

Organisational Transformation

The Highland Spring Story

Case study
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This case was written Dr Kepa Mendibil, Professor Umit Bititci and Catherine Maguire, Strathclyde Institute for Operations Management, University of Strathclyde. It is intended to be used as the basis for class discussion rather than to illustrate either effective or ineffective handling of a management situation. The case was made possible by the co-operation of Les Montgomery and Wyllie Woodburn, Highland Spring.

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Organisational Transformation: The Highland Spring Story



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INTRODUCTION

This case study discusses the transformation story of Highland Spring over a period of 20 years. Between 1986 and 2006 Highland Spring increased its turnover by approximately 1100% and the number of employees by 400% and is now the fastest growing company in the UK in its sector. In achieving this level of growth the company has gone through a number of significant waves of change that have transformed it into one of the biggest brands in the bottled water market in the UK¹.

Throughout the transformation journey Strathclyde Institute for Operations Management (SIOM) has been working with the company to offer skills and expertise in the form of consultancy, training, Knowledge Transfer Partnerships (KTPs²) and student placements. Having such a close relationship with the organisation and being involved in

¹ Highland Spring market statistics: no.2 bottled water brand in the UK, no.1 sparkling water brand, no.1 on doorsteps, no.1 kids' brand.

² Knowledge Transfer Partnerships is Europe's leading programme helping businesses to improve their competitiveness and productivity through the better use of knowledge, technology and skills that reside within the UK knowledge base. (www.ktponline.org.uk)

each of the waves of change has enabled us to aggregate the best practices and key learning of the journey into a single transformation story, presented below. The journey of Highland Spring follows the typical models associated with transformation and change, and these models will be used as a framework to summarise the transformation story at the end of this paper.

THE COMPANY

Highland Spring is a privately owned company which produces still and sparkling bottled water. The company is based in the small rural community of Blackford (Perthshire, Scotland) and it currently employs approximately 320 staff. An extensive 3,000 acre organic accredited catchment area surrounds its boreholes in the Ochil Hills and no farming, agricultural spraying or building is permitted to prevent pesticides, fertilisers or animals from polluting the rainfall as it filters through the mineral-rich rock strata. After the rainwater has filtered through the basalt and sandstone strata of the hillside to the boreholes, it passes into stainless-steel pipes and is gently pumped to the surface. The water is subsequently delivered by pipeline downhill to the Highland Spring bottling plant in Blackford. All pipe work and holding tanks are stainless steel and air in the system is filtered and monitored. Rainwater from Highland Spring's catchment area in the Ochil Hills can take up to 30 years before it is eventually extracted and bottled under strict protection before it finally reaches the consumer.



Figure 1: Highland Spring Factory in Blackford with the Ochil Hills in the background



Figure 2: Highland Spring products

The water market in the UK is a fast growing sector. It has grown over 189% over the last ten years and statistics show that it still has a huge potential for growth (See Exhibit 1 and 2). The other main brands that operate in the bottled water market are all part of larger organisations and multinationals, which make the need for continuous development and differentiation even more critical for the survival of Highland Spring.

THE TRANSFORMATION STORY

The Beginning

Highland Spring started business as a small bottling operation in 1981 employing 40 staff. The objective of the business was to 'grow' by focusing on volume through producing 'own label'³ products for a number of grocery retailers. During the early years Highland Spring was growing at a fast rate but making a financial loss.

³ Own label is a term used in the fast moving consumer goods sector to describe a label or brand manufactured for the customer, i.e. customers own label.

From the experience of the early years it was evident that the Company had to change considerably in order to become profitable and grow. The following sections will discuss the key changes that Highland Spring has gone through over a period of 20 years in order to transform the business and become a market leader. Figure 1 illustrates the transformation timeline highlighting the key change projects in the form of waves. The width of the wave represents the duration of the change project and the height of the wave represents the scale of change. The scale of change was measured by the number of people who were affected by the change project – i.e. as a result of the change project they were doing things differently.

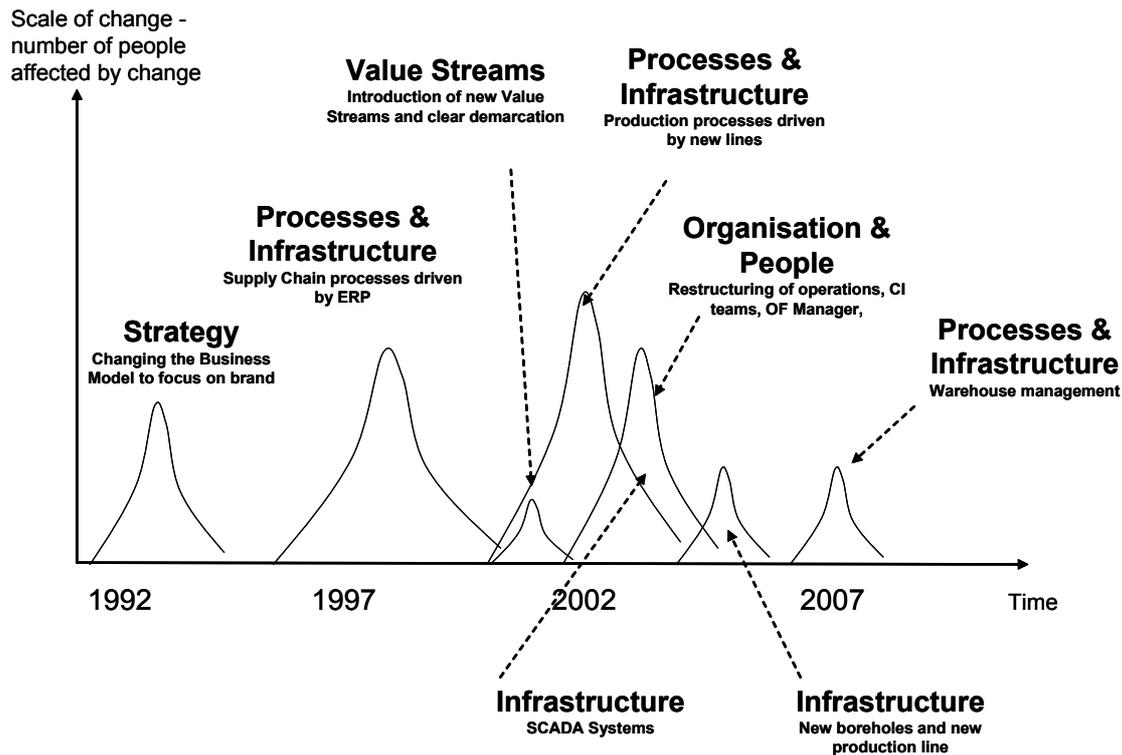


Figure 3 – The transformation timeline

Wave of Change #1: Developing the vision and strategy

During the early days the Company had positioned itself as an own label manufacturer supplying mainly major supermarket chains in the UK such as Asda, Tesco and Sainsburys. Consequently it was under continuing pressure to reduce its costs year on year whilst improving its service levels. Operation in this environment not only affected the profitability of the organisation but it significantly constrained its ability to grow as there were no surpluses being generated to make investments for the future. Having recognised that in its current form the business was unsustainable, the owners appointed a new management team in 1992 with a brief to change the competitive basis of the business. The new management team recognised that developing Highland Spring as a premium brand would achieve this. The management team reinforced the brand leadership vision as the key strategy to compete with the big players in the market. In their effort to create this vision the management team took every opportunity to communicate the vision and strategy throughout the organisation.

As a result of this brand-led strategy, Highland Spring started focusing on the branded product⁴ while reducing dependency on the own label products produced for supermarket retailers. A focused action plan to support this strategy was developed, which included specific initiatives such as product repackaging (to link the Highland Spring brand with Scotland), strong marketing campaign (e.g. London Underground), strategic product placement and high profile sponsorships (including Formula 1's David Coulthard, world snooker champion Stephen Hendry and tennis player Andy Murray). An early success that helped underpin the vision and strategy was a contract with British Airways to use Highland Spring as their main bottled water supplier.



Figure 4: Highland Spring adverts in London underground



Figure 5: Andy Murray

This change in strategic focus and following actions brought clear benefits in the bottom line results⁵. Still, there were other significant but less tangible benefits that Highland Spring gained. The most important being a sense of pride and ownership of the brand, product and company evident across all employees.

Wave of Change #2: Supply Chain Process re-design driven by ERP

By 1997 Highland Spring had enjoyed significant growth, which increased the complexity of the business. At that time Highland Spring had a fragmented information system infrastructure mainly driven by a financial system. This resulted in a poor coordination and integration of the supply chain, stock out problems and in particular a lack of real time control of the business. In addition, year 2000 was looming and as a result the management team decided that updating the IT infrastructure was a key priority for the business.

At that time this was the key strategic project in the business and the management team agreed that it was to be given priority over everything else. The first step was to create a steering committee and implementation team to drive the project. The focus of the project was to re-engineer the supply chain process through the implementation of an integrated ERP solution. The key to the success of the project was to develop a vision of how the business should look and feel. As a result, all critical business processes were mapped and analysed in detail. Only after developing a detailed vision of the business

⁴ Highland Spring brand

⁵ Approximately 400% increase in turnover between 1986 and 1997

and defining the key requirements to support the critical processes a suitable ERP solution was selected and implemented. To ensure the success of the project, training on business process thinking and ERP system was provided to all users of the new system.

Some of the benefits of the IT infrastructure were soon realised, particularly in areas such as stock control, production planning and performance reporting. Also, through the involvement of employees during the business process mapping and analysis sessions, process thinking began to become embedded in the organisation.

Wave of Change #3: Introduction of New Value Streams

Having established Highland Spring as a strong brand, the management team were on the look out for new opportunities that would facilitate growth. Thus some strategic decisions were made that resulted in:

- The creation of Water Media Ltd to produce customised water in small quantities
- The acquisition of a nearby water company, Gleneagles Water
- The identification of an opportunity with a major supermarket retailer to exclusively produce their own label Scottish waters
- The development of a new product (Looney Tunes™ Water) to innovate the children's water sector

After making these decisions, however, the management team soon realised that they had the potential to cause conflicts and threaten the mainstream branded Highland Spring business. In order to address this, the potential threats were identified to allow the Company to continue focusing on the brand leadership strategy while recognising the need to manage the conflicts which arose.

In 2000 Highland Spring signed a 3-year contract with a major supermarket retailer to supply all their Scottish 'own label' bottled water. This agreement allowed the company to significantly invest in new production facilities to cope with the increase in capacity requirements. This extra capacity would not only resolve the potential threats by ensuring that the 'own label' products did not impact on the production of the Highland Spring brand products, it also would allow the Company to develop a critical competitive advantage beyond the period of the contract.

All these developments required a reflection on the Company's direction and as a result a revision of the vision and value streams was carried out. The contract with the supermarket retailer meant that the volume of own label products was going to significantly increase⁶, which could conflict with the Company's strategy to focus on the branded product. The management team decided to clearly differentiate the Highland Spring brand and supermarket own-label value streams with specific budgets, pricing and marketing strategies and production facilities for each of them. The other three value streams (i.e. Water Media, Gleneagles Water and Looney Tunes™ Kid's Water) were also run with their own specific management processes to ensure that the competitive forces of each value stream was understood and exploited whilst minimising or where possible avoiding internal conflicts.

The initial impact of creating new value streams was a level of confusion amongst employees in regards to the priorities of the business. The management team made every effort to communicate the vision and focus of each value streams, however staff

⁶ Note that the original strategy of the Company was to focus on the branded product rather than on own label market

did not clearly recognise these value streams and the business priorities until further changes occurred in the business⁷.

Wave of Change #4: New Production Processes

The agreement to be the exclusive Scottish 'own label' supplier for a major supermarket retailer brought a significant investment to develop a world class bottling infrastructure that could cope with the levels of capacity requirements. Highland Spring called this the 'Big Company' project and created an implementation team to manage the project.

State of the art bottling lines were acquired and implemented over a period of 12 months following a high pressure implementation strategy. However the expected gains and productivity levels were not realised. 2002 was a particularly difficult year for Highland Spring as the bottom line benefits that they expected to gain with the new technology were not achieved. These poor results increased the uncertainty and confusion amongst the staff.

The 'Big Company' project was tackled as a technology implementation project. In the process the Company did not recognise the need to manage and change people and cultural issues within the organisation. Also, the tight timescales to implement the new technology meant that education and training were not given the required priority within the project. This had the obvious negative results including poor productivity and customer service levels which affected sales and profitability figures.

Wave of Change #5: Restructuring of Operations

The management team soon realised that there was a need to re-assess such issues as staff, shift patterns, training and development etc., and started to take action to improve the situation. In addition, the organisational structure had not changed in parallel with the strategic and technological changes that occurred over the previous two years. The management team made it very clear to all employees that changing the way that the business operated was critical for the survival of the organisation.

The first step was to define a clear operations strategy for Highland Spring. As a result of this reflection they defined two strategic objectives for operations – (1) to be a flexible manufacturer, (2) to be a low cost producer. Manufacturing flexibility was a key priority aligned to the overall brand leadership strategy of the business. Becoming a low cost producer was also important for operations but never at the expense of restricting the development of the brand or endangering product quality.

A major change in 2003 was the introduction of a 24/7 shift pattern including a drastic change of the management structure within operations. Until this point the operations department was divided into several functions, which resulted in a lack of flexibility to respond to customer demands and indecisive ownership for problems. In 2003 the functional structure disappeared and they introduced the shift manager position with responsibilities for the end-to-end manufacturing process. All line operators went through a changeover training programme, which in conjunction with a sustained kaizen exercise to improve the lead time and quality of changeovers resulted in an exponential increase in flexibility that allowed them to make bottle size changeovers at any stage⁸. The management team was aware that most staff in operations would be greatly affected by this change and they therefore planned and implemented the structural

⁷ In particular until the restructuring of operations took place (Wave of Change #5)

⁸ Prior to this there was a dedicated team doing changeovers during the night shift. This meant that the line had to be producing same product for a minimum of 2 shifts (16 hours).

change in close consultation with staff at all levels right from the start of the project. This fluid and continuous communication was a key to the success of the project.

These changes gave production planning the flexibility it required to optimise finished goods stocks in line with demand, and systems and processes were developed to enable this. As part of the restructuring the management team decided to introduce a number of new roles that were considered critical. They first introduced the role of the continuous improvement coordinator, whose main responsibility was to embed a continuous improvement culture within operations. A number of improvement initiatives were introduced⁹ and staff were trained in several aspects of continuous improvement. At the same time the order fulfilment department was created. This department brought together different functions such as sales order processing, production planning, stock control and customer service. The introduction of this new department increased the agility and responsiveness of the whole organisation by providing the visibility and responsibility for the end-to-end management of a customer's order. It also resulted in significant savings by overcoming the need to invest in a new warehouse to cope with increased demand, since the more responsive process reduced the needs to stock finished goods.

A SCADA system¹⁰ was introduced to enable real-time data collection from the bottling lines. This provided better information in relation to the performance and breakdowns of the lines, which in turn provided a solid platform to create a continuous improvement culture. The use of performance measures and reporting systems started to become habitual at that time and this had a positive impact on the decision making and management processes.

At the same time, a group of Highland Spring staff attended a knowledge transfer partnership conference at which they received a presentation on the use of multimedia technology applied to a manufacturing environment. The team were most impressed by the presentation and could see real benefits by adopting such a system within Highland Spring. This eventually resulted in their now well known Kiosk system, which is in simple terms a computer system for delivering information (in the form of documents, images, videos etc) directly to a manufacturing operator at his or her work station.



Figure 6: Kiosk System

All of the above changes had a dramatic impact on the business. Highland Spring introduced end-to-end process management and organisational structures in conjunction with continuous improvement teams. They had also implemented an integrated performance management process that clearly integrated objectives, measures and appraisal systems. The bottom line results improved dramatically with sales turnover increasing by 60% between 2001 and 2005. Staff developed a clearer understanding of the business priorities and their role within the strategy. The Company developed an achievement culture where a high performance attitude was expected from all staff. It was only after the restructuring of operations took place that the real benefits of the technology implementation process (including the ERP system) were evident. Staff (including management) had been sceptical throughout the

⁹ 5S, feedback and performance review sessions, improvement action plans

¹⁰ Supervisory Control And Data Acquisition

previous change projects and they did not believe in their success until measurable improvements were realised.

Wave of Change #6: Capacity Expansion

By 2004 the management team realised that Highland Spring would need to increase production capacity to cope with their medium and long term customer demands. The contract with the supermarket retailer had come to an end but they still maintained their supply of own label products while increasing the focus (and consequently volume) of the brand products.

To support the expansion of the business Highland Spring not only required increased capacity but also extra water resources. As a result a significant investment was made to create two new boreholes and implement a new production line.

This extra production capacity meant that Highland Spring could now increase the sales of their brand products. By focussing on the branded product, between 2005 and 2006 sales turnover (in £s) increased by 8% while volume of sales (in litres) decreased by 2%. As a result Highland Spring not only managed to increase turnover but also to create spare capacity, which allowed them to keep a key business constraint under control.

Wave of Change #7: Warehouse Management

In the effort to continuously improve the performance of the business the latest strategic project was the implementation of a warehouse management system based on bar-coding technology. This would allow keeping a better control of the inventory and avoiding many of the errors that had been occurring using a manual system.

Wireless network and barcode scanning systems were installed during August 2007 and this was the introduction of production pallet put away and sales order picking procedures based on warehouse locations. This resulted in efficient loading, improved stock rotation and utilisation of the warehouse. The financial benefits were instant with elimination of costly loading errors due to wrong product selection. All this coupled with real time transaction updates provide accurate and up to date visibility for meaningful decision making surrounding manufacturing planning and stocking policies.



Figure 7: Exterior of Highland Spring Warehouse and loading area

Wave of Change #8: What's next?

Highland Spring has a clear aspiration: to continue the growth of the business above the average market rate. In order to achieve this they recognise that a number of change projects will soon take place. The focus of these projects will be around brand development, new product introduction, finding new markets and routes to markets, increasing the focus on environmental issues, continuous improvement and potential acquisitions.

In summary, whilst Highland Spring has undergone a significant transformation the management team agrees that transformation is a continuous process and that they therefore need to continue embracing change on a permanent basis.

DISCUSSION

In this section we will analyse Highland Spring's transformation story in the context of the literature on business transformation and change management. We have structured this section to analyse and understand *what had changed in Highland Spring*, and *how the change took place* thus exploring the WHAT and HOW of business transformation.

WHAT changed in Highland Spring?

Looking back at the evolution of Highland Spring over the last 20 years there is no doubt that it has been a successful transformation. From being a small local company Highland Spring is now a market leader within the bottled water market. They have managed to exponentially improve key measures that indicate the level of success of an organisation (i.e. turnover, profitability and number of employees). In addition, Highland Spring has had a significant impact on the community, improving the employment levels and economic conditions in the local area. Still, the best feature of a successful organisation is not necessarily past performance but the capability of being competitive in the future. In that sense Highland Spring is taking the required steps to ensure medium and long term competitiveness. The Company has embedded a high performance culture and the fact that several members of the management teams have regularly stated that *'we want to lead the market not to chase it'* reaffirms their vision to continuously improve.

So, what were the reasons why Highland Spring had such a successful business transformation? And, why do still many organisations fail to successfully transform their businesses?

During the period in which Highland Spring has been transforming they have managed to develop (although to different levels of maturity) all critical aspects of the business. Highland Spring defined a clear vision and strategy based on brand leadership early in the transformation process. This vision and strategy was relentlessly pursued and other opportunities that may conflict with that particular vision were segregated and managed as separate value streams, which were supported by appropriate organisational structures, skills, processes and infrastructure. These were in turn brought together by a set of integrated performance measures and high levels of leadership.

When we analysed what Highland Spring achieved by comparing before and after states of the organisation we have found that it follows the elements in Bititci's model of business transformation (Bititci, 2007). WHAT has changed in Highland Spring are Value Streams, Strategy, Organisation, People, Systems and Resources and Processes, with leadership and performance playing a significant role in facilitating this successful transformation story. This is summarised in Table 1 below.

TABLE 1 - Transformation formula applied to Highland Spring

Transformation Formula (Bititci, 2007)	Before Transformation (1986)	After Transformation (2006)
Value Streams	No clear recognition of value streams	Clear recognition of three distinct value streams: <ul style="list-style-type: none"> ▪ Brand value stream comprising Highland Spring and Gleneagles water brands ▪ Customer intimacy value stream comprising Water Media Ltd ▪ Cost minimiser value stream comprising the Own Label contract with the major supermarket chain
Strategy	Cost minimisation	Focused strategy for each of the three value streams; Brand Leadership, Customer Intimacy and Cost Advantage respectively
Organisation	Traditional and functional	Process based with clear performance criteria for each value stream. The two end-to-end processes that are actively managed are: <ul style="list-style-type: none"> ▪ The order fulfilment process ▪ The manufacturing process
Systems and Resources	<ul style="list-style-type: none"> ▪ Traditional lo-tech bottling processes. ▪ Largely manual manufacturing and customer management systems ▪ Financially focuses accounting and performance measurement systems ▪ Manual warehouse management systems 	<ul style="list-style-type: none"> ▪ Modern, hi-tech bottling processes complete with SCADA systems providing real time performance information ▪ Full integrated ERP platform facilitation, business, financial and operations planning and control including integrated warehouse management systems.
Processes	Limited consideration given to businesses processes	Focused on managing the business processes. The processes that are critical to the business are identified and managed (see statement under organisations).
People	Functionally oriented. Little team working across departments and functions. Dependency culture.	Process oriented working as cross functional teams along business processes. Achievement culture.

HOW did the transformation happen?

Highland Spring followed a careful planning and implementation process in most of the change projects. Of the change models available in literature, Kotter's change process (1995) is currently the most well understood and adopted model and so has been used to compare with the changes at Highland Spring. As shown in Table 2, the majority of the waves of change followed this process, however it must be remembered that the changes were not executed with Kotter's model in mind.

Other features well documented within the change management literature were also evident in this case: the most successful change projects were a strategic priority for the business and were not in competition with other projects; top management was committed and in several cases driving the change projects; and communication was fluid and continuous between all stakeholders. In those cases where the above features were not evident (e.g. Wave of Change #4 – Production Technology Implementation) the Company did not achieve the expected results. This leads the researchers to wonder whether or not the "WHAT" and "HOW" models adequately capture the factors affecting a successful transformation. Bititci (2007) suggests that the order in which the components of the transformation formula are executed is irrelevant, however considering the order of the Waves of Change in Highland Spring, those involved are in agreement that Wave of Change #4 (Production Technology Implementation) would have been successful if Wave of Change #5 (Re-structuring of Operations) had been completed first. Clearly, further investigation is required.

TABLE 2 - Waves of change against Kotter's process (1995)

Kotter's Steps (1995) ↓	Wave #1: Developing the vision and strategy	Wave #2: SC redesign driven by ERP	Wave #3: Value stream analysis and implementation	Wave #4: Production technology implementation	Wave #5: Re-structuring of operations	Wave #6: Capacity expansion and warehouse management
Create a sense of urgency	Business making a loss	Fragmented Information Systems, no control over operations and year 2000 looming	Development of new business opportunities creates potential conflicts with mainstream business	Need for increased capacity to fulfil demand from major supermarket retailer	Failure to achieve expected outcomes and consequences on negative business results. Recognition that people side was ignored	Need for increased capacity and efficiency to cope with medium and long term demands
Establish a powerful guiding coalition	New CEO and management team	Management team and implementation team driving the project forward	Management team driving the project	Project steering team created	Project steering committee team created	Project team created supported by external advisors
Develop a vision	To be a recognised Brand... to compete with the big players	A vision of what the new business would look and feel like was developed	Recognition of the conflicts, focus on brand leadership and recognition of the need to manage this conflict	Develop world class bottling infrastructure	End to end process management in operations and order fulfilment, supporting organisational structure towards self-managed continuous improvement teams... Integrated performance management through objectives, measures and appraisal system	Clear definition of end state
Communicate the vision clearly and often	Management team communicated vision and every opportunity	Communication at every opportunity through involvement of staff	Communication of the different value streams and corresponding objectives	Poor communication	Fluid and continuous communication between all organisational levels	Involvement of all affected parties
Remove obstacles	CEO took personal interest driving the project forward	Strategic priority for the business... "this is the key project in the business... nothing else is more important". Supported by steering committee and external audits	Management board driving the project forward. Project is a strategic priority for the business	Seen as a technology project... did not recognise people and culture as an obstacle	Steering committee from all affected stakeholders... highlight benefits and opportunities of change	Strategic project for the business
Plan for and creating short-term wins	British Airways contract helped underpin strategy. High profile sponsorships.	Short term fixes to business processes	New business created. Significant investment from major supermarket retailer.	Planned short term wins did not realised	Change over kaizen activity, training of line operators	New boreholes opened, production line installed and bar-coding system introduced
Avoid premature declaration of victory	Only declared position as a premium brand once they were solidly recognised and established based on market data	Very self critical throughout and did not communicate benefits until well after feedback from the MIS and customers	Very self critical throughout and did not communicate benefits until measurable (end of 2003)	Very self critical throughout and did not communicate benefits until measurable (end of 2003)	Very self critical throughout and did not communicate benefits until measurable (end of 2003)	Evident increase in capacity. Impact of bar-coding not monitored yet
Embed changes in organisational culture	Pride and ownership of Brand, Product and Company	Process thinking becomes norm through involvement of everybody but failed to implement organisational change to embed this until later	Employees recognise value streams and business priorities	Confusion over results	Achievement culture throughout the organisation	New working practice (in relation to bar-coding system) embedded

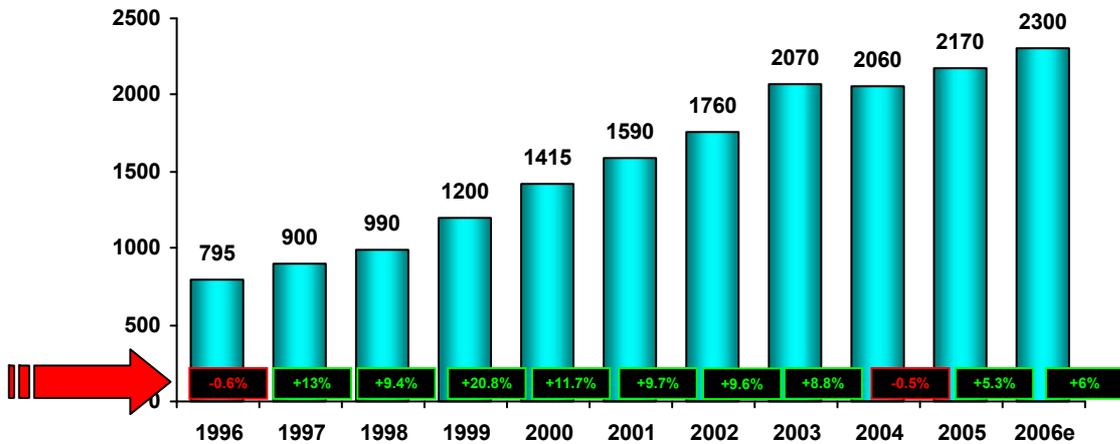
CONCLUSIONS

This paper has presented the transformation story of a manufacturing organisation in the UK. It appears that the models of transformation and change used to describe the story can be used to answer two key questions in relation to successful transformation – (1) What are the key areas of an organisation that need to be developed to successfully transform a business? (2) How do you ensure the success of individual change projects?

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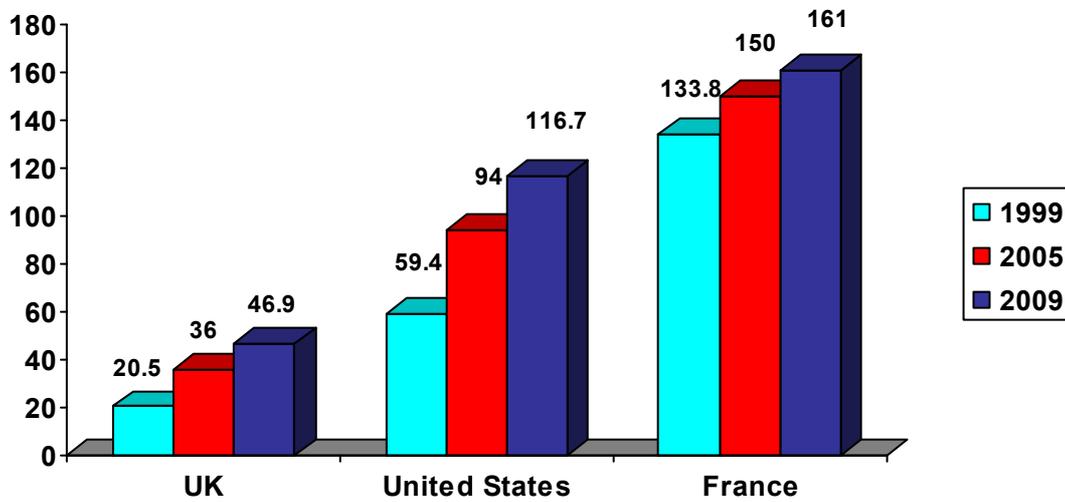
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Exhibit 1: UK Bottled Water Volume Sales 1995-2006e



Consumption of bottled water grew by +189% in 10 years

Exhibit 2: Bottled Water Per Capita Consumption (Litres per Person)



Despite the increase in bottled water sales and number of consumers within the UK the per capita consumption in the UK still lags well behind other countries like the US and France