CREATING INNOVATION THROUGH HUMAN CAPITAL ASSET MANAGEMENT BUILDING THE EDUCATION PYRAMID – A CASE STUDY

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Abstract: *It is a truism to say that people are an organization's most valued resources. This is often said, occasionally acted upon but rarely taken to the logical conclusion of making it the focus of organisational policy and strategy. Management of human capital has been overlooked as a driver of increased profitability.*

This paper describes a journey through a landscape of thought and experimentation that has attempted to build on that simple concept and help companies realise the commercial benefits that can accrue through implementation of the concept. This journey has been undertaken over a number of years, with a few blind alleys and meandering paths, but always in pursuit of a simple objective – to find a way of maximising the value and creativity of the workforce in support of organisational objectives.

Keywords :

Human Capital, Profitability, Creativity

INTRODUCTION : It is a truism to say that people are an organization's most valued resources. This is often said, occasionally acted upon but rarely taken to the logical conclusion of making it the focus of organisational policy and strategy. Management of human capital has been overlooked as a driver of increased profitability.

This paper describes a journey through a landscape of thought and experimentation that has attempted to build on that simple concept and help companies realise the commercial benefits that can accrue through implementation of the concept. This journey has been undertaken over a number of years, with a few blind alleys and meandering paths, but always in pursuit of a simple objective – to find a way of maximising the value and creativity of the workforce in support of organisational objectives. The journey has been steered by the Grimsby Institute of Further & Higher Education which, in recent years, has partnered with the National Productivity Centre to further develop the concept.

Like most good ideas, the international think tank builds on earlier ideas and concepts, which in this case crystallised around the concept of a 'factory think tank', designed to harness the thinking power, and develop the skills of, an organisation's total workforce. (Some of the thinking along the way is outlined in various papers presented at international conferences and listed in the bibliography.) This concept was developed in response to what seemed to

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be perennial calls from UK manufacturing industry to address 'the skills gap' and maximise the return on existing human capital assets.

The concept of skills analysis and skills gap identification is well-established at national and organisational levels. Too often, though, this is a single-level phenomenon, addressing, say, the skills of the operational workforce, or the skills and abilities of the management team. If we really believe in the concept of 'people-power', this is not enough. We have to be comprehensive and all-embracing, working at all levels of the organisational pyramid.

The Factory Think Tank

The factory think tank process involves Grimsby Institute working with companies to carry out a strategic review, followed by a skills audit and gap analysis and then putting together a tailored 'academy' consisting of a structured pyramid of education and training opportunities together with processes of empowerment and participation that weave around, within and beyond those training opportunities to exploit new skills, new ideas and new levels of commitment in support of positive change. The factory think tank approach aims to strengthen human capital within organisations by shaping programmes around current weaknesses and operational needs. These training opportunities, in addition to 'standard', operational-needs-based courses (process-based, health & safety, etc) specifically include training in continuous improvement techniques for all staff ... and in measurement and benchmarking techniques for a range of staff. Where appropriate, specific tools are developed to meet specific sector-based, geographic or other 'special' needs for measurement or analysis. For example, one food sector think tank process involved the design of a software tool to log and evaluate freezing/icing trials – so that employees could see for themselves and understand the way in which their activities influenced the effectiveness of freezing processes ... and hence the quality of the final product.

Importantly, every factory think tank 'design and build' process is different – because different organisations have different contexts, different aims and objectives and are at different places in their 'journey to excellence'. However each of these journeys is directed towards maximising the contribution of all employees to improving what is done and how it is done (after understanding why it is done).

Four specific levels of learning are involved – level 1 contains short course programmes, which act as feeder routes to the vocational programmes at supervisory levels (level 2). These supervisory programmes link to the management programmes (level 3) which are finally linked to the strategy programmes (level 4).

Factory think tanks have been created in a range of organisations with great - sometimes spectacular – results. One such 'think tank' involved the training of:

- 10,000 operators at level 1 – creating an 'army' of multi-skilled operators with a knowledge of basic business improvement techniques

The factory think tank approach aims to strengthen human capital within organisations by shaping programmes around current weaknesses and operational needs.

- 2,000 supervisors at level 2 – adding a range of skills so that the role of 'supervision' changed to one of 'facilitation' and 'mentoring'
- 200 middle managers at level 3 (foundation/bachelor degree) – to create a professional, enhanced management tier
- 50 senior managers and senior process workers at level 4 – Masters level – creating and extending strategic thinkers.

Of course, putting this number of employees through this range of programmes is a major commitment for an organisation. To minimise operational impact, a number of the programmes are delivered flexible using online materials .... produced by a dedicated team – known as OnlineLearn - at Grimsby institute with a range of pedagogic, computing, design and animation expertise. Importantly they can build exercises and simulations which mirror 'real plant' situations so that operators can see the relevance of what they are learning to their day-to-day activities. For some clients, they have also built 'idea banks' so that operators working through materials can log suggestions, ideas, thoughts, issues and concerns for later discussion and consideration – filling up the tank!

The whole think tank process is built around a simple model or 'system' in which:

- Elements of factory processes are measured and benchmarked
- Costs and performance are measured and analysed
- Ideas for improvement are put forward and analysed
- Some of those ideas are selected for development ... and subsequently implementation.... before the system is once again benchmarked to identify and validate improvements .... before the cycle starts again.

This process involves staff from all levels of the business both systematically (perhaps in Kaizen events) and 'on request'. One such think tank in a food factory saved £30k via improvements to a vegetable washing and processing line, and £100k via changes to inbound logistics – in the first year.

Another organisation decided to focus its 'academy' on energy management. OnlineLearn built an online course based around the specific plant of the company ... and built in an ideas bank to collect ideas from the employees. The net result was a saving in energy costs of over £1 million per year. During the 'thinking through' process, a major project was undertaken in partnership with the Sector Skills Council for the Food sector. This project set about improving productivity by educating/training key employees in the sector in production management topics.

The project, a part of the EU funded EQUAL programme, developed a blending learning approach to 'world class production systems' and produced a set of study guides, workbooks and an interactive on-line package to give flexible support to factory teams.

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Topics included in the programme were:

- Understanding the factory - performance measurement and improvement.
- Cost of Production – understanding labour and establishing work rates and cost standards
- Cost of Production – calculating costs and using the standards
- Industrial Engineering- understanding and controlling equipment and line performance
- Overall factory performance – bringing it together – OEE and Quality The experience gained in designing flexible, blended learning programmes was invaluable in further refining the think tank concept in ways that prove attractive to companies eager to minimise the time that employees are away from their workplace for training.

The International Think Tank

Grimsby Institute and the National Productivity Centre are both involved – separately and in partnership – in a number of international projects of which a number of are under the banner of UNIDO – the United Nations Industrial Development Organisation. This work led to an understanding of the need - at strategic levels - to understand cultural differences that might impact on project success. As a result, both have partnered to create a new M.Sc course in Productivity & Innovation Development which was designed to bring together students from a number of countries .... and has established partnerships with key institutes in (so far) India, Poland and Australia to share knowledge and expertise.

It became clear to those involved that:

- projects in specific countries could benefit from a wide range of inputs – especially creative thought
- bringing together bright people from around the globe results in an interchange of ideas that creates 'energy' that is greater than the sum of its individual inputs.

This led to the concept of the international Think Tank – where the creative force of bright, post-graduate students could be focused on real-world issues and projects. By engaging those who worked within international value chains it was possible to achieve even greater returns from human capital asset management. The students benefit by getting real issues to work on for their projects and dissertations, and each project benefits by getting additional inputs from a group of bright minds.

The concept was extended to recognise specific knowledge and skills gaps needed across many of these external projects – in, for example, corporate finance, engineering, robotics and international marketing – and then to design electives for the M.Sc course which would attract students to fill these gaps.

The M.Sc programme thus became a project-based course providing students with a rich and varied set of practically-focused learning opportunities (which they know have direct and important outcomes for national governments and

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global companies) and providing project teams and stakeholders with additional inputs from students immersed in productivity and innovation approaches and techniques.

During the brief lifetime of this concept it has been continually refined (proving that we do what we preach!) and one of the more recent innovations has been to cluster a number of student projects around a common theme (though this theme may extend across a number of external consultancy programmes) so that the various projects support and enhance one another, further extending the knowledge-base and the understanding of inter-relationships of situational factors.

For example, one recent theme related to the improvement of the seafood export trade for a particular country (a project sponsored by the national government). Specific individual student projects concerned:

- Sustainable use of renewables for improving energy efficiency in the food sector
- Applying six sigma strategies to packing operations
- Root causes of failures in FVO inspections (FVO = Food & Veterinary office of the EU)
- The concept of the Trade Corridor as the basis of sustainable development
- Effect of Eco-Labelling on fisheries productivity and innovation
- The Impact of education and training on energy efficiency
- Improving factory performance using a lean approach

Each of these individual projects resulted in a report that identified the specific issues relating to that part of the overall theme. However, each of them also contributed to the overall thinking that was addressing the overarching issue of the seafood value chain and thus to the final consultancy report.

These kinds of international projects often result in bigger projects which seek international donor aid. Such donors, not surprisingly, would like to know whether the thinking that results in specific recommendations is likely to have real and lasting impact on the situation under review. For example, in this particular case would the recommendations put forward in the report (which benefited from the thinking and research of the International Think Tank) have a significant and lasting impact on the volume of trade, the value of trade, the number of jobs in the seafood industry, the average earnings of those in the seafood industry ... and so forth.

To help in the identification of such impact, the team has developed an economic impact assessment (EIA) model which models key parts of the seafood sector and can perform 'what if' analyses and sensitivity analyses to explore the effects of the various changes that might be brought about by changes to trade processes, logistics infrastructures, factory productivity etc.

In this case, the EIA showed that an investment of about £4million over three years in particular and specific areas could yield an additional £400 million of export revenue and an extra one million jobs over a 10 year planning

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horizon.

Summary

Experience in building a number of 'factory think tanks' proved the concept of a strategy of developing and empowering staff at all levels of an organisation and harnessing the resulting collective thinking power. This demonstrates the possibilities of improving profitability by better utilising existing human capital. That experience showed real 'bottom line' benefits over relatively short time periods but also suggested that the benefits were retained over time.

The team from Grimsby Institute and the National Productivity Centre realised that this concept could be extended across organisational boundaries and had, in the students studying the M.Sc in Productivity & Innovation Development, a natural resource to provide an 'international think tank' to underpin global development programmes.

It is a little early to judge the success (or otherwise) of the concept but it is clear that the programmes are benefiting from a wider and richer set of thinking and research and that the students appreciate the opportunity to work on projects that have real-life impact.

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