problems to root cause
- recognition of the need to build internal capability and capacity to drive and sustain the ongoing improvement effort
- robust systems of measurement

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