



Productivity In The NHS – The Whole Story?

Lean Whole Systems – Realising System Efficiency Improvements And Aligning Productivity Initiatives.

By Alastair Mitchell-Baker, Simon Thane and Irwin Bidgood

Summary:

Under the current NHS reform agenda Acute Trusts face enormous economic challenges over the next few years, with many required to improve efficiency significantly. Many Trusts, and indeed whole health economies, need to deliver major sustainable reductions in their cost base.

Important lessons can be learnt from the productivity crisis that faced manufacturing industry in the 1980s and 1990s from Japanese competition, and the subsequent adoption of Lean Manufacturing. Lean can then be seen in its true light, as a whole systems-level organisation transformation, and not merely as the application of a cluster of component-level tools and methods. There is a need for a whole systems language and perspective to reliably achieve similar significant productivity improvement by the NHS.

It is questionable whether the current set of NHS productivity initiatives, summarised in the 'Efficiency Map,' is being applied by Trusts within a whole systems framework, without which the results will be unpredictable and probably disappointing.

Tricordant's whole systems approach is presented as a framework and tool for NHS organisations to take a proper whole system perspective. This will aid them in realising whole systems-level efficiency improvements and complement, complete and align their productivity initiatives.

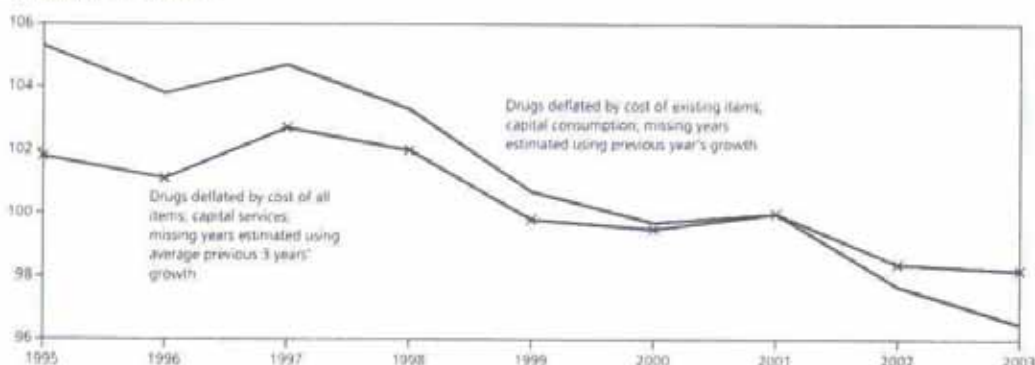
The NHS Productivity Issue

Productivity has become a major operational and political issue for the NHS. Spending on the NHS will rise from £37bn in 1997 to £90bn by 2007/08. In January 2004 the Organisation for Economic Cooperation and Development (OECD) found that NHS output grew faster in the first half of the 1990s than in the ten years since, despite these huge spending increases. In April 2004 a report by the Prime Minister's Strategy Unit and HM Treasury, leaked to The Sunday Times, estimated that NHS productivity had fallen by 15-20 per cent since 1997. In December 2003, the ONS (Office for National Statistics) announced a review of government productivity under Sir Tony Atkinson. In October 2004 the ONS produced figures that stemmed from new work by the Atkinson Review team. These showed decreasing NHS productivity cumulatively of between -8% and -3% over the 9 years since 1995, or on average between -1% and -0% per year. (see graph below). This study drew on 1,700 different categories of NHS outputs, covering over three-quarters of all NHS activity.

Public Service Productivity: Health, Economic Trends GIS, ONS, December 2004

NHS productivity not allowing for quality change: series showing the greatest and least falls in productivity from 1995-2003

United Kingdom, 2001=100





Concern over the ONS report was summarised by Nigel Edwards, head of policy at the NHS Confederation. The ONS findings were the product of perhaps a perverse statistical model. 'Once the damage caused by the historic lack of investment had been repaired, the extra money was targeted at improving the quality of treatment rather than the quantity. But it is quantity that has been measured.'

There is indeed much evidence of recent improved quality and reliability in the NHS: reduced maximum waiting times and delays (e.g. for A&E and elective surgery); improved medical reliability and outcome rates (e.g. for cancer, heart disease and probably orthopaedics); evidence of falling mortality rates; greatly improved access to primary care; significant innovations in non-visit care (e.g. NHS Direct); doctor's hours now largely complying with EWTD and an increase in preventative care activity (e.g. prescribing of statins). However the disturbing fact remains; despite the spending on the NHS having doubled since 1997, its productivity in pure volume/activity terms is still falling. The NHS is not turning the investment into doing more basic procedures per pound spent.

The Politics of Productivity

At the NHS Confederation annual conference in Birmingham in June 2005 the Health Secretary, Patricia Hewitt, gave a tough message on future funding. The Health target is to deliver £6.5bn efficiency gains per year by 2007/08, which equates to approximately 2.7% cumulative yearly savings. A third of these will be delivered through improved service and quality outcomes for patients (e.g. reduction of waiting times, better health outcomes for patients, improved patient experience). She said, 'By that time we will have tackled the historic under-investment in the NHS and eliminated many of its symptoms. So, while growth will continue, the unprecedented increases of recent years will no longer be necessary'. She acknowledged managers' concerns about delivering the government's reforms over the next five years, but added: 'Quite apart from the funding increases committed for the next three years, a potential pot of gold is already in your hands. There are major productivity gains to be had from the extra investment already in the system. The onus is on you as managers to deliver that goal.' System reforms to produce productivity gains, such as appropriate reductions in inpatient stays, were not optional, especially in hospitals or primary care trusts facing financial difficulties. Hewitt was also uncompromising on controversial reforms, such as payment by results (PBR) and Patient Choice. Choice would enable patients to make decisions about their care while PBR created 'sharp incentives' for under-performing trusts 'to change their ways or give way to others that can do better'.

The Scale of the Productivity Challenge for Acute Trusts

Strategic business planning exercises for aspiring Foundation Trusts and whole health economies have been showing that Acute Trusts income streams are likely to reduce by about 15% over the next 5 years or so. The scale of this challenge will vary, but almost all Trusts must face up to the cumulative impact of improved management of Long Term Conditions in primary care, the introduction of Choice and Payment By Results, the increasing role of the private sector including Independent Sector Treatment Centres, the revenue implications of large PFI schemes and the development of more effective systems for unscheduled care. Some Trusts may survive these market changes through attracting more patients, but overall the market share for NHS Acute Hospitals is bound to reduce.

“.....the need for Trusts to make real, sustainable improvements in their productivity is inescapable.”

This long-term market share reduction is in addition to the requirement for major efficiency gains of circa 2.7% per year on the NHS from the Treasury and Department of Health, and the increased labour bill costs from Agenda for Change and the new GP and Consultant Contracts. Research has shown that historically many of the 'efficiency savings' delivered by Trusts has not been real or sustainable. Thus the need for Trusts to make real, sustainable improvements in their productivity is inescapable. The scale of this challenge could be as much as 5% to 8% each year over the next few years.



A Major Lesson From Manufacturing About ‘Productivity’

The NHS is certainly not the first organisation to face such a major productivity challenge. Indeed western manufacturing companies faced a life-threatening productivity crisis in the 1980’s and 1990’s, and some vital lessons can be learnt from the response of the survivors at that time.

A massive paradigm shift hit batch manufacturing in the western world in the 1980’s. As global competition from Japanese manufacturers started to bite, American and Western European businesses were forced to rethink their basic models for organising and managing their factories. Japanese manufacturing companies were beginning to out-perform those in the West. Historic mass production and scientific management techniques were questioned as their Japanese rivals demonstrated that ‘Just-in-Time’ pull systems were a better paradigm. In the 1990s the increasingly widely adopted Japanese batch manufacturing concepts came to be called ‘Lean Manufacturing’.

The Origins of Lean Manufacturing

Lean Manufacturing had its origins as the ‘Toyota Production System’ (TPS), which was developed by the Toyoda (now renamed Toyota) Motor Car Company over the 1950s and 1960s. It was born after the company nearly went bankrupt and out of the need to find an economic way to make the relatively small number of cars required for post-war Japanese market compared to markets in the USA and W. Europe, but in equivalent varieties and versions. In order to regain their position Toyota’s engineers restudied the original western thinking of Henry Ford (inventor of the production line), Frederick Taylor (founder of Scientific Management) and Dr. W. Edwards Deming (father of Quality Management), re-understood their original intent, and over time refined and transformed this thinking. The key principles of the TPS gradually evolved and started to bear fruit. After the 1973 oil crisis, directed by the Japanese government’s drive for their manufacturing-based economy to compete globally, other Japanese firms were encouraged to take notice, and the adoption of the TPS began to spread.

By 1985 a broad spectrum of batch manufacturing companies from America and Europe were starting to implement the learning from their studies of the TPS and ‘Japanese Manufacturing Systems’. The adoption of the ideas was primarily done by the automotive and electronics consumer goods sectors that felt the global competition from Japan the keenest. (The British motorcycle industry was dead before it even awoke to the challenge.) The core, closely linked principles they adopted were called then by the slogans Total Quality, Just-In-Time (JIT), and Cellular Manufacturing. In 1990, in his book ‘The Machine That Changed The World’ Dr. Womack coined the popular phrase ‘Lean Manufacturing’. He explained the evolution from craft producer to mass production to lean production. He highlighted the inefficiencies and waste involved in so called ‘economic’ mass production systems. He carefully compared traditional automotive factories with lean factories.

“The lean producer, by contrast, combines the advantages of craft and mass production, while avoiding the high cost of the former and the rigidity of the later....Lean production is ‘lean’ because it uses less of everything compared to mass production - half the human effort in the factory, half the manufacturing space, half the investment in tools, half the engineering hours to develop a new product in half the time. Also, it requires keeping far less than half the inventory on site, results in many fewer defects, and produces a greater and ever growing variety of products.” (Womack (1990) p13).

Lean – A Whole System’s Transformation for Factories

The foundation of Lean Thinking is the elimination of waste. The basic idea was common sense: that you will be faster and cheaper if you stop doing things that are wasteful of time or resources; therefore stop doing non-value-adding activities, that is tasks that do not add value to the materials or information you are processing. The TPS in fact defines ‘seven wastes’: over production; inventory; waiting; motion; transport; rework; and over-processing.

“Lean Manufacturing became an holistic revolution; a paradigm shift.”

Founded on the drive to eliminate these seven wastes Lean Manufacturing gradually developed into a broad systems-level approach to the production of goods and services. Lean Manufacturing became an holistic revolution; a paradigm shift. It was not just the independent application of a selection of separate, clever tools and techniques. The Lean principles and tools helped a factory to transform itself as a whole, with each aspect of change needing to be aligned and complementary. It required a complementary change in: purpose, objectives, processes, technology, flow, control, systems, organisation, job roles, KPI measures, quality, cost, reliability, spirit, culture, motivation, and teamwork. The specific well known lean ‘tools’ and techniques were not enough on their own to effect the change. They were just a means of designing parts of the overall organisation development programme. For factories without such a whole system vision and strategy success was patchy and minimal. Those factories didn’t survive long, unless they were somehow otherwise sheltered from global competition.



Lessons for Other Sectors

Though the whole package of lean ideas is not directly applicable en-mass outside of the world of batch manufacturing, it was quickly seen that many of the key ideas could be in-part adopted or ‘translated’ for office support functions in the same factories, into factories in other industrial sectors, and then to completely different types of organisations. Today aspects of lean thinking, allied often now with the statistical capability improvement tools of ‘Six Sigma’ (‘Lean Sigma’), have been adopted across process industry, utilities, the service sector, government departments, retail, food, the military, and healthcare.

There is however a great danger in a superficial, component-level view of organisational transformation and productivity improvement. Implementing a range of productivity initiatives blindly in a piecemeal component-level fashion is not predictably or reliably beneficial for that whole system. The set of actions required may not be complete. Their inter-reaction is unpredictable. The net effect on the bottom line may be good, bad or indifferent.

“...great danger in a superficial, component-level view of productivity improvement.”

It is easy to pick up on and translate individual lean techniques and tools for use in other sectors. Consultants can sell such an approach easily, and have been doing so for several decades in other sectors of the economy, but with a documented, very mixed result. Indeed a range of studies have looked at the success of industrial organisational transformation projects in meeting their objectives. The success of Business Process Reengineering (BPR), a derivative of Lean, has been shown to have a 50% – 70% failure rate. Process mapping, streamlining, de-bottlenecking, use of SPC and six-sigma, use of balanced scorecard measure, pull systems, team building, etc., all look attractive, and are relatively quick and easy to apply individually in isolation. Without a whole systems framework any random selection of lean initiatives might fortuitously add up to a genuine whole systems improvement. In other circumstances they may only provide transitory, localised improvement, with the effect on the whole system however being minor, or even negative due to unforeseen interaction with other sub-systems.

Applying Whole Systems Lessons To The NHS Productivity Challenge

So what of the NHS in 2005, and its high-profile productivity challenge? How does the NHS’s list of productivity initiatives compare to the full list aspects of lean understood by manufacturing in the 1980’s and 1990’s. Are there gaps? Are the various initiatives being adopted by health trusts being done as a series of unaligned, isolated component-level interventions, or as tools to implement part of a comprehensive, aligned whole-systems initiative? Do they add up to a quantum step-change in effectiveness and efficiency of the whole system? Do they only add up to part solutions which will give disappointingly little bottom-line result? Is this a contributing reason why NHS productivity has not been improving? What is the scope and dimensions of the bigger, whole-system transformational framework they should be fitted into? Does the NHS even have an accessible, whole systems language to talk about this issue?

The NHS certainly has many productivity and efficiency initiatives underway. At present one key document brings these all together to provide a single source of what is on offer, and what’s going on. The ‘Efficiency Map’ (See: www.dh.gov.uk/productivetime) has been developed by the members of the Productive Time Delivery Board, which includes representation from the NHS, the Modernisation Agency, NHS Connecting for Health, the Department of Health, HM Treasury and the Office of Government Commerce.

The ‘Efficiency Map’ document says, ‘There are currently a large number of key initiatives underway or on the cards to modernise service delivery, pay and workforce strategies, and IT systems within the NHS. It is important to understand that, even if they may be developed and introduced at different times, all these initiatives are interdependent and play a crucial part in maximising service improvement overall.’ How though does an individual trust take a whole system overview to decide what are the key initiatives to focus on, what the right selection is for them, and check how they align and add up?

The ‘Efficiency Map’ document not only lists some 29 work-streams and projects, but also the proposed KPIs against each project and the likely efficiency benefits and quality improvements. Whole systems theory would say that any listing of benefits from individual component-level interventions is often over-simplistic. The projects are likely to be highly inter-dependent. You can’t just choose from the list like a shopping list, adding up benefits like points as you go. It’s not as simple unfortunately as ‘the more you do the more benefit you get’. The net bottom-line productivity improvement of any sub-set of component interventions is inherently difficult to calculate without having a whole systems model of the organisation and seeing their interaction as a whole, this being especially so for any organisation as complex and inter-woven as an acute hospital or local healthcare system.



The Need For A Whole Systems Language and Perspective for the NHS

In improving and redesigning a healthcare organisation from a whole systems perspective, each component and sub-system needs to work in conjunction with the components and sub-systems around it, and each level of system needs to build on the sub-systems level below to create a total system delivering the overall customer/patient-centred purpose. Individual tools adopted separately and piecemeal from modern manufacturing and Lean typically optimise only one component, sub-system or level of the whole system; the process flow, resource capacity planning, planning systems or team-working for example. They work at this component optimisation level not at the overall whole systems level.

The healthcare context is unique and complex for a number of factors. This does not mean approaches developed in other sectors are not applicable but does mean their use in organisational change in health care needs to be managed especially sensitively and appropriately. Failure to do this will result in messy failure.

Case study

In the 1990s Alastair Mitchell-Baker was a director at a large UK acute hospital pioneering the use of Business Process Reengineering [BPR] and other approaches in the NHS. The hospital employed a blue chip US based consultancy firm to work with the A&E department. Alastair and colleagues impressed on them the need to work with the staff and take account of cultural issues. They completely ignored this request and came back in 4 weeks with a technically accurate BPR analysis of the department that was impossible to implement such was the degree of antagonism generated with the A&E staff!

Subsequently, the hospital softened BPR to Hospital Process Redesign [HPR], developed their own in house HPR team and using an internal A&E facilitator repeated the analysis, this time more slowly and with considerable staff participation and in time support.

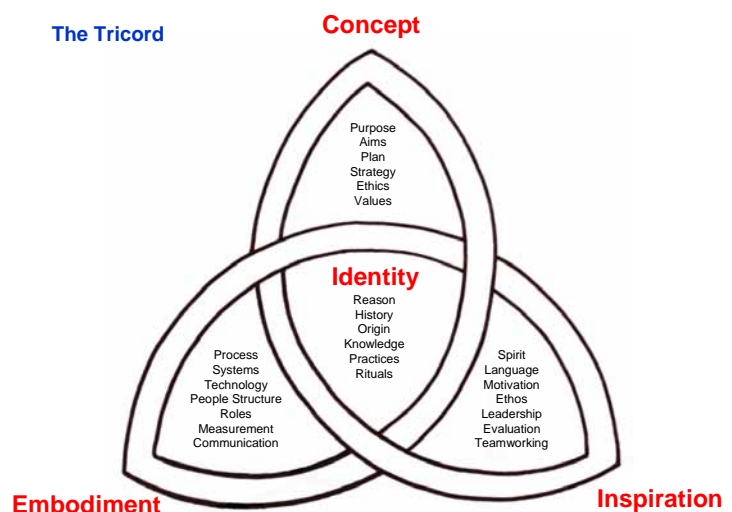
As Marvin Weisbord, author of Productive Workplaces, points out, people will support what they help to create. Real lasting and effective change requires the understanding, participation and commitment of frontline health care staff. If the process of understanding existing service provision and exploring opportunities for improvement can reconnect clinical staff with the real meaning and purpose of their jobs – for instance focussed on promoting and enabling health - then significant as yet untapped energy can be released.

Tricordant's Whole Systems Approach

Tricordant Limited is a whole systems organisation development consultancy founded by the three authors of this paper; Alastair Mitchell-Baker, Simon Thane and Irwin Bidgood, who bring historical skills from the Health Service Management, Lean Manufacturing and the IT industry.

Tricordant's passion is equipping organisations to be 'whole and healthy'. This means they become sustainably successful and robust, delighting customers or patients and are healthy places for 'whole people' to work within. The desire is to co-work with clients so that they develop a spiral of improvement within their organisation. The founders of Tricordant have more than 25 years' experience of working actively on whole systems level organisational problems in a wide range of areas including Health; Government, the Service sector, Utilities and Manufacturing.

The company's central model is given by the 'Tricord', which describes all aspects of an organisation as a whole, and indeed each of its organisational sub-systems or sub-units, that need to be aligned for the whole to be healthy and aligned.





The Tricord Domains:

•**Identity:** Each organisational unit should know who it is, where it comes from and what makes it unique. This understanding is built upon its history, cultural rituals and accumulated knowledge. The organisation's identity represents the reason for the organisations existence and its unchanging core purpose.

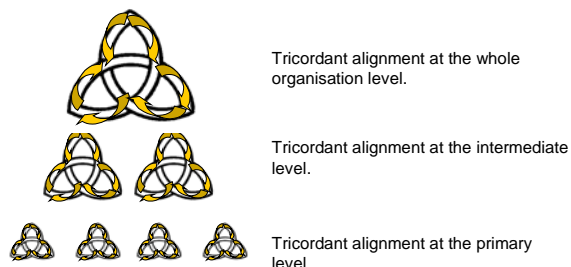
•**Concept:** Each organisational unit should have a unique concept of its current purpose and what it wants to achieve. It should have a strategic plan of how to achieve it. The Concept includes a strategy to realise the unchanging core purpose interpreted in current times and the current market. It provides a clear vision and an effective set of values and ethics which are central to the organisation's culture, whether this is written down or not.

•**Embodiment:** The above Concept then needs to be delivered on the ground. This is done by the organisation through processes which are capable of delivering the purpose and which are responsive to customer demand. These are embodied in technology, equipment, procedures, rules and policies, etc. At the most fundamental level the organisation is embodied in its people. More critically it is embodied through people working as teams using technology, or in other words, all this is aligned as a whole 'socio-technical' system.

•**Inspiration:** The organisation is brought alive by the energy and spirit of its people. They come to identify with the company and to be passionate about its purpose. Work groups are transformed into teams. Managers act as leaders. The whole socio-technical system is motivated to deliver the concept with excellence. The organisation is thus inspired.

It is the synergistic alignment of the three outer dimensions of the Tricord acting in balance around the central core that is both the whole organisational system and the source of organisational wholeness. When one part of the Tricord is absent or unaligned then the organisation will tend to be dysfunctional, under-producing, cost adding, de-motivated and incapable. If all dimensions of the Tricord are present and synergistically aligned with each other then the organisation will be whole, productive, vibrant, capable, competitive and successful.

Our Aim Is To Achieve Multi-Level Tricordant Alignment



An organisation such as a hospital trust or indeed a system such as a local health community is a whole socio-technical system. It is built up from sub-systems, which are in turn built up from sub-sub-systems, like Russian dolls.

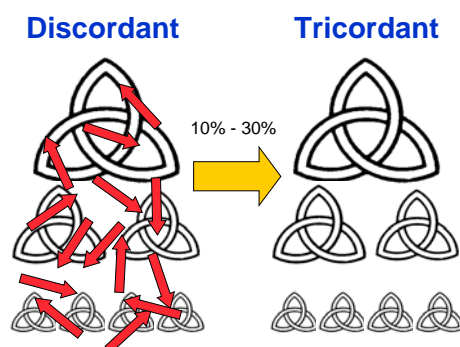
The Tricord is a 'fractal' pattern of organisation. The same pattern is true at every level of the organisation: the organisation as a whole; its sub-systems (i.e. individual organisations and clinical services within a local health system); and its sub-sub-systems (i.e. front line clinical service delivery wards, departments and teams).

The need for tricordant alignment is a universal pattern that needs to exist at every level of an

organisational need. The primary level's Tricord is the breakdown into sub-systems of the higher level's Tricord. The top level's Tricord is the integration of the sub-systems' tricords at the lower levels. It is like lettering in seaside rock; the same pattern runs through the whole. The Tricord is like a hologram pattern: break a bit off from a hologram and you can still see the whole image.

It is only possible to assemble a whole and healthy organisation from whole and healthy sub-systems. This implies that structural design will be both a bottom-up and a top-down alignment and integration process.

When the whole system is not in alignment we have a discordant organisation. This manifests itself in waste, meaninglessness, frustration, loss, confusion, inefficiency, and dysfunction. When there is whole systems alignment and balance then the organisation is 'tricordant'. Real organisations are inevitably, at any one time, partly discordant and partly tricordant due to the inevitable change and evolution within a human system.





The Tricordant Approach

Tricordant has a systematic methodology and set of tools to align organisations, equipping them to become tricordant at the whole system level. The tricord can be used by a multi-disciplined, multi-level, cross-functional team, drawn from across the organisation. The team progressively works through the levels of the organisation, both top-down from the SHA, Local Health Community or Trust level, as well as bottom-up from the clinical team level. Tricordant has a kit bag of proven supporting tools that are used to aid the team at key stages in the process. However at least a two-day workshop is required to gain an initial, basic appreciation of the approach and the tools, and how they work together.

Case Study

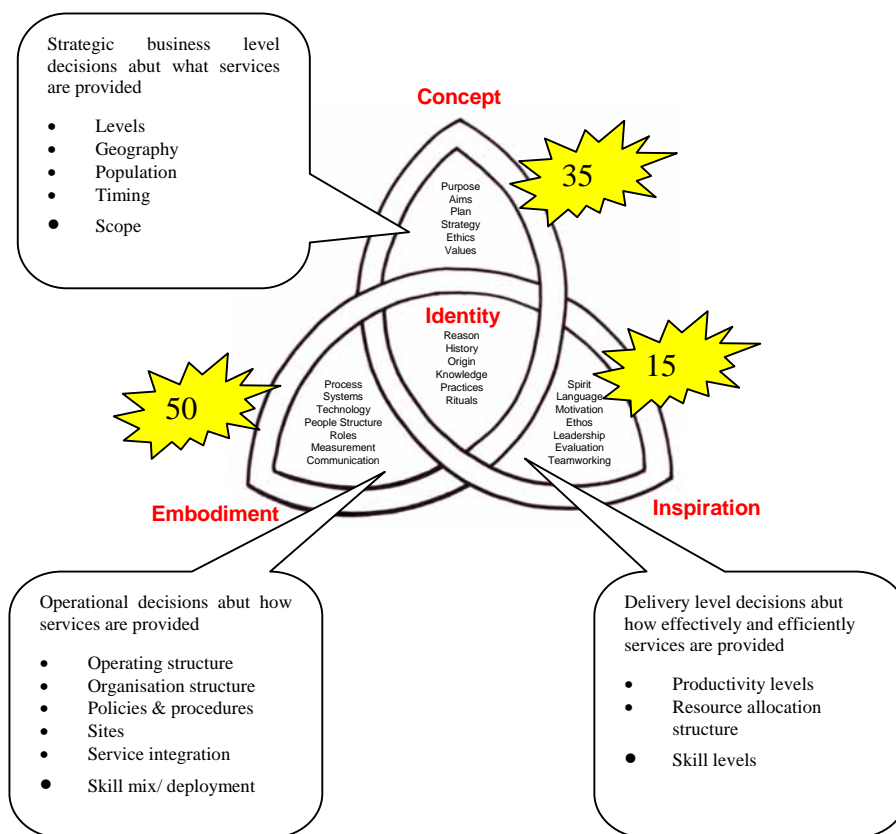
In the 1990s Simon Thane was the site manager of a UK automotive components factory employing 1500 people. The factory was a an Anglo/Japanese joint venture and supplied high-value items 'just-in-time' several times a day, direct to the line-side, to both a Western and a Japanese owned car plant.

Under the threat of moving production to low cost counties in Eastern Europe, and knowing that the plant had state-of-the-art technology, and was already fully applying lean manufacturing flow processes and quality techniques, the site embarked on a programme of teambuilding, continuous improvement programmes, improving of morale and community involvement, improvement of safety and the working environment, increasing of the empowerment of work teams, and the clarifying of all team targets. A further 10-30% improvement in the key performance measures was achieved, and the site was voted 'Most Improved Supplier' of the year by one of the car producers.

Simon subsequently moved to be General Manager of Manufacturing at a nearby major consumer electronics company, then with a turnover of over £500m. Hoping for similar results he embarked on implementing the same range of improvements across the plant, but this time to no significant result! The initiatives fell on stony ground. On reflection the reason was clear. In the first case the initiatives applied luckily happened to work within the structure of the organisation, creating aligned change at the whole-systems level. In the second case the organisational structures opposed the successful implementation of these same initiatives. Failure the second time could have been foreseen and avoided by taking a whole systems approach and perspective of the proposed change, and applying the tricordant approach and tools (- all good in hindsight).

Understanding Hospital Costs from a Whole Systems Perspective

In considering how Trusts might make real sustainable cash savings without reducing patient services, it is helpful to reflect on how different levels and types of decision influence hospital cost drivers. The diagram below shows conceptually how the share of average hospital costs broadly map onto the organisational tricord.



Consideration of cost drivers in hospitals¹ has previously identified 6 major cost drivers: complexity, length of stay, organisational structure, processes, scale and in-house uncompetitive support services. In considering how a Trust [or indeed a Local Health Community] might improve its efficiency and reduce costs whilst maintaining quality, consideration needs to be given to all domains of the tricord.

Within the concept domain, strategic decisions about **what services are provided** to what population across what geography and at what levels will determine the complexity of patient care services provided and have a large influence on patient lengths of stay. These drivers will effectively commit the trust to a significant proportion of infrastructure and staffing costs. Whilst trusts can not easily withdraw from providing core patient services, there is considerable scope for reducing the complexity and hence costs of service provision, particularly for less common conditions out of normal working hours through collaboration across trusts and local health communities through clinical networks, optimising the location of care, and strengthening single point of access for urgent care for example. For example, evidence from the Kaiser Permanente Palliative Care programme in USA shows that intensive specialist palliative care home visits both reduces costs through the reduction in the use of other healthcare resources and improves patient and family satisfaction.

Operational decisions about **how services are provided** need to be considered in the embodiment domain. Critically processes such as care pathways need to be lean and organised around meeting patients' needs. This also applies to business and support service processes meeting appropriate internal and external customers' needs. Lean thinking and tools described above can help do this. Careful organisational structure design is also critical to optimising performance, in terms of building teams and structures around supporting lean patient-centred

¹ Work by Booz Allen Hamilton for RBBH Trust 1994



processes, appropriate management and leadership levels and roles, and facilitating service integration. Decisions about outsourcing support services are multi-faceted and need to consider risks as well as costs as BA's recent experience with gate Gourmet reminds us.

The inspiration domain focuses on **how efficiently and effectively** staff actually go about their day-to-day jobs within the organisation's strategies, structures and processes. Many NHS staff still bemoan the fact that they have to do their jobs despite the system rather than feeling they are empowered and supported. Experience² shows that there is huge scope for increasing the levels of creativity, energy, and motivation as staff feel supported and connected with their colleagues, the wider organisation and its core purposes (the identity domain).

Lean Whole Systems

What of simply using lean as the model for productivity improvement in the NHS? The Toyota Production System (TPS) is an excellent example of a whole systems-level transformational change. It has certainly been very successful for Toyota and many other manufacturers. It was a ground-breaking shift in thinking. We can learn much from it, and much of it is applicable for others outside of manufacturing to differing degrees. Lean

also has in its kit bag some excellent tools for mapping process flows, eliminating waste, improving process capability and for team-based continuous improvement.

However Lean does not provide all the right answers for all organisations, even though its principles may be right in part for many. Its solutions focus mainly in the Embodiment domain of the tricord, with less content in strategy and market alignment (Concept domain), or leadership, culture and motivation (Inspiration Domain). Lean is not in itself a generic whole-systems design tool or language.

Tricordant however offers a set of design tools, not a cluster of design solutions. It is a generic, non-

specific model and tool set for redesigning an organisation as a whole system. It is the kit bag for the organisation architect; any organisation in any sector.

By using the tricord and the associated tools you can reach a solution for your specific organisation in its unique circumstances. Some parts of the solution you choose may well borrow learning from Lean, others parts will borrow learning from elsewhere, and others may need new thinking and innovation. How they all knit together into a particular pattern will certainly be unique for each organisation. Developing this organisational understanding will come from a deeper appreciation of how the parts make up the whole and interact together. This appreciation needs to be shared and will often be developed from and in rich conversations from new perspectives. Tricordant can equip you to you ask all the questions that need to be asked to generate these conversations so that all the component pieces fit together and add up to something that works as a whole; something that is truly productive and effective. Tricordant calls that truly 'lean' whole systems.

Evidence Of Benefits

There is potential in most organisational systems to get significant business benefit through alignment of the whole systems at each level and between levels. This is equivalent to restoring the organisation to true health.

The examples here were of work that the 3 authors were personally involved with prior to establishing Tricordant Ltd. They are of whole-systems-level projects done in successful, multi-national organisations. There is usually between 10% and 30% of efficiency and effectiveness to attack in organisations through whole systems alignment.

² Youngson R., Wimbrow T., Stacey T. A crisis in maternity services; the courage to be wrong. Qual Saf Health Care 2003; 12; 398-400



Examples Of Benefits

Pharmaceuticals Manufacturer	Restored whole systems balance for 700 staff across all organisational levels	Initial savings of £1million p.a. even before efficiency, quality and service benefits started to emerge.
Government Organisation	Aligned purpose to people delivery to empowerment	£40 million savings pa identified
Strategic Health Authority	Aligned specialist surgical services with patient needs and developed collaborative clinical networks	Reduced delays in treatment for patients and improved quality of care through improved cross-hospital working
Hospital Maternity Department	Aligned specialist staff to theatres	Opportunity identified for improved continuity of care for mothers and annual saving of £200K
Household Product Supply Chain	Aligned forecasting, with manufacturing and logistics to purpose. Delegation to the right level brought motivation.	Reduced warehousing from over 10 to 2 focused on key areas of customer service – saved £10million.
Automotive Components Manufacturer	Restored order by disciplined production control system. Aligned targets for each whole work team. Kaizen site-wide. Inspirational programme site-wide.	Profitability 4% to 17% Customer Quality 200ppm to 18ppm Delivery error 10% to 0.16% Kaizen ideas per month 800 to 1300 Efficiency 85% to 100.4% Stock Accuracy unknown to 98.5%

First Steps

Tricordant can offer NHS organisations an approach to aid them in realising whole systems-level efficiency improvements and to complement, complete and align their productivity initiatives. For more information see our web site at www.tricordant.com and contact:

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