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ONE SIZE FITS ALL: CASE STUDY OF ENTERPRISE SYSTEMS IMPLEMENTATION IN NESTLÉ

Amit Mitra
Bristol Business School, UWE

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ONE SIZE FITS ALL: CASE STUDY OF ENTERPRISE SYSTEMS IMPLEMENTATION IN NESTLÉ

Mitra, Amit, Bristol Business School, University of the West of England, Coldharbour Lane, Bristol BS16 1QY, UK, amit.mitra@uwe.ac.uk
Neale, Peter, Consultant - Neale Consulting Services Ltd (NSCL), Knowle, Bristol BS4 2HE, UK, pete.neale@gmail.com

Abstract:

User resistance, organisational complexity, cultural complications, inadequate change management provisions are some of the well-known hurdles of Enterprise Resource Planning (ERP) systems implementation that have been reported so far. Whereas component based, phased, adaptive, evolutionary approaches have been advocated for most organisations as being effective in combating these hurdles, yet in contrast the literature has remained uninformed by research on large multinational corporations implementing singular ERP systems. Using a case study approach informed by documents, and accounts of key personnel involved in the development of single all encompassing ERP system in Nestlé a critical assessment of the supply chain was undertaken. This study by examining the effects of ERP implementation on four critical facets of supply chain of Nestlé aims to dispel the myth of inevitable failure that shrouds contemporary appreciations of ERP implementations in large multinational organisations. It is expected that the ERP development involving hundreds of representatives from all 70 locations of Nestlé would enable lessons to be drawn for researchers and practitioners alike.

Keyword: ERP implementation, Multinational corporation, supply chain management, one size fits all
1 Introduction

Motivations to introduce Enterprise Resource Planning (ERP) or Enterprise Systems (ES) in organisations have varied over the last few decades. Whilst today memories of challenges of Y2K seem to have faded yet at the time, there was considerable debate followed by frenetic activity in the software community to deal with the Y2K problem. Before the start of the new millennia, implementation of ERP systems seems to have been a measure aimed at addressing Y2K concerns of some organisations. Mabert et al. (2001) in their research found that simplification and standardising IT systems to be a driver for adopting ERP systems. Improving communications with customers and suppliers is also a strategic priority that has motivated multinational companies (MNCs) to implement ERP systems. The third common driver of ERP implementations are the advantages that accrue through greater access to data thus providing a strategic advantage. Such access to data is a pointer to the firm’s desire to improve business processes. Importantly, ERP implementation is considered (cf. Davenport 2000, Markus and Tanis 2000, Ross and Vitale 2000) as a business solution rather than an IT solution. As pointed out by Shang and Seddon (2002), most Enterprise systems implementation benefits have been premised on either a snapshot taken at one moment in the life of such systems or very high altitude picture of benefits of enterprise systems. This paper whilst using real time experiences of a key developer for Nestlé, chronicles a case that revisits the micro dimensions of supply chain domain of ERP implementation as well as key macro strategic consequences.

Clemmons and Simon (2001) whilst examining control and co-ordination in global ERP configurations posited that it is vendors and implementation consultants who promote ‘one size fits all’ solutions based on ‘industry best practices’. Such vendor motivated drives organisations, to follow ‘best practices’ or embark on extremely costly reconfigurations. In the current example of Nestlé the ‘one size fits all’ approach was used to deal with implementing one system across a single organisation combining 70 localised/regional IS implementations. Therefore whilst Clemmons and Simon (2001) dwelt on applying the same solution across different organisations we are actually focused in this paper on a unitary implementation in a single organisation Nestlé that had hitherto followed regional approaches in its IT operations in different parts of the world. Berente et al. (2010) in their research on NASA’s enterprise systems implementation found that there is a theoretical response from employees’ to demonstrate satisfaction of control imperatives but in the long run such compliance has little bearing on practical execution of work. Yusuf et al.’s (2004) research on ERP systems implementation in Rolls Royce points to similar challenges of legacy systems as in Nestlé with lack of online access to customers, partners and suppliers.

Integrating operations using Information Systems (ISs) in general and ERP in particular (Shehab et al 2004) to gain strategic advantage has been a key goal of organisations ever since ISs began to be widely used for commercial gains. Like in every domain where ISs have been implemented there has been cases of failure. Given long standing research in the realm of ERP systems, research reports attribute such failure to non compliance with among others phased implementation (adaptation) (Mitra 2001), component based approaches (Light et al. 2001), cultural complications (Davison 2002). In general, there seems to be a consensus that recognition of localised aspirations (cf. Yamauchi and Swanson 2010, Lorenzo et al. 2009, Madapusi and D'Souza 2005), within a larger implementation is a way to ensure that there is adequate provision of reaping benefits when a global system becomes operational. Success gained through GLOBE’s implementation in Nestlé is likely to show that when consensus building measures go on over two years in a location where all key players subsequently responsible for running regional ERP implementations are co-located many of the usual challenges of conflicts between prevailing culture and organisational adaptation processes as portrayed by Boersma and Kingma (2005) can be avoided. Contrary to Morton and Hu (2008) arguments that integration of standardised business processes leads to failures.
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Table 1: Summary of key strands of ERP implementation objectives

2 Methodology adopted for the study:

We decided to use Nestlé as a case for this research because it was a multinational company that had various local strands of IT utilisation across 70 geographic locations that it operated in. Using GLOBE the company top management first of all attempted to gain greater capacity to monitor and control productivity within far to reach contexts. Second by enabling the use of GLOBE various efficiencies that connected the supply chain and the consumers of Nestlé products were consolidated on a worldwide basis. An inductive case study (Yin 2003) approach was adopted for this study. Narrative contributed by the second author who was a key player in the ERP implementation in Nestlé formed the central plank on which the story was structured. The four facets of supply chain management formed the basis on which the story was orientated as it seemed to be the most important ambit alongside others that included Finance, Factories, HR & Payroll, Sales & Marketing. Nuances within a continuum of expectations and experiences were captured within the narrative.

All names of Nestlé personnel who were interviewed apart from CEO of the time Peter Brabeck have been anonymised to protect their privacy. The study benefited from a range of confidential documentation that was used to provide both micro as well as macro dimensions of the research. The study was connected to the micro dimensions of a major successful ERP implementation in a multinational organisation spanning operations in 70 countries. The study is led by business implications rather than technical aspects of systems development. Despite major reservations in the literature on the need for organic development and the realisation of regional aspirations, this study could clearly demonstrate a wide range of advantages that emerged with the use of a one size fits all approach. In hindsight, it might seem that successful ERP implementation probably could happen only through the one size fits all visualisations.

3 Role of ERP systems for Nestlé within IS/IT infrastructure

As far back as 1990 Nestlé took a strategic decision to deploy SAP as its ERP provider. Throughout the ‘90s the bigger Nestlé businesses in the UK, France, Germany, Italy, Spain and the USA started to implement modules of SAP. By 2000 there was a lot of SAP experience and knowledge within Nestlé and the above countries were well on the way to running significant parts of their businesses on SAP. The corporate decision that said “If you can implement it (a certain functionality) using SAP then you should” (rather than build it from scratch). Bespoke systems design and development was by now seen as slow to implement, expensive to build and maintain and, crucially, lacking in the sort of integration which SAP was famous for providing.

In late 2000 the decision was taken by the main Board (the “EBM”) in the headquarters at Vevey, Switzerland that a centralised project – called “GLOBE” – should be funded to design a SAP template which would provide standard functionality covering all parts of the Nestlé business – Finance, Supply Chain, Factories, HR & Payroll, Sales & Marketing. This was a very bold move which
involved 700 people – mostly drawn from areas within the actual business rather than the various IS/IT departments – and which was publicly stated to have a budget of $2 billion attached to it. All Nestlé businesses were told they would implement this template and aggressive timelines were drawn up to implement in all 70 countries where Nestlé operated by 2005. All 250,000 employees would be affected. This was the start of the biggest ERP implementation in the world.

At the outset it was very clear that CEO Peter Brabeck was not only the chief sponsor but also, and very importantly, was passionate about the aims and objectives of the project. Indeed, he went so far as to say that GLOBE would be his chief legacy to the company and that his success as CEO should be judged by the success of GLOBE.

It is important to understand 2 things at this stage – one to do with Nestlé’s culture at that time, the other to do with the way the project was presented at its unveiling to the heads of the individual Nestlé businesses – the “Country Managers’ annual Conference” – in early 2001.

The culture had always been that the individual businesses in each country were “king”. They had almost total independence on a day-to-day basis. Once, the annual business plan had been signed off by HQ in Vevey the CEO in the country was free to do largely as (s)he pleased. This was the way the company had always been, would always be and was, indeed, seen as a strength by senior Nestlé people; it was, in fact, the conventional wisdom was that the company had been successful down through the decades because of this independence. Staff from the “Centre” had to ask for permission to come and visit a country and it was not unknown for requests to be turned down. There was a “Technical & Standards” team for IS/IT at Vevey but it was very weak and the major Nestlé businesses certainly did not follow its guidelines nor rely on it for any advice. So, a dictat to implement a template-based design from the Centre was hugely counter-cultural.

The second point is to do with the project’s marketing. Brabeck understood very well that he was “going for broke” by having such an ambitious and expensive vision. So, from the very beginning GLOBE was always presented as “not an IS/IT project” but as a way of allowing the whole company to benefit from the “Best Practice” that GLOBE would discover within the company and then spread throughout it. The phrase was delivered over and over again “GLOBE will deliver common Best Practice, using common data based on common infrastructure”. It would allow “the company to be big on the inside so it could be big on the outside” - in other words economies of scale which Nestlé should have been enjoying (but wasn’t prior to GLOBE) would result from everybody doing the same things in the same ways. To really nail down this idea that it was not an IS/IT project a group of “Business Excellence” people were formed who worked parallel but separate from each of the functional design teams. Their remit was to look specifically at the business processes within their area and then pronounce on “how things should be done”. This group were freed from the constraints of having to work within what was possible within SAP. Indeed, many of the BE people gloried in the fact that they knew nothing about SAP and did not want that to change! There was undoubtedly a governance issue between the 2 different groups – who was actually able to make the decision when differences in opinion could not be settled? In hindsight, it was an inspired move by Chris Johnson, the Head of the Project - each group kept the other one “honest”.

4 What does one size fits all mean?

Referred to within Nestlé as “The Template”. How specific was the design undertaken by the central team in Vevey in 2001/2 going to be? How many changes, if any, would a country be able to make during their implementation project? How would countries be able to tell whether a specific GLOBE-designed process could actually be operated within their specific business environment? What was set up right at the outset were very tightly defined tiers of governance whereby a country could raise an exception, have it assessed by the experts, receive an acceptance or rejection, have a right of appeal etc. This very tortuous, political and arduous process became known as “Fit/Gap”. As found by Wang et al (2008) there is need for consistency in factors that facilitate ERP implementations. In technical terms the GLOBE teams were busy defining down to a very low level of detail exactly how the system would work. Across all business areas several thousand “Process Level 5s” were defined and documented. Each of these laid out exactly what SAP transaction was to be used to carry out a
specific action, what input data would be required and where that data would be sourced from, what transformation would be performed on that input data by the transaction, what output data would be produced by this transformation and which other transactions would make use of that output data. Countries had to read and understand all of this documentation (which ran to tens of thousands of pages) and if, they raised no “gap” for any specific Level 5 transaction then they were understood to accept the process behind the transaction, in other words that part of the overall process was deemed to “fit” their business. As an example of the level of detail required a purchase order – henceforth a mandatory requirement before anybody could buy anything on behalf of the company – was a complex document containing information about what was to be bought, from whom, when and at what price would bring together several key processes and hence contain implicit acceptance of several dozen “Fits”.

5 Key dimensions of supply chain

5.1 Sales Order Processing (SOP)

An essential part of any business! The nodal point where all the back-office Supply Chain processes to do with making and distributing finished products meet the front-office processes carried out by the Sales people, namely “getting an order”. This had long been seen as an area where Nestlé had as many different ways of doing SOP as there were countries. Performance by individual countries in this area was highly variable – the key metric was known across the whole company, rather obscurely, as “Case and Line Fill Rate” (CLFR) and measured what percentage a customer actually received on time of what they had ordered. Competition in the FMCG arena is fierce – Unilever, P&G, KJS and Nestlé are all engaged in an intense struggle for what is delightfully called in the industry “share of throat”! In addition, the supermarket chains increasingly boss the terms of trade and make life very difficult indeed for each of these producers. The CLFR metric was thus seen as absolutely key for Nestlé – the target was to get everybody up to 97.5%. But what was the starting position? The difficulty in implementing a standard way of working here is well illustrated by the fact that it took several months to agree exactly what was meant by an “order”! The principal difficulty was in answering the question “At what point do you say you have sold something?” Some countries put orders on to their sales statistics at the point the sales person, out in the field, took the order with the customer. Some did it at the point that the products on the order were confirmed as being in stock and, therefore the order could be fulfilled. The other possibilities included – when the order was picked and assembled in the warehouse; when the order was in transit on the truck; when the order had been delivered and a signed Proof of Delivery (POD) had been obtained from the customer; when the invoice was generated and sent out; when the Accounts Receivable department either received payment or sent out a dunning (reminder) note. In the end, for various reasons, the design team said it should be at the point that the POD could be entered into the system and legal ownership of the product passed from Nestlé to the customer. Some did it at the point that the products on the order were confirmed as being in stock and, therefore the order could be fulfilled. The other possibilities included – when the order was picked and assembled in the warehouse; when the order was in transit on the truck; when the order had been delivered and a signed Proof of Delivery (POD) had been obtained from the customer; when the invoice was generated and sent out; when the Accounts Receivable department either received payment or sent out a dunning (reminder) note. In the end, for various reasons, the design team said it should be at the point that the POD could be entered into the system and legal ownership of the product passed from Nestlé to the customer. Most countries prior to GLOBE operated order-definition policies which were “ahead of” POD and hence they took a one-off hit when they implemented because they lost several days sales and this became one of the most difficult political issues that had to be overcome with the CEO and Sales Director of each country!

But by far the most contentious issue in the entire project for every single country was the thorny problem of how to measure CLFR – how good were the countries at fulfilling orders for their customers? As part of GLOBE, 2 other key things got changed in the SOP area. The first was a Key Decision (KD) that there were to be no “back orders”, in other words what you had in stock at the time you picked the order was what became the final order, anything that was out of stock was crossed off the order altogether and the salesperson informed that they needed to get the customer to order it again at some point in the future. The second was the idea that the customer’s original order was to be used as the basis for what they wanted – it was the denominator for the CLFR %age calculation! Prior to this the SOP department frequently got customers to change their orders to fit in with what could be delivered, i.e. what was in stock. This meant a smaller denominator and a higher CLFR %age! The result of these 2 changes was, for many countries, a drastic and permanent drop in their CLFR performance. Given that many staff at senior and middle management levels had their
annual bonuses linked to the CLFR statistic there was uproar when the detail about the new GLOBE CLFR calculation leaked out.

5.2 Purchasing

Purchasing in most companies is a fairly straightforward business area – both to understand model from a process point of view and also to implement from a technology point of view. To understand the enormous commercial opportunity that Purchasing represented for Nestlé prior to GLOBE it is important to appreciate 2 things. The first was how fractured the company was at every level when it came to buying things. This was in turn the case because of the way the company had grown over the decades since WWII, i.e. through acquisition rather than organically. This meant that major “old” Nestlé countries like France, Germany, Italy and the UK had accumulated lots of different businesses that had different ways of working, had their own list of suppliers which nobody had ever asked them to merge or rationalise. These countries were effectively “food conglomerates” that were not really coordinated from a purchasing point of view. The different divisions (“Grocery”, “Food Service”, “Water”, “Petfood” etc etc) did not talk to each other about any aspect of their spending (or anything else commercial, come to that matter!). The second crucial point is the scale of spend. Nestlé SA, in the early 2000s, was spending approximately $35 billion on raw materials (known as “directs”) and “indirects” (i.e. phones, office supplies, consultancy, training etc). 3 levels of purchasing coordination were possible for any given spend:–

- World-wide: obviously the best option if this was possible, frequently it wasn’t for all sorts of reasons. For major directs like coffee and sugar it was possible and some element of coordinated buying was taking place prior to GLOBE but it was very limited
1.

- Zone: Nestlé had recently reduced from 5 zones to 3. The new zones were Europe (EUR), the Americas North and South (AMS) and Asia, Oceania and Africa (AOA). Most purchasing should have been possible at this level – prior to GLOBE none was.

- Country: this level was not even very desirable as an end result in itself but would have been an improvement on what happened in most countries!

Although in many respects a very mundane area the GLOBE Purchasing Team, ably led by a very aggressive American called Spaulding, came up with the team motto “Find the money, Get the money, Keep the money”. In other words, they knew all sorts of savings were possible if everything was organised differently. In many respects, the savings would result from organisation redesign rather than directly from implementing GLOBE. But certainly GLOBE would help and certainly vast sums could be saved on the $35 billion. Subsequently, it became clear that Spaulding’s motto was correct – more business benefit (i.e. bottom line savings) resulted from Purchasing changes than from any other area. The savings resulted through a combination of a couple of things. Firstly, there was an organisational issue as mentioned. There simply weren’t any people employed at Zone level to source and then subsequently buy “directs”. So, experienced buyers were moved out of individual countries and employed at Zone level once a critical mass of GLOBE had been achieved in each Zone. Secondly, GLOBE was necessary because it delivered consistent master data. For the first time all countries had a consistent way of referring to the many different types of wheat, sugar, coffee, cocoa and all the more obscure additives like fats, colourants, preservatives, stabilizers etc etc. This consistency in turn allowed the Zone purchasing people to gather together accurate forecasts about how much of all these direct raw materials each country was wanting to buy and they could do this for up to 18 months in advance because of the rigorous processes that GLOBE was putting in place. And, lastly, GLOBE guaranteed that people could not buy anything through some local, “back-of-a-lorry” approach because all purchases required a Purchase Order (PO) and the system did not let anybody generate a PO against a supplier that was not on the list of approved suppliers and this list was controlled by the Zone people.
Along the way, various experiments with B2B were tried out as part of the GLOBE scope. Most notably, a brand-new B2B business was started up jointly by Nestlé, Henkel and Danone to start doing reverse auctions for a limited set of directs using bespoke, non-SAP software in 2002/3 but it was subsequently wound down.

The change management issues were not inconsiderable – organisation redesign is never without some controversy after all! – but the commercial imperative was so overwhelming and so easy to understand that setting up formal groups to carry out world-wide and Zonal purchasing was accomplished with relatively little bloodshed. Or perhaps it was just that the Purchasing people in each country were so sensible and reasonable! Certainly, there were no mass redundancies in this area. The changes were, however, profound and typified a core outcome from GLOBE – the more strategic decision-making processes were centralised. This did not mean fewer jobs necessarily. What it did mean was that people increasingly got either a role which was more powerful (whilst quite often they themselves had to accept a relocation and/or a lot of regular business travel) or they were left with a smaller, less interesting “supervisory” role where they were left “tending” the SAP machine. An example - The strategic decision of “Who will we buy wheat from?” became a Zone decision. If you were based in the UK, were previously performing this role and then accepted a Zone role you would be deciding wheat suppliers for 33 countries rather than just 1. If you were in the UK previously performing this role and didn’t, for whatever reason, go for or get a Zone job you would be left monitoring and checking purchasing requisitions (a draft request for a purchase which, once validated, becomes a Purchase Order) from UK factories – not strategic and not very interesting!

5.3 Distribution

In GLOBE terms this was always called “Materials Handling”. The scope included any and all handling of finished product (only), i.e. once a factory had shrink-wrapped a pallet it was an MH responsibility to shift that pallet from the factory gate to whichever warehouse was supposed to receive it. Also, and more obviously, it was an MH responsibility to shift pallets that formed a customer’s order from the warehouse to the customer’s premises. There was wide variation throughout Nestlé prior to GLOBE. Most large countries had outsourced it, many smaller countries had not. Some were using big, centralised warehouses with high-levels of automation for “put-away” and retrieval. Some, the ones who typically had done some SAP implementation already, had some degree of integration of MH with the factories and with the SOP department. At the other end of the spectrum many were not using any sort of system at all. A true story is that during the pilot implementation for the AMS Zone – done in Chile, Peru and Bolivia - the GLOBE head, Mather, went to a distribution centre high up in the Bolivian mountains to find that they had no means of communicating with the outside world at all! Not only were there no computers, there was not even a phone line! When asked how they knew what they should do with the product that they received, the 2 warehouseman replied “Each Tuesday the Customer Service man comes up in his car with a piece of paper and tells us”! Mather immediately ordered a satellite dish to be installed so that they could take part in GLOBE – at a cost of $30,000, astronomic given the very low value of the warehouse turnover! He went back a year later, post-implementation, and the same 2 warehouseman told him that it had revolutionised their working life – they now understood what a Supply Chain was and where they fitted into it!

Another challenge was that a Key Decision from GLOBE at the outset was that MH should mark out the warehouse floor and pallets should be put away in a strictly controlled and rotated way aided by an accurate floor plan which would allow for as much automation as the country was capable of dealing with (this automation, the micro-management of the warehouse floor would always be done by country-specific software that had to interface with GLOBE via defined APIs but which was always separate from SAP). In addition, every warehouse had to be able to deal with part-pallets because SOP was going to deal in part-pallets! This issue, which is difficult to deal with technically, had always been fudged by each country before and there was no single way which was recognised as effective in all situations.
To make matters worse there was a real-time element to this area as follows. The factories produced finished product, large amounts of it in most cases (hundreds of tonnes daily), and space to store it temporarily was always in short supply. The MH team had to supply trucks at just the right rate in order to keep up with what the factory made. Too few trucks and the factory rapidly ran out space and, in extreme conditions, would have to stop production until the backlog was brought under control. Too many trucks and the factory again ran out of car park space, turning space etc etc! How did MH know when to send trucks? Because they were receiving SAP messages throughout the day from the factory as each pallet was produced. If the messages were delayed then chaos was not far behind!

The final challenge was that the SAP module that provided this MH functionality at this time was very poor and those countries that had already tried to implement it did not like it and were pushing to use something else! It was quite clear that in this area more than most though the business benefits that came from integrating MH backwards with the factories and forwards with SOP were very large and that if all of these areas implemented the relevant SAP modules integration was far more likely to happen than if a mix-and-match approach was taken.

One of the constraints when choosing a package software vendor is to check how flexible they will be about making changes to their software when the basic, default functionality does not do what you want. In fact, it’s not close and even when you have explored and exhausted all the configuration options to try and get it to accommodate what you want you are still some way off the minimum that you need. In these circumstances SAP offer you their “SDP” – Strategic Development Programme. This means you write the spec and they will deliver what you want. They will incorporate it into their standard product over time so that you are not left with a maintenance headache and your company will be benefitting from this extra capability ahead of your competition. This is not a free service, in fact its very expensive! By 2001/2 SAP was sufficiently dominant in the packaged software marketplace that very few of their customers ever offered the SDP option. Nestlé was one however (it had just signed what was, at the time, SAP’s biggest single deal) and the MH module was upgraded in line what we wanted. In fact at one stage, Nestlé had 5 SDPs underway concurrently!

As befits new software, however, there were lots of bugs and this, together with the large amount of business change that all countries had to do deal with in terms of implementing the new MH model meant that this area was always one of the most difficult to get right. The Andean implementation (the pilot for the whole of the AMS Zone) team, rather like the Swiss example above, told the central GLOBE team with 6 weeks to go that they had not marked out their warehouse floors, had no intention of doing so and please could the software be made to work without this feature! The answer of course was a resounding “No” and this time Mather was able to deal with the negotiations successfully without having to involve Brabeck but at the cost of a month delay to the ‘golive’ date. Given that Andean were the 3rd of 3 pilot implementations the damage to GLOBE was containable – especially as Malaysia had gone very well and, as stated above, Switzerland had gone “well enough”.

5.4 Demand & Supply Planning

This process area dealt with 2 very different parts of the business. The Demand Planning (DP) part was the new term for “Sales Forecasting”. This had, as the term implies, traditionally been carried out by the Sales and Marketing area. There were very large variations in how this forecasting was carried out – variations in level of detail – was it done SKU by SKU or by groups of “similar” product, variations in time range – was it done for a few months ahead or as GLOBE demanded for the next 18 months, variations in accuracy, ie were the forecasts actually linked to marketing campaigns or was it just guessing! Many smaller countries hardly bothered to do DP at all, they simply attempted to sell whatever their own factories had made for them or they imported product from Nestlé businesses in other countries if they could get hold of it.

What GLOBE proposed was a complete and fundamental overhaul of this area of activity. A new D & SP team was to be set up in each Nestlé business. Its responsibilities were to come up with an overall plan for every SKU for a rolling 18 month horizon. The DP was to be agreed by a multi-disciplinary team composed of S & M, Production, Finance and Supply Chain people. This team had
to meet every month and formally adopt the agreed plan as the common set of numbers that the entire business was to work to going forwards. This was revolutionary and was not done this rigorously in any Nestlé business at the time – not even in the very large ones such as the USA, France, Germany or the UK.

In addition, the other half of the equation – the Supply Plan (SP) – was to be derived directly from the DP and was to be decided by this newly created Planning Team not by the individual factories. In other words post-GLOBE the overall decisions about what was to be made where – which factories would produce what amounts of each SKU – was no longer to be a factory-based decision. The implications for the factories and their (hitherto) high levels of autonomy were profound – see below. At a stroke the governance of a crucially important part of the company’s activity was changed.

To complete the revolution, GLOBE introduced a very complex piece of SAP to this newly-created Planning Team. The SAP module name was APO – Advanced Planning & Optimisation”. It was a very new module within SAP and was used by very few end-user companies as a result. There was very little consultant expertise around at the time and no other company was attempting to use APO in quite such a central way as Nestlé were, ie putting it at the heart of the Supply Chain. If the introduction of APO as part of GLOBE failed then the whole of GLOBE failed. The central job that the Planning Team now had was to fit together 2 halves of a very complex “onion”, namely what the company thought it could sell forwards and where/how/when that (long) list of products would be made. In order to “nail” what was seen as an area which the business as a whole had always executed very poorly, the decision was taken by the design team within GLOBE to do both halves of the planning at a very low level of detail. The “Material Hierarchy” was a grouping of products and described which SKUs (always the atomic unit of production) to which sub-brands, which sub-brands in turn belonged to which major brand, which major brands belonged to which categories and so on. All Nestlé businesses had (different) material hierarchies – the more complex ones would be 7 layers deep. GLOBE not only specified a new standard Material hierarchy but also specified at what level of detail the Demand and Supply planning was to be done within that hierarchy. The result was that APO was asked to produce a quite staggering number amount of data. The early releases of this module were “buggy” and slow and GLOBE struggled in the design and testing phases to execute planning runs on even small samples of data within reasonable time periods. A combination of more hardware and improved software eventually solved the biggest problems but this whole area was seen as “experimental” by the Nestlé businesses and that view did not change as more and more of them went live with GLOBE.

5.5 Manufacturing

Nestlé sees itself as a manufacturer of branded product – 2 key themes are already apparent namely that the brand is important but also that the product has to be made in the first place. All Nestlé product is made by Nestlé factories. The tradition of excellence in manufacturing is part of the company’s culture – in essence Nestlé people think they can make everything from infant formula milk powder through to pet food better than anybody else. The several hundred Nestlé factories around the world all had a long-established history of making high quality product but, as was common in the rest of the business, there were big variations in the way in which this manufacturing was done from a process perspective.

GLOBE brought 7 big changes to the factories – some organisational but most of them technical in nature. The biggest was that as part of the Demand & Supply Planning continuum (described above) the factories now had to make-to-order (1) in a very controlled way and in a way which was completely alien to most of them. Traditionally, the Factory Manager’s main objective – a self-imposed one – was two-fold : firstly, to keep his factory working as close to 100% capacity throughout the year as was practicable; secondly, to keep his unit costs as low as possible. The second cost-based objective followed naturally from the first objective via very pronounced economies-of-scale. And both objectives came from the Factory Managers’ very acute understanding of the political realities of “production”, ie factories that were seen as “busy” and “efficient” were more likely to remain in existence than those that weren’t. GLOBE challenged this world view very
directly. Post-GLOBE the factory got told what to make by the Planning Team. The factory lost ownership of the key high-level plan – the Master Production Schedule – which said how much of each product would be made each week for the next 18 months. The factory had ownership of a new GLOBE-introduced low-level plan called the Detailed Production Schedule (2). This was determined by the MPS and was simply a more detailed extension of it for the next 2 weeks and gave the factory line by line and shift by shift information of what to make. Given that GLOBE demanded a very detailed ‘factory mapping’ to be done prior to go-live, i.e. how many lines, what capacities, how many people, what shifts etc, the DPS could be automatically generated and then tweaked by Shift Supervisors (‘Team Leaders’) at the time it was used. From being a “law unto themselves” the factories suddenly found themselves very constrained and also on the receiving end of lots of “instructions” which other people had generated.

Further to this, not only did the factories not make their own production targets any more but the targets themselves were re-defined and made much rigorous. In the same way that the SOP process (see above) was measured by the CLFR report, the factories had always seen their own external measurement as the MSA report – Master Schedule Attainment report – in other words what the factory actually made compared to what it was supposed to make. In the past the factory had controlled all 3 variables of this metric – what the original target was, what had actually been achieved and how the report did the calculation between the two. It was common for output tonnages to be ‘massaged’ and put in to different production periods in order to make the factory “look good”. GLOBE’s calculations were, by comparison, very strict and the report itself was now not in the hands of the factory management team (3). The start and end of month dates were fixed in the calendar and the factory could not vary them. Across the entire Nestlé world 400 factories stopped using a variety of calendars for production periods and universally adopted the calendar month as the unit of time for production (4). The effects of this on staffing were not inconsiderable. The same sort of change was also made for the quality control. And the practice of “backflushing” was simply not possible within a GLOBE-managed factory (5). Backflushing occurred whenever the factory simply went ahead and made whatever it could and then made the supply targets “fit”what had been produced. Backflushing was common where raw material supply was unpredictable, or where line outages were common or where factory discipline was low, i.e where a poorly managed or unmanaged situation caused variation from what was expected in theory. The regime that GLOBE brought simply made this impossible. The DPS was determined almost exactly from the MPS and factories either made what was expected or they didn’t but they couldn’t make something outside of the plan.

The quality control process under which all of this activity was carried out was likewise immutable (6). The quality sampling regime – how often to sample - was decided in advance as were the tolerances for what was acceptable for colour, weight, material composition etc. All of this data was put into the manufacturing part of GLOBE and was used directly by the Quality team in the factory. Pallets of finished product could only be released to the Materials Handling (“Distribution”) people in the warehouses once all the quality tests associated with a particular product had been passed.

Finally, the factories had a layer of management taken out (7). The Team Leaders who were effectively in charge of the lines at the point that production was actually carried out now reported directly to the Factory Manager instead of indirectly via somebody else. This gave the FM a lot more work to do in terms of day-to-day operations. The logic for the delayering was argued on the basis that the FM now had less “strategic” work to do, i.e. less work deciding how budgets, targets and reporting would be aimed for each year.

6 Conclusions

As shown by Motwani et al.’s (2005) research using a comparative case study of 4 firms, Nestlé’s eventual reliance on GLOBE transformed into a success story due to a cautious, evolutionary process backed with careful change management. Taking 700 staff members to Vevey, Switzerland to train them using a single system that then would get rolled out across all 70 regions showed the drive of Peter Brabeck and reiterates other international research on ERP that illustrate support of top management as key. For instance Ngai et al (2008) studied projects across 10 different countries and
regions using 18 critical success factors where ‘top management support’ and ‘training and education’ were the most frequently occurring parameter for successful ERP implementations. Contemporary to GLOBE implementation in Nestlé Sarkis and Sunderraj’s (2003) study in Texas instruments demonstrated that like Brabeck at Nestlé a constancy of vision and standardisation of internal processes and important IT systems to support market needs where the foundation of the success at Nestlé.

References:


